AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

111th Congress
1st Session

COMMITTEE PRINT

COMPILATION OF RESPONSES TO CLIMATE CHANGE QUESTIONNAIRE

PREPARED BY STAFF

OF THE

COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES

PART 2 OF 2

MAY 2009

U.S. GOVERNMENT PRINTING OFFICE

WASHINGTON : 2009

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2104 Mail: Stop IDCC, Washington, DC 20402–0001

COMPILATION OF RESPONSES TO CLIMATE CHANGE QUESTIONNAIRE

PART 2 OF 2

111th Congress
1st Session

COMMITTEE PRINT

COMPILATION OF RESPONSES TO CLIMATE CHANGE QUESTIONNAIRE

PREPARED BY STAFF

OF THE

COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES

PART 2 OF 2

MAY 2009

U.S. GOVERNMENT PRINTING OFFICE

WASHINGTON : 2009 49–637 PDF

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2104 Mail: Stop IDCC, Washington, DC 20402–0001

COMMITTEE ON AGRICULTURE

COLLIN C. PETERSON, Minnesota, *Chairman*

TIM HOLDEN, Pennsylvania, *Vice Chairman*
MIKE McINTYRE, North Carolina
LEONARD L. BOSWELL, Iowa
JOE BACA, California
DENNIS A. CARDOZA, California
DAVID SCOTT, Georgia
JIM MARSHALL, Georgia
STEPHANIE HERSETH, South Dakota
HENRY CUELLAR, Texas
JIM COSTA, California
BRAD ELLSWORTH, Indiana
TIMOTHY J. WALZ, Minnesota
STEVE KAGEN, Wisconsin
KURT SCHRADER, Oregon
DEBORAH L. HALVORSON, Illinois
KATHLEEN A. DAHLKEMPER, Pennsylvania
ERIC J.J. MASSA, New York
BOBBY BRIGHT, Alabama
BETSY MARKEY, Colorado
FRANK KRATOVIL, JR., Maryland
MARK H. SCHAUER, Michigan
LARRY KISSELL, North Carolina
JOHN A. BOCCIERI, Ohio
SCOTT MURPHY, New York
EARL POMEROY, North Dakota
TRAVIS W. CHILDERS, Mississippi
WALT MINNICK, Idaho

FRANK D. LUCAS, Oklahoma, *Ranking Minority Member*
BOB GOODLATTE, Virginia
JERRY MORAN, Kansas
TIMOTHY V. JOHNSON, Illinois
SAM GRAVES, Missouri
MIKE ROGERS, Alabama
STEVE KING, Iowa
RANDY NEUGEBAUER, Texas
K. MICHAEL CONAWAY, Texas
JEFF FORTENBERRY, Nebraska
JEAN SCHMIDT, Ohio
ADRIAN SMITH, Nebraska
ROBERT E. LATTA, Ohio
DAVID P. ROE, Tennessee
BLAINE LUETKEMEYER, Missouri
GLENN THOMPSON, Pennsylvania
BILL CASSIDY, Louisiana
CYNTHIA M. LUMMIS, Wyoming

PROFESSIONAL STAFF

ROBERT L. LAREW, *Chief of Staff*
ANDREW W. BAKER, *Chief Counsel*
APRIL SLAYTON, *Communications Director*
NICOLE SCOTT, *Minority Staff Director*

CONTENTS

	Page
National Agricultural Aviation Association	1281
National Alliance of Forest Owners	1293
National Alliance of Independent Crop Consultants (NAICC)	1304
National Association of Conservation Districts	1310
National Association of Counties	1320
National Association of Resource Conservation and Development Councils	1323
National Association of State Foresters	1333
National Association of Wheat Growers	1347
National Carbon Offset Coalition (NCOC)	1356
National Cattlemen's Beef Association	1368
National Center for Appropriate Technology	1382
National Cotton Council of America	1416
National Council of Farmer Cooperatives	1429
National Farmers Union	1447
National Grain and Feed Association	1459
National Meat Association	1467
National Milk Producers Federation	1476
National Oilseed Processors Association	1489
National Organic Coalition	1500
National Pork Producers Council	1508
National Renderers Association	1528
National Rural Electric Cooperative Association	1531
National Sorghum Producers	1543
National Sunflower Association	1558
National Turfgrass Federation, Inc.	1567
National Wildlife Federation	1575
National Resources Defense Council	1587
New England Forestry Foundation	1601
New Forests	1611
North American Export Grain Association, Inc.	1623
North Dakota Farmers Union	1630
Ogden, Shepherd	1644
Oklahoma Association of Conservation Districts	1653
Oklahoma Carbon Initiative	1667
Oklahoma Conservation Commission	1681
Oregon Department of Agriculture	1695
Oregon Environmental Council	1706
Oregon State University Extension Service	1719
Palazzolo, Sal	1726
Pheasants Forever Inc.; and Quail Forever	1733
Pizzarello, Frank	1748
Plum Creek Timber Company	1757
POET, LLC	1770
Pollinator Partnership	1780
Professional Landcare Network (PLANET)	1791
Public Lands Council	1793
Range Fuels, Inc.	1795
Renewable Fuels Association	1810
Richter, Professor Daniel	1818
Riverview, LLP	1827
Rocky Mountain Agribusiness Association	1835
Rodale Institute	1841
Ruan, Roger	1856
Rural Coalition	1863

Page
Sager, Truman T. 1878
Schonbeck, Mark 1885
Sierra Business Council 1895
Society of American Foresters; Missouri Society of American Foresters 1904
South East Dairy Farmers Association 1914
Sustainable Northwest 1924
Sustainable Living Systems 1943
SustainUS, Inc. 1950
The Fertilizer Institute 1965
The Johns Hopkins Center for a Livable Future 1992
The Land Improvement Contractors of America 2004
The Mosaic Company 2012
The National Wild Turkey Federation 2019
The Nature Conservancy 2033
The Offset Quality Initiative 2054
The Ohio State University 2065
The Pacific Forest Trust 2075
The Siuslaw Institute, Inc.; Siuslaw Soil & Water Conservation District 2088
The Society for Conservation Biology 2098
The Wilderness Society 2109
Theodore Roosevelt Conservation Partnership; Association of Fish and Wildlife Agencies; The Wildlife Society; Wildlife Management Institute; Land Trust Alliance; Pheasants Forever; Quail Forever; Ducks Unlimited 2119
U.S. Beet Sugar Association 2132
Union of Concerned Scientists 2140
United Egg Producers 2152
United Fresh Produce Association 2162
University of Florida Carbon Science Center 2171
University of Vermont Forest Carbon and Communities Research Group 2189
USA Dry Pea and Lentil Council 2200
USA Rice Federation 2209
USCAP 2220
Vision Forestry LLC 2252
Washington State Department of Natural Resources; Washington State Department of Ecology 2261
Western Growers 2272
Western Institute for Study of the Environment 2287
Western United Dairymen 2297
Westervelt Company 2308
Weyerhaeuser Company 2317
Winrock International 2335
Wisconsin Soybean Association 2340
Wolfe, David 2347
World Resources Institute 2357
World Wildlife Fund 2386
Wyoming Department of Agriculture; Wyoming Stock Grower Association; Rocky Mountain Farmers Union 2395
Young, David 2403

POST DEADLINE RESPONSES

Abengoa Bioenergy 2413
American Coalition for Ethanol 2422
Chamber of Commerce 2426
ClearSky Climate Solutions, LLC 2435
Daschle, Senator Tom 2442
Ecofor 2455
Exxon Mobil Corporation 2466
First Capitol Risk Management, LLC 2480
Maine Forest Service; Maine Department of Environmental Protection 2494
Matthiesen, Stewart 2508
Missouri Department of Conservation 2528
Myers, Brian A. 2539
National Corn Growers Association 2542
Society of American Florists 2552

COMPILATION OF RESPONSES TO CLIMATE CHANGE QUESTIONNAIRE

PART 2 OF 2

MAY 2009

HOUSE OF REPRESENTATIVES,
COMMITTEE ON AGRICULTURE,
Washington, D.C.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL AGRICULTURAL
AVIATION ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Andrew Moore

Organization(s) you represent

National Agricultural Aviation Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The National Agricultural Aviation Association (NAAA) does not support government taxation, fees or a system that would require fees in regard to carbon emissions. Rather, we support investment in research and new technologies that would mitigate carbon emissions. Should either a cap-and-trade system or carbon tax be implemented, the NAAA would request that consideration be given to determine which industries are net emitters of carbon emissions. In agricultural aviation, although the spent fuel from our aircraft release traces of carbon, our services help farmers and growers produce crops, protect forests, etc. The oxygen produced by this plant life largely offsets any carbon emissions that are produced in the process, if not actually decreasing these gases in the environment.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No. The agriculture and forestry sectors should not be covered under a carbon reduction program because there is evidence indicating that they are not net producers of carbon emissions. Oxygen created by the plant life these industries produce largely offsets any carbon emissions generated in the process.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

If it is inevitable that a cap-and-trade program be pursued, initially allowances would have to be at no cost. Distribution of allowances should be based on thorough studies to determine which industries produce a significant carbon footprint in order to determine available allowances and how they should be distributed. Again, scientific evidence exists that the agriculture and forestry sectors are not net producers of carbon emissions. Therefore, their emissions allowances should come at no cost. To reiterate a previous point, agricultural aviation and other farm service providers should be included with agriculture and forestry as carbon creditors because of the important role these services play in producing agricultural and forestry products.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

If such a policy is pursued, in order to reduce burdening industries with a multitude of disharmonious regulations, there should be federal preemption over state/regional climate control regulations.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

It's important that any agency regulating cap-and-trade policy be fair in doing so by taking into account not only the carbon emissions produced by an industry, but also the benefits to the environment that industry provides by mitigating carbon emissions. Whether the regulatory agency is the EPA, another existing agency or a new agency, it should focus on how specific industries help the environment, not just on how to impose carbon taxes, allowances or other potentially burdensome regulations and/or fees.

Agencies with jurisdiction or expertise over specific industries should work in partnership with the parent agency over climate change in devising protocols and procedures relevant to the industry it has jurisdiction or expertise over. For example, the USDA would be responsible for advising offset protocols and procedures for agriculture and farm service providers.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?

Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Yes, a carbon tax/fee program would have a negative impact on all of the aforementioned groups. The implementation of a limit on carbon emissions will cause energy prices to skyrocket. The impact of these higher energy prices will be felt by everyone. As the higher energy prices burden farmers, growers, producers etc., they will be forced to cut jobs. These jobs will be exported to countries without carbon tax/fee systems that produce agricultural and forestry goods. Of course the specific affected groups would be those that don't fall under any type of exemption from either cap and trade or carbon tax policy. It's likely that transportation industries delivering agricultural products but closer to the markets and away from where they're produced are less likely to be exempt. They would be detrimentally affected by higher energy costs. The overall effect is going to be that the consumer will ultimately pick up any additional costs associated with higher energy prices as a result of these policies. This would include populations that are beneficiaries to USDA nutrition programs, and it would result in higher costs for the federal government which subsidizes these nutrition programs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Should such a program be implemented, all revenues generated under the program should be reinvested into the development of more efficient and clean-burning fuels, power plants and related technologies. Revenues should also be used to subsidize those small businesses and industries incurring additional costs as the result of a carbon tax or cap and trade policy to purchase these technologies and to aide them in affording the increase prices of fuel that is likely to occur with the implementation of such a program.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The contributions of public lands used to produce carbon offsets should be taken into account in determining actual carbon offsets. In addition, it is important to take into account service industries that treat public lands that are used to produce carbon offsets. Again, aerial application is used in this regard to help treat forest fires and apply forest protection products on public forest land.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

There's a concern with not regulating carbon pricing. There's a risk that what happened during the summer of 2008 when speculators drove the price of oil to over $140 per barrel might also happen with carbon prices. Small businesses that may fall under a carbon tax or cap and trade policy would be detrimentally affected should the price of carbon escalate as a result of speculation. This issue should be well-monitored and regulated to prevent this from happening or it may result in a number of small businesses ceasing to exist and limiting carbon allowances to only large manufacturers and/or commodity traders who might actually have no use for a carbon credit other than to sell it on an open exchange.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

It's important to have a program that implements no direct costs whether it be to purchase carbon allowances or to be taxed for producing carbons for industries in the agricultural sector, including farm service providers such as aerial applicators, that provide services resulting in no net carbon emissions. It's inevitable that regardless of whether an industry or small business is required to pay a carbon tax or purchase a carbon allowance the effects that these taxes/allowances will have on other industries will indirectly affect even exempt

entities via directly affected industries raising the costs on their products and services to offset the cost of carbon allowances and taxes.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

If offsets are meant as means to counterbalance carbon dioxide emissions the federal government should have unlimited authority to issue carbon offsets.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

No system prioritization is necessary, if in fact carbon offsets are offsetting the carbon emissions, which is the goal of the policy.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Any criteria for measuring offsets must take into account the chain of services that enable an offset to be produced. For example, if the production of crops or forestry products offsets carbon in the environment, services that enable that offset such as aerial application services should be taken into account.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Any criteria for measuring offsets must take into account the chain of services that enable an offset to be produced. For example, if the production of crops or forestry products offsets carbon in the environment, services that enable that offset such as aerial application services should be taken into account.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Any criteria for measuring offsets must take into account the chain of services that enable an offset to be produced. For example, if the production of crops or forestry products offsets carbon in the environment, services that enable that offset such as aerial application services should be taken into account.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Any criteria for measuring offsets must take into account the chain of services that enable an offset to be produced. For example, if the production of crops or forestry products offsets carbon in the environment, services that enable that offset such as aerial application services should be taken into account.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

In agriculture, offsets should be available for not only the farmer, but also for the farm service providers that help make the offset possible. These offsets should be used to counter whether an entity should have to pay for an allowance. The two should be used in a formula to determine if an entity is a carbon creditor or carbon debtor.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Analysis of offset factors should be frequently undertaken increasing the flexibility of the offset program. This will allow for the consideration of innovative technologies and techniques that are constantly being used in the field to produce carbon offsets.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

If it can be shown that entities have been net carbon creditors prior to a carbon tax or trading scheme is instituted then there should be some sort of established reward system for these entities.

Yes to the question: Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Any federal or state programs to reward carbon reduction/sequestration/offsetting or to subsidize entities required to obtain carbon allowances should not only be continued, but also expanded.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Data based on sound science should be used to confirm carbon contributors as well as carbon off-setters. If data cannot be shown one way or the other, then revenue should not be forthcoming. Natural disasters or other uncontrollable events should be given special consideration.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Yes, the protocols and procedures for the offset program should be detailed in legislation, if for no other reason than to provide ample guidance to the regulatory agency with jurisdiction over the issue. Many federal agencies should be involved in determining the protocols and procedures. Agencies with jurisdiction or expertise over specific industries should work in partnership with the parent agency over climate change in devising protocols and procedures relevant to the industry it has jurisdiction or expertise over. For example, the USDA would be responsible for advising offset protocols and procedures for agriculture and farm service providers.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Research dollars should be increased to expedite the development of cutting edge carbon-reducing technologies and techniques. Reasonable criteria to ascertain if a manufacturer of a carbon-reducing technology is effective need to be developed. Overly complex research

requirements on the effectiveness of carbon-reducing technologies may result in the manufacturer's costs of conducting this research to be substantially higher than the revenues received in utilizing such a product, thereby quelling innovation.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)*	**Ability** to verify carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Using aerial application to apply seeds, fertilizers and forestry protection products to trees	Excellent in that it produces a healthy forest crop that serves as an important carbon offset.	Uncertain	Low	High (easy to implement immediately)

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)*	**Ability** to verify carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Using aerial application to apply seeds, fertilizers and pasture protection products to pastureland	Excellent in that it produces a healthy pasture that can serve as a carbon offset.	Uncertain	Low	High (easy to implement immediately)

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)*	**Ability** to verify carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Using aerial application to apply seeds, fertilizers and crop protection products to crops.	Excellent in that it produces healthy crops that serve as an important carbon offset.	Uncertain	Low	High (easy to implement immediately)

April 7, 2009

The Honorable Collin C. Peterson
Chairman
Committee on Agriculture
U.S. House of Representatives
Room 1301, Longworth House Office Building
Washington, DC 20515-6001

Dear Mr. Chairman:

The National Agricultural Aviation Association (NAAA) would like to thank you and the other Members of the Agriculture Committee and staff for the opportunity to present the agricultural aviation industry's feedback pertaining to proposed climate change policy.

The NAAA represents more than 1,500 members in 46 states. NAAA supports the interests of small business owners and pilots licensed as commercial applicators that use aircraft to enhance food, fiber and bio-fuel production, protect forestry and control health-threatening pests. Furthermore, through its affiliation with the National Agricultural Aviation Research & Education Foundation (NAAREF), the NAAA contributes to research and educational programs focused on enhancing the efficacy, security and safety of aerial application.

NAAA understands that the Committee on Agriculture is under a tight timeline to receive feedback from the agriculture sector as a result of other House panels pushing quick consideration of climate change legislation. NAAA would have liked to have had more time to respond to these climate change questions because of the huge implications this issue will have not only on the agricultural economy, but also the global economy. But again, it understands that the Committee is under tight timelines set by House Leadership. With that said NAAA urges that the Committee urge the congressional leaders to invest ample time and sound thought into this sweeping proposed policy.

The agricultural aviation industry is greatly concerned about climate change policy. Not only because of the significant direct costs it has the possibility of imposing as the result of mandates for our businesses to purchase carbon allowance permits or carbon taxes, but also because it is very likely that our industry's equipment and fuel costs will be markedly increased as a result of climate change policy. The policy would be more tolerable and fair if it rewarded entities, such as aerial applicators, that play a role in

helping to produce the renewable resources that offset greenhouse gases in the environment—by issuing carbon offsets.

Mr. Chairman as you know, the agricultural aviation industry is a vital service to our nation's farmers and foresters. Aerial is the quickest way to make a pesticide application--approximately four times as quick as ground applications. Aerial applications also help in treating wet fields and effectively penetrating crop canopies (i.e. orchards) when they are too thick for ground rigs. It helps to maximize farmers yields as the result of being non disruptive to the crop because the aerial spray rig doesn't drive through the crop but treats it from above. This is particularly important when treating crops in later stages when the rows have grown together or the crop height is too great for ground based spray equipment. When pests or disease threaten a crop, time is critical. An airplane causes no soil compaction. Aircraft are necessary to low or medium-tillage farming systems, which can reduce soil erosion by as much as 90%--this is also very beneficial to the environment because it protects the top-soil.

Farmers are able to produce crop abundance by using only 20% of the land in the U.S. because of high-yield agriculture and the crucial service aerial applicators provide. The remaining 80% of land can therefore be used for other purposes. These uses include: grassland pasture and range (26% of U.S. land); forests (19% of U.S. land); parks, wilderness and wildlife (13% of U.S. land); urban (3% of U.S. land); deserts, wetlands and miscellaneous lands (10% of U.S. land). Of the nations 442 million acres of cropland about 70% is commercially treated; aerial accounts for roughly 25% of the amount of commercially treated cropland. This accounts for approximately 77 million acres of cropland treated aerially each year, not including the portion of aerial treated pasture and range acres (587 million total acres in the U.S.), forest land (651 million total acres in U.S.), and public health acres (60 million total acres in U.S.)].

Again, Mr. Chairman, we appreciate this opportunity of being able to comment on proposed climate change policy. Please do not hesitate to contact me for additional information or if questions should arise.

Most sincerely,

Andrew D. Moore
Executive Director

RESPONSE TO QUESTIONNAIRE SUBMITTED BY NATIONAL ALLIANCE OF FOREST OWNERS

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

David P. Tenny

Organization(s) you represent

National Alliance of Forest Owners

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President and CEO, National Alliance of Forest Owners

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

Congress should support policies that enable and support offsets from a range of eligible projects, including forest management and harvested wood products.

Private forests in the U.S. are already a valuable tool to reduce greenhouse gas emissions. Both the EPA and the United Nations' 2007 Intergovernmental Panel on Climate Change, for example, have identified managed forests as a primary tool to reduce greenhouse gas emissions ("GHG") emissions. Further, the EPA says that forests in the U.S., nearly 60% of which are privately owned, sequester almost 200 million metric tons of carbon per year, representing 84% of the carbon sequestered by all land uses. US Environmental Protection Agency. 2007. *Inventory of U.S. greenhouse gas emissions and sinks: 1990-2005.* EPA 430-R-07-002; Birdsey, R., K. Pregitzer, and A. Lucier. 2006. Forest carbon management in the United States: 1600-2100. J. Environmental Quality 35: 1461-1469; US Environmental Protection Agency. 2007. *Inventory of U.S. greenhouse gas emissions and sinks: 1990-2005*, EPA 430-R-07-002.

Offsets from forests and harvested wood products will create a flexible and cost-effective way for regulated industries to achieve net GHG reductions and encourage further sequestration and carbon storage by forests and wood products.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

NAFO and its members strongly believe that forests should not be subjected to a cap in a cap and trade system, and thus should not be required to obtain allowances under any circumstances. As described in answer 1, it is well demonstrated that forests in the United States function to sequester carbon, and serve as the most significant carbon sink. Thus, GHG emissions from forests should not be controlled under a cap, and there is no need for the forest sector to obtain allowances.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

NAFO takes the view that allowances should be distributed in a manner that best advances market flexibility and efficiency for all of industry, and NAFO thus supports an allocation of allowances without cost. We are concerned that an auction of allowances could inflict greater costs on the economy without any additional benefit to the environment or addressing climate change.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

It is important that Congress enable existing systems to link to future comprehensive climate change approaches, including cap and trade. For example, a nationwide offsets program should recognize verifiable offsets credited in other established carbon reduction programs, both mandatory and voluntary. At the same time, as a national carbon reduction program emerges, local and regional programs should be incorporated into the national program to avoid the risk of inconsistent obligations on companies and the inefficiencies and burdens on complying with numerous systems.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

NAFO believes the Environmental Protection Agency, if provided adequate resources and after adequate lead time to establish an effective program, should be responsible for administering the cap. NAFO strongly believes that responsibility for developing protocols, certifying and approving forest-related offset projects should be delegated to the Department of Agriculture, which can apply its technical expertise to this complex area. We support a program where EPA sets and administers the cap and USDA has lead authority for implementing the offsets program related to the forestry industry. Congress should give strong consideration to whether the actual trading mechanism should be overseen by a federal agency with expertise in commodities trading and management.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based

commodities? *Please respond in 600 words or less.*

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

NAFO limits its answers to communities, populations, and workers related to the forest industry. NAFO believes that as Congress and the government consider approaches to address climate change, avoiding negative impacts on the forestry community must be a primary consideration. For this reason, NAFO believes that forests should not be included under a cap or regulated as a source of GHG emissions. Further, the development of an offset program should recognize the role of working forests and harvested wood products in sequestering and storing carbon. This will lead to the dual benefit of reducing greenhouse gases and creating economic opportunities for communities related to private forests. We urge Congress to delicately balance the environmental goals of addressing climate change with avoiding adverse economic impacts while at the same time promoting positive economic opportunities for private forests. NAFO looks forward to the opportunity to offer our perspective in discussing these issues further.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Notwithstanding our concerns regarding the cost of allowance auctions, if there was revenue generated under a carbon reduction program it should be spent on initiatives to promote energy efficiency and renewables, carbon capture and storage research and development, and to promote sequestration in agriculture, forestry and other uncapped sources. A portion of new funding should be directed to federal forest-climate research programs to help develop improved precision in forest carbon monitoring and to create new measurement tools that will lower transaction costs and increase participation by landowners.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

NAFO as a general proposition urges Congress and the government to take action to the greatest extent possible to avoid adverse economic consequences on businesses associated with climate change controls. NAFO believes that providing a vigorous offset program at the outset of any cap and trade system will assist those companies with higher overall costs of reducing their own greenhouse gas emissions. For that reason, NAFO believes that Congress must take care in enacting a cap and trade system to provide adequate time for the full operation and functioning of an offsets market at the outset of implementation of the cap and trade regime.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

NAFO believes there are opportunities for public lands to play a role in sequestering and/or reducing greenhouse gases. However, NAFO also believes that programs to promote sequestration of public lands must be distinct from offset programs involving private forests. Regulatory and management approaches between private and public lands can differ significantly, and effective and efficient greenhouse gas programs should be tailored separately to the different types of ownership.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The Voluntary Carbon Standard, a global consortium dedicated to improving standards and programs for offsets, has proposed potential standards for forestry management. Further, the United Nation's Clean Development Mechanism ("CDM") does allow credits for afforestation or reforestation, but not forest management. The CDM has been problematic and will undoubtedly undergo changes in the coming years as it has produced very few projects in the forestry area due to unnecessary restrictions in the program. The critical importance of promoting forest sequestration projects around the world was highlighted at the December 2007 United Nations climate change conference in Bali. At that conference, discussion focused on Reducing Emissions from Deforestation and Forest Degradation ("REDD"). Ongoing REDD discussions may provide an opportunity to bring international perspectives to this issue.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

NAFO supports the concept of a voluntary offset program. A voluntary offset program is consistent with the goal of promoting an environmentally effective yet economically efficient mechanism for addressing climate change. Under a voluntary system, private forest owners can choose whether to participate in an offset program based on a combination of factors relevant to

their particular forests and circumstances. Importantly, NAFO believes a key component of such a voluntary offset system would be to account for early actors--i.e. those who engage in certain eligible activities intended to sequester carbon dioxide prior to the effective date of a national cap and trade system. Such credit for early action will encourage action at the earliest possible moment to address climate change.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

NAFO does not believe there is any justifiable rationale to limit the number of available offsets. Offsets that represent real, verifiable, additional, and permanent reductions in greenhouse gas emissions further the goal of eliminating greenhouse gases while promoting economic efficiency, and should not be limited in any manner.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

NAFO believes that available offsets should be readily accessible to all capped sectors and that distribution should be driven by market demand. Such a market-based system will promote the most efficient and effective means of achieving the goal of the cap and trade system by distributing offsets to sectors where they are most in demand and by ensuring the most efficient pricing mechanism for offset credits.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

It is recognized that a forest offset program will be complex and that a strong system of verification is critical to the viability of offsets from forest land in regional, national, and international markets. At the same time, we recognize the need for administrative simplicity so as not to erect unnecessary barriers to otherwise qualifying offset projects. Adapting existing monitoring and sampling systems, where applicable, and paying careful attention to roles can help address this issue.

In general, we believe verification should be focused: on (1) methods of estimating additionality for participating entities; (2) methods of designing and estimating the effects of carbon offset projects on all storage pools; and (3) actual achievement of additional carbon storage above baseline in all pools.

Standards for methodology need to be established. Adapting existing systems familiar to forest offset providers would increase administrative simplicity and reduce cost. These include standard forest inventory methods as a proxy or precursor to measurement of carbon. There is a need for liquidity within regional, national, and international markets, and harmonized measurement and verification methodologies can promote that liquidity.

We recognize a strong role for the states in establishing standards, in a transparent and open manner, for measurement and verification methodologies. Beyond standard-setting, implementation of measurement and verification requirements could be performed by the State directly, by independent third-party verifiers acting under State authorization, by offset providers themselves operating under State standards with spot-checking and penalties for false reporting, or some combination. We desire to keep costs low while ensuring carbon offsets meet applicable standards.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

NAFO supports the general consensus on this issue that offsets should represent real, verifiable, and additional reductions in greenhouse gases or increases in biological sequestration. Criteria for assessing offset projects should be developed and narrowly tailored specifically for eligible forestry projects. Such criteria should take into account the relatively longer scope of typical forestry projects.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

NAFO believes a verification system should have several components: (1) a report submitted by the project developer; (2) review by an accredited third party verifier; (3) a prompt decision and awarding of credits by the appropriate agency no later than 60 days following submission of the report; and (4) a timely appeal mechanism for a decision not to award offsets. Importantly, NAFO believes such a verification system and appropriate third party verifiers must be in place prior to the implementation of a cap and trade system so that offset credits can be available to help satisfy allocation requirements for capped sources.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

The term "permanent" for forest carbon offsets should mean removal and/or storage of the subject carbon from the atmosphere for 100 years. Forest carbon contracts should assign clear obligation for reversals. However, an offset market should allow flexibility for landowners and project developers to establish forest carbon contracts of different duration and different values in response to market demand and differing needs in the marketplace and provide that the environmental integrity of emissions reductions is not

compromised. Clear rules should be established for replacing shorter-term credits so that environmental integrity is maintained, and contracts of varying duration should be standardized to allow them to remain fungible in offset markets. Market flexibility should also include a suite of options to enable obligated parties to cover the risk of reversals.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Please see answer to question 4.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

NAFO believes that a federal cap and trade system must recognize and award offsets to early actors. The nation's private forest owners are prepared to implement projects, and have been implementing projects, that meet the criteria of established offset programs and likely would satisfy the criteria of a future nationwide cap and trade system. Recognizing the actions of such early actors creates every incentive for the nation to begin addressing greenhouse gases at the earliest opportunity, and removes disincentive to postpone projects for several years. We believe there are several flexible mechanisms for recognizing early actors that could be incorporated into a cap and trade system, including the creation of an offset reserve for early actors that would award offsets for projects that meet the criteria of established trading systems or would meet the criteria of a future nationwide cap and trade system. NAFO also believes that credits for other ecosystems benefits, such as wetlands mitigation credits, can accrue to the same land base as carbon credits and should not affect the valuation of the forest carbon credit.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

This question makes a critical and appropriate distinction between intentional and unintentional reversals. NAFO does not believe that project developers should be directly accountable for unintentional reversals such as those caused by natural disasters. Rather, other means of

addressing unintentional reversals are available that do not burden innocent project developers, such as an offset reserve system that functions akin to an insurance program. In the case of intentional reversals, a cap and trade system may seek to make the developer or offset producer accountable for obtaining allowances or offsets to compensate for the reversal, or to be able to obtain such offset credits from an offset reserve system established for reversals.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

NAFO believes that legislation should be drafted in a manner that authorizes and encourages the private forest industry and government agencies to pursue and implement forest offset projects without haste. It will be critical for the success of a comprehensive cap and trade program to facilitate a full and vigorous offset trading market at the outset of a cap and trade system. Thus, Congress should give clear direction to the relevant agencies--presumably the Department of Agriculture and the EPA--to implement and facilitate forest offset projects at the outset. To achieve this goal, Congress should identify a broad and full range of eligible forest offset projects in legislation and provide for both an expedited approval and verification process for such projects as well as an opportunity to pursue other types of projects not identified in the legislation. When Congress delegates authority to the agencies for devising protocols and procedures, it should provide expedited and enforceable deadlines.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Forest carbon offset markets should be carefully structured to minimize transaction and compliance costs—this will encourage the necessary level of participation from landowners and project developers to reach scale. Rules should not be structured to favor certain types of landowners over others. Additionally, the protocols and verification requirements should be feasible and affordable for all types of landowners.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

The nation's private forests owners already have a proud history and heritage of responsible forest management that best protects and enhances the environment while achieving economic opportunities for this critical resource. NAFO believes that a properly designed offset program has the potential to further expand opportunities to promote projects that realize the dual goal of protecting the environment by sequestering carbon while promoting the economic viability of the nation's forests.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

In recent years, both domestically and abroad, there has been an increased focus on the role forests can play to address climate change. In addition to serving as the most significant natural carbon sink, responsibly managed forests and harvested wood products have the potential to provide further prospects for reducing atmospheric CO2 by providing biomass for renewable energy, such as electricity generation and transportation fuels, that have lower lifecycle CO2 emissions than fossil fuels.

Forests can provide ample, sustainable, domestic supplies of biomass to produce low-carbon sourced electricity, low-carbon liquid transportation fuels, and ultralow carbon synthetic natural gas that can be substituted for higher carbon sources of electricity and fuels. Wood and wood residues are a dependable, domestic renewable energy resource that can be utilized for energy production through processes like biomass generation, wood gasification, and conversion to cellulosic biofuels.

Experts have long recognized working forests as a source of real and verifiable reductions in greenhouse gases and a cost-effective source of industrial GHG offsets. The United Nations' 2007 Intergovernmental Panel on Climate Change (IPCC) highlights forest management as a primary tool to reduce GHG emissions. The IPCC states that, "In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest stocks, while producing an annual sustained yield of timber, fiber or energy from the forest, will generate the greatest mitigation benefit".[1]

Similarly, the EPA has concluded that there is "'scientific consensus'... that the carbon dioxide emitted from burning biomass will not increase CO2 in the air if it is done on a sustainable basis."[2] This position is supported not only by the IPCC, but also by the Energy Information Administration (EIA), the World Resources Institute (WRI) and other credible scientific bodies.

Appropriately including forest biomass in a renewable energy standard, whether it is a renewable electricity standard or a renewable fuels standard, would take full advantage of these carbon mitigation benefits in the energy context. Likewise, a policy that discourages forest biomass utilization will forfeit these benefits, particularly in areas where fossil fuels are the predominant source of energy production and where alternative forms of renewable energy, such as wind, solar and geothermal, are not viable options.

---

[1] Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, page 543.

[2] U. S. Environmental Protection Agency Combined Heat and Power Partnership, *Biomass Combined Heat and Power Catalog of Technologies*, 96 (Sept. 2007) available at www.epa.gov/chp/documents/biomass_chp_catalog.pdf.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation and Reforestation	Excellent	Excellent	Medium	High
Forest management	Excellent	Excellent	Medium	High
Harvested wood products	Excellent	Excellent	Low	High
New technologies	Excellent	Good-Excellent	Medium-High	Medium
Avoided deforestation	Excellent	Excellent	Medium	Medium
Conservation Forestry	Moderate	Good-excellent	High	Medium

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL ALLIANCE OF
INDEPENDENT CROP
CONSULTANTS (NAICC)
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Paul Groneberg

Organization(s) you represent

NAICC

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Secretary

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Not until we have more of a definite way to measure carbon.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Same as above.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

We do not need more government.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands affect the environment just like other land but they should not compete with private land with bidding for carbon credits.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Market forces are the best strategy.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

This is part of the problem with this whole program. Quantification is very difficult.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

If a practice is counting toward more than one facet of the environment, it should count accordingly.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should these activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

If it helps the environment, credit should be given.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

This is part of the problem. It is very difficult to verify the real affect on the environment.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

This should be based on science. There isn't enough science to be accurate.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

I haven't seen enough financial incentives at this time to help producers change practices. In some parts of the country, growers give up yield when using no-till practices.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

In view of the US deficit, the government doesn't need to spend any more money. Yields suffer from no-till in the upper midwest so why force the issue with government subsidies?

Part III: Carbon Reduction Program Additional Thoughts
Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.
Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL ASSOCIATION OF
CONSERVATION DISTRICTS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Steve Robinson, President

Organization(s) you represent

National Association of Conservation Districts

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Elected President of the National Association of Conservation Districts

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

NACD has not developed policy regarding either a cap-and-trade program or a carbon tax to address climate change issues, but our membership is discussing the Association's position and will likely provide more specific direction during our July 2009 Board Meeting.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

NACD believes that if Congress passes legislation to address climate change, there should be an opportunity for the agriculture and forestry sectors to provide off-set credits. As minor sources of greenhouse gases, agriculture and forestry should not be covered entities under a carbon reduction program.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

A certain number of allowances should be provided to the US Department of Agriculture to provide assistance to early actors in carbon sequestration and other greenhouse gas emission mitigation efforts, and to assist with research into new practice standards and adaptation efforts (research, etc)

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes, a federal program should allow existing carbon reduction programs to participate, if they meet or exceed the federal standards.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The US Department of Agriculture should be charged with the development and oversight of agriculture and forestry practices eligible for greenhouse gas mitigation through an offsets program. The Natural Resource Conservation Service should provide assistance in developing appropriate practice standards for carbon sequestration. The Office of Ecosystem Services and Markets, recently established at USDA after the 2008 Farm Bill, could coordinate theses efforts based on the mission established in the Farm Bill.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

NACD believes there is a potential for increased utility, agricultural input and transportation costs as a result of a carbon reduction program and recommends a robust offset program to mitigate some of those increased costs to agriculture and forestry. (We would also expect, but cannot quantify, similar increased costs to other rural residents and economic impacts to rural communities; and possible increased food prices and increased federal spending on nutrition programs)

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

With regard to agriculture and forestry, we recommend an off-set program to allow agricultural producers and forest landowners to receive payments for their carbon credits or

greenhouse gas mitigation efforts. These payments would assist in off-setting any increased costs or negative impacts associated with a carbon reduction program. Investment should also be made into research for new technologies and adaptation strategies for forestry and agriculture.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Producers and forest landowners should have the option of participating in a robust offset program. Allocation of allowances should also assist in addressing increased costs, if provided in a manner that transitions over time.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Yes, we believe there is a potential role for public lands. There might be an opportunity to include public land restoration and subsequent carbon sequestration into a strategic reserve. This strategic reserve would be available if there is a natural disaster or other adverse impact that is beyond the control of the producer or forest landowner's control.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should primarily be determined by market forces; however a base cost (floor) should be established.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected

agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

A combination of a voluntary offset program based on practice standards and allowances for agricultural activities. For landowners that do not have an operation of sufficient size to participate in an offset program, a beyond offsets incentive based program should be included to undertake carbon sequestration efforts to reduce land fragmentation and allow landowners to say in the agriculture/forestry business.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

In general we believe the overall number of off-sets should not be limited, but the source of the offsets should be restricted to ensure a majority come from domestic sources.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Free Market

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

There should be verification of contracts and NACD would recommend the CCX model of 10 percent of contracts. The quantification of emission reductions should be established based on conservation practice criteria established by USDA taking into account practice, soil type, moisture, etc.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

NRCS should establish practice standards for carbon sequestration efforts and the mitigation of greenhouse gases. These standards should be based on models such as Comet-VR and similar assessments and not field by field sequestration tests for each specific project.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

A system for verifying offset projects should ensure that third-party verification of reported amounts of carbon should be completed before they are registered for offset credits

Under CCX practices today, verification is undertaken on about 10% of contracts, and carbon content is measured. Land is also inspected to verify that proper management practices are being performed by the landowner that holds the credit. Rates of carbon sequestration in the U.S. generally range from 0.2 to 0.6 metric tons per acre per year for conservation tillage, grasslands are at a rate around 1.0 metric ton per acre per year, and forestry is generally higher than 1.0 metric ton per acre per year.

As carbon credit markets form and climate change legislation is considered, it is essential that one set of standards for carbon sequestration be established that can be applied universally. The United States Department of Agriculture's Natural Resource Conservation Service (NRCS) worked with CCX in setting up the pilot agricultural carbon offset program and provided the standards for BMP's that also sequester carbon. Verifiers utilize NRCS practice standards in performing verification; standards which are science based and have a longstanding acceptance.

Conservation districts are well situated to perform verification functions. Landowners often have working relationships from previous conservation work with their local conservation district staff. This trusted relationship, combined with the conservation district's technical expertise and familiarity with NRCS practice standards to perform soil samples makes conservation districts a logical local resource for carbon credit

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Practice standards should be utilized for established eligible offsets under the program. As verification efforts and new research provide additional information on sequestration levels, these practice standards should be reviewed and updated.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

There should be a separate relationship and a covered entity should be allowed to utilize both allowances and offset credits. As available allowances decrease over time, we would expect the use of offset credits to increase.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

We recommend a contract length of 5-10 year contract for agriculture. Contracts should vary over geographic areas and crop type, but we don't expect a producer would be able to enter into a contract beyond that timeframe. Forestry contracts may extend for a longer term.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing offset projects and program should be included in a voluntary system if they meet or exceed the standards and protocols set under a new program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Projects participating in a greenhouse gas offset market should not be excluded from also participating in other markets for environmental services that currently exist or may arise in the future. Allowing producers to "stack" credits will maximize the economic viability of carbon sequestration and manure management projects, ensuring more projects are undertaken and synergies with other environmental priorities are developed. Early actors should be allowed to participate according to an established baseline date.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

All greenhouse gas emission reduction efforts and carbon sequestration should be eligible to participate, regardless of whether or not the project received assistance from the federal or state government.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes, the contract holder should be liable if they do not honor the stipulations of the contract. However there should be appropriate exceptions for wildfires, hurricanes and other natural disasters that are outside the control of the contract holder.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

USDA should develop practice standards, protocols and procedures addressing agriculture and forestry practices and projects.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

NACD believes the obstacles to adopting practices and implementing technologies is generally a factor of understanding about the practice as associated costs. Education effort and technical assistance to assist in undertaking new practices and understanding new technologies is essential for producers and landowners to take action.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No, existing conservation and forestry programs do not provide sufficient incentives. To secure the carbon sequestration and storage capacity of our forests, we must support and expand policies and programs that keep our forests as forests by slowing their conversion to non-forest uses and encouraging sustainable forest management. Incentive programs should adopt different project design guidelines than offset markets, but should be focused on climate mitigation activities. This enhanced flexibility should be used to incubate innovative forest carbon activities and otherwise increase opportunities for landowners to participate.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

As Congress considers a market-based, cap and trade approach to climate change legislation, it is important that the potential contributions from the agriculture and forestry sectors are considered. Certain conservation practices in agriculture and forestry

have demonstrated abilities to sequester atmospheric carbon. In order to ensure agriculture and forestry are included in climate legislation, an understanding of the process by which producers and landowners can participate is necessary to facilitating landowner participation in carbon markets

Agriculture producers that utilize conservation tillage farming practices for row crops sequester atmospheric carbon. Such practices as no-till and strip-till significantly reduce soil disturbance, leaving carbon sequestered by plant material residue that is left on fields to decay into organic matter. This process leaves carbon in the ground for many years. Grazing and rangeland management can also promote carbon sequestration utilizing the same ecological process. Rangeland grasses, shrubs and forbs place carbon in the soil through natural growth and decay cycles.

Livestock operators can also qualify for carbon credits for the capture of methane. By utilizing manure management practices and methane capture technology such as methane digesters, livestock operations can prevent methane emissions that would have otherwise been emitted to the atmosphere. Captured methane is combusted, and the avoided atmospheric release is eligible for offset credits. Offset credits for avoided methane emissions are determined by such factors as the baseline manure management system, average livestock population, and methane content of recovered gas.

Forestland owners and managers can utilize forestry BMPs that sequester carbon in plant material. By actively managing forests through sustainable silviculture, thinning and harvesting, continued forest growth is promoted and capacity for carbon storage is increased. Certification of sustainable practices by a third party is often required. Forest carbon credits can also be generated by afforestation projects that create newly forested land.

Many current Farm Bill conservation programs such as the Environmental Quality Incentives Program, the Wildlife Habitat Incentives Program and the Conservation Reserve Program promote conservation practices that also provide carbon sequestration benefits. As climate change legislation is developed, it is important to consider the current benefits of these programs and that carbon credits they generate qualify under a cap and trade system.

Carbon credits created from agriculture and forestry practices are realized from different types of land. Differences in land use, acreage size, carbon sequestration potential, and soil types are all factors that must be considered and that require a process to create parity.

In order to produce a unit of carbon that is uniformly tradable as an offset, it is necessary to combine credits into bundles in a process known as aggregation. The aggregation of credits is performed by neutral, third-party aggregators for a fee and creates a unit of exchange which can then be placed on a carbon credit market like the Chicago Climate Exchange (CCX).

By CCX's standards, units constituting less than 10,000 metric tons of carbon must be aggregated before becoming eligible for trading. Landowners sign contracts with aggregators to perform carbon sequestering activities through agriculture and forestry practices. Contracts are then combined by aggregators into standard units to meet tradable thresholds. Aggregators can also contract with producers to serve as administrative and trading representatives, and to pay for third party carbon sequestration verification.

Upon a producer or landowner enrolling land for trading, verification must be performed. This process is typically performed at least once per year to ensure that practices are being performed by contract specifications and that measurable carbon is being sequestered. Soil samples are taken from a specified percentage of enrolled acreage, generally at least 10% of contracts, and carbon content is measured. Land is also inspected to verify that proper management practices are being performed by the landowner that holds the credit. Rates of carbon sequestration in the U.S. generally range from 0.2 to 0.6 metric tons per acre per year for conservation tillage, grasslands are at a rate around 1.0 metric ton per acre per year, and forestry is generally higher than 1.0 metric ton per acre per year. Because rates of carbon sequestration vary depending on geographic location, local soil types and the conservation practice employed, carbon verification is performed by local soil standards to determine sequestration rates.

As carbon credit markets form and climate change legislation is considered, it is essential that one set of standards for carbon sequestration be adopted that can be applied universally. The United States Department of Agriculture's Natural Resource Conservation Service (NRCS) worked with CCX in setting up the pilot agricultural carbon offset program and provided the standards for BMP's that also sequester carbon. Verifiers utilize NRCS practice standards in performing verification; standards which are science based and have a longstanding acceptance.

Conservation districts are well situated to perform verification function. Landowners often have working relationships from previous conservation work with their local conservation district staff. This trusted relationship, combined with the conservation district's technical expertise and familiarity with NRCS practice standards to perform soil samples makes conservation districts a logical local resource for carbon credit verification.

Costs for aggregation and verification are paid by producers through fees on carbon credit contracts. Fees vary depending on the location of the producer and such factors as the size and proximity of tracts of land that are enrolled. Smaller, more dispersed tracts of land typically incur greater costs than larger, contiguous tracts. This is attributed to greater amounts of time and work required to aggregate multiple small contracts, as well as time and work involved to locate and verify carbon sequestered. Aggregators and verifiers are also required to manage risk by maintaining liability insurance, a standard practice in financial markets. Average verification costs in states in which conservation districts are involved in carbon trading range from $40 – $70 per contract.

Under current markets such as CCX, producers that enroll lands are paid annually at a standardized rate for carbon per acre and must contract for a minimum of 5 years for conservation tillage, 15 years for sustainable forestry practices and 100 years for harvested wood products. Payment is made to producers for carbon contracts by the aggregator as credits are sold on the carbon market.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL ASSOCIATION OF COUNTIES
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name
Larry Nakke

Organization(s) you represent
National Association of Counties

Address
[Redacted]

Email:
Contact NACo staff member Erik Johnston at [Redacted] or [Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director

NACo National Association of Counties
The Voice of America's Counties

April 9, 2009

The Honorable Collin Peterson
Chairman, House Committee on Agriculture
United States House of Representatives
1301 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Peterson:

I am writing on behalf of the National Association of Counties (NACo) in response to your request for input regarding the potential impact of climate change legislation on agriculture and forestry. As the only national organization representing America's counties, NACo appreciates your interest in engaging the nation's counties and all interested stakeholders in this important topic.

NACo is deeply interested in all legislation that will impact agriculture and forestry, which are critical sectors of the economy for many of our nation's counties. NACo does not have policy related to the technical questions posed in your questionnaire, but does have a broad policy statement related to this topic which is enclosed. NACo policy supports federal incentives to encourage American agriculture to reduce greenhouse gases and opposes any attempts to impose a federal greenhouse gas tax on livestock. A livestock tax will have devastating economic consequences on many of our nation's counties. The federal government should instead ensure that agriculture is a part of the climate change solution through incentives.

Again, NACo appreciates the Agriculture Committee's initiative to solicit input on this important topic. We look forward to continuing to work with you to ensure that agriculture and forestry are strengthened and not damaged by any climate change legislation.

Sincerely,

Larry E. Naake

Larry E. Naake
Executive Director
National Association of Counties

AGRICULTURE AND RURAL AFFAIRS STEERING COMMITTEE

RESOLUTION TO SUPPORT FEDERAL INCENTIVES TO ENCOURAGE AGRICULTURE TO REDUCE GREENHOUSE GASES AND OPPOSITION TO A "LIVESTOCK TAX"

Issue: Greenhouse Gases and Agriculture.

Adopted policy: NACo supports federal incentives to encourage American agriculture to reduce greenhouse gases and opposes any attempts to impose a federal greenhouse gas tax on livestock.

Background: The Environmental Protection Agency (EPA) released an Advanced Notice of Proposed Rulemaking (EPA-HQ-OAR-2008-0318, July 11 2008) in July 2008 in response to Massachusetts vs. EPA in which the Supreme Court ruled that the EPA must regulate greenhouse gases under the Clean Air Act. In the notice the U.S. Department of Agriculture (USDA) gave some figures on potential impacts on American agriculture.

Controversy over the idea of a "livestock tax" stems from USDA's comments about the EPA notice, which evaluated what would happen if the EPA regulated any operation generating more than 100 tons of greenhouse gas emissions per year. Under that scenario, "even very small agricultural operations would meet a 100-tons-per-year emissions threshold," USDA wrote. "For example, dairy facilities with over 25 cows, beef cattle operations of over 50 cattle, swine operations with over 200 hogs, and farms with over 500 acres of corn" may need to get a permit. USDA stated it simply was not practical for that to happen.

The advanced notice of a proposed rule is a very preliminary step EPA took to ask should they regulate carbon and if they regulate carbon, how they should do it under the Clean Air Act. Congress is expected to take up climate-change legislation in 2009, though the role agriculture will play in either receiving carbon credits or demands for offsets has not been spelled out.

Counties do not believe that a "livestock tax" should be an option in the climate change debate because of the devastating economic consequences it would have on farmers and ranchers. However, the federal government can ensure that agriculture is a part of the climate change solution through incentives. For example, grant assistance to farmers and ranchers can help them upgrade their equipment to become more efficient and environmentally friendly. Technical and financial assistance can also help agricultural producers market the value of best management practices, boost renewable fuel capacity and efficiency, and advance the carbon sequestration capabilities of agricultural land.

Fiscal/Urban/Rural Impacts: A greenhouse gas "livestock tax" will significantly damage the economy of rural counties and will raise food costs for all Americans. Incentives for farmers and ranchers to reduce greenhouse gases will help rural counties to thrive and be a part of the climate change solution.

Adopted by NACo Board of Directors
March 9, 2009

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL ASSOCIATION OF
RESOURCE CONSERVATION AND
DEVELOPMENT COUNCILS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Joan Smith Freeman

Organization(s) you represent

National Association of Resource Conservation and Development Councils

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President of the National Association of Resource Conservation & Development Councils, Volunteer

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The National Association of Resource Conservation and Development Councils supports the use of a carbon cap-and-trade program. A program such as this will provide an economic stimulus by creating a system for monitoring, regulating, and aggregating carbon credits across the United States. The opportunity to generate these carbon credits will provide farmers and forest owners incentives to implement conservation practices that will effectively reduce carbon and green house gases and increase wildlife habitat, energy conservation, and revenue on producers' lands through wiser and more efficient decisions. The National Association of Resource Conservation and Development believes that a cap-and-trade program would be effective in reducing the overall level of carbon and other greenhouse gases released into the atmosphere.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The National Association of Resource Conservation & Development Councils supports the inclusion of the agriculture and forestry sectors under a carbon reduction program. Forests and agriculture are intricately tied to climate change and can either impact or assist any type of carbon reduction program. Federal, state, local, and private forests can be sources of greenhouse gases when they are reduced or destroyed. However, they can be carbon sinks for greenhouse gases when they grow, expand, or are maintained. Agricultural operations can emit greenhouse gases, but organic agricultural sectors can partake in practices that sequester carbon, thereby offsetting greenhouse gas emissions. Both sectors can thereby generate carbon/greenhouse gas credits, which will facilitate market development by employing non-governmental aggregators and providing a finite outlet to emitters.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

The National Association of Resource Conservation and Development Councils is concerned about the impact that a carbon/greenhouse gas reduction system may have on limited resource or socially disadvantaged producers. However, targeted outreach and cost share programs may mitigate the impact such programs have on the above mentioned

groups and ideally turn these challenges into opportunities for greater efficiencies and revenue generation.

The USDA, through the Farm Service Agency and the Natural Resources Conservation Service, offers programs such as the CRP, WRP, GRP and EQIP to encourage producers to engage in conservation activities. Increased costs to producers in complying with a carbon/greenhouse gas reduction program can put serious strain on producers' finances and might require USDA to shift assistance programs from a conservation focus to carbon/greenhouse gas reduction. However, cost increases due to a carbon/greenhouse gas reduction program can be offset by comprehensive strategies to capture on-farm methane production, use renewable fuels, and implement energy conservation measures.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

The revenue generated under a carbon reduction program could spur the development of no- and low-carbon technologies in renewable energy and energy conservation. The National Association of Resource Conservation and Development Councils recommends that the regulating entity reserve a portion of the funds generated from a carbon/greenhouse gas reduction program to mitigate the economic impact this program may have on limited resource or socially dissadvantaged producers.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands should have a large role in helping the way carbon is sequestered and/or greenhouse gas emissions are reduced. Public lands can help to reduce overall emissions while at the same time increasing carbon uptake. Public lands that are protected, maintained, and conserved will prevent the release of carbon and greenhouse gases that would otherwise be released. Public lands strategies should include a methodology to help public lands and the communities that use them adapt to the impacts of climate change and must have well developed carbon mitigation strategies that public landowners can use to manage their lands that will increase carbon sequestration or reduction of greenhouse gases.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

The National Association of Resource Conservation and Development Councils believes that market forces should determine the carbon price. The will ensure equilibrium between the Government's supply of permits and market demand. However, such market forces will mean that consumers will be exposed to fluctuations in the cost of goods and services that have carbon emissions involved in their production. This fluctuation would be controlled by consumers' and producers' actions and ultimately be curtailed by technological advances and energy efficiency in an effort to hold prices for goods and services at a minimum.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Offsets should be measured by government-accredited third-party certification and given a base value in federal regulations. Certification should be subsidized or bonus allowances should be granted to small, family farms, socially disadvantaged, and minority producers for specific agricultural or forestry-related conservation practices.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The National Association of Resource Conservation and Development Councils suggests limiting the quantity of governmental issued credits, thereby stimulating the private sector to provide necessary offset credits. Nongovernmental entities, such as local Resource Conservation and Development Councils could play the role of aggregators, facilitating the

generation, initial distribution, and trade of credits among agricultural and forestry sector producers.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The criteria system that is implemented must be establish a high degree of credibility through recognized effectiveness and verifiability. Offsets should be defined in cap-and-trade-legislation as the removal of a measurable amount of greenhouse gases for a certain amount of time from the atmosphere beyond what would happen in a business-as-usual scenario. This accepted and predictable methodology will provide all involved in the market – credit generators, aggregators, and purchasers – the opportunity to plan for the long term. This is necessary given the lengthy timescales involved in planning and investing in agriculture- and forestry-based carbon/greenhouse gas credit projects.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Offsets should be measured by those outside of the government who have earned some type of certification for measuring offsets. Non-profit organizations such as local Resource Conservation and Development Councils, which are composed of local individuals on the ground in local communities, could be certified to ensure producers are employing the practices and reducing carbon and greenhouse gases to which they have committed. Reductions should be given a base value with an appreciation multiplier via Federal Legislation with special exemptions or bonuses for limited resource or socially disadvantaged producers.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

Congress should favor a standards-based approach with pre-calculated values for carbon reduction. Such a framework, grounded in solid preliminary scientific research, will be simpler to implement and allow for better planning. Resource Conservation and Development Councils in various parts of the country have been facilitating the organization of research into rates of greenhouse gas sequestration by agriculture- and forestry-based projects. Such efforts should prove very helpful in establishing credible estimates of sequestration rates that can be employed in a standards-based system.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

The retroactive application of carbon credits developed before the establishment of a mandatory framework or baseline seems problematic since it modifies the purpose of an incentive-based system with the goal of overall reduction of carbon/greenhouse gases. Past performance should not be rewarded as those past activities were undertaken for reasons other than the generation of carbon credits under the system created.

Regarding stackability of credits, carbon/greenhouse gas sequestration projects will not necessarily qualify for credits for other environmental markets (e.g., wetlands mitigation, water quality, or endangered species habitat). In order to earn those additional credits,

landowners must implement further measures. Therefore the additional reward of stacking further credits upon carbon/greenhouse gas sequestration credits is warranted.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

In cases of fraud, carbon/greenhouse gas credits will have to be revoked and revenue returned. In cases where landowners acted in good faith and implemented practices that were expected to lead to carbon/greenhouse gas sequestration, those credits should not be revoked. If a landowner followed established practices under a standards-based approach or a sequestration project was damaged by a natural or man-made disaster, the landowner should not be punished. To the greatest extent possible, lessons from such events should be incorporated in future projects to increase their likelihood of success.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The greatest obstacles that agricultural producers and landowners face derive from lack of access to capital and information. This is particularly true for limited-resource and socially disadvantaged farmers, ranchers, and forest owners. The 375 local Resource Conservation and Development Councils, through their extensive information delivery system, can play a valuable role in sharing information on new technologies, energy saving practices, energy conservation strategies, and funding opportunities with these groups.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon

and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

THE NATIONAL ASSOCIATION OF RESOURCE CONSERVATION & DEVELOPMENT COUNCILS
444 NORTH CAPITOL STREET, N.W.
SUITE 345
WASHINGTON, D.C. 20001
PHONE: [Redacted]

BOARD OF DIRECTORS

JOAN SMITH FREEMAN
PRESIDENT
CALIFORNIA

ROBERT A. JEANQUART
EXECUTIVE DIRECTOR

JEANETTE JAMESON
1ST VICE PRESIDENT
GEORGIA

JAMES SIPPERLE
2ND VICE PRESIDENT
CONNECTICUT

MARVA BECK
SECRETARY
TEXAS

ED MILLER
TREASURER
WISCONSIN

ROBERT HARRISON
LEGISLATIVE LIAISON
ALABAMA

KATHLEEN BRADEN
LEGISLATIVE LIAISON
MISSOURI

WENDELL BLACK
WASHINGTON

HOWARD COFFIELD
WEST VIRGINIA

JOHNNY FLOWERS
ALABAMA

JOHN GUSZKOWSKI
CONNECTICUT

ROBERT JONES
OREGON

GILBERT "PETER" KEA
HAWAII

JERRY LAFFIN
OHIO

ROBERT PERRY
NEW MEXICO

MARY THOMPSON
NORTH CAROLINA

OLGA WALTER
MARYLAND

JANE KLEIN
NORTH DAKOTA

April 10, 2009

VIA E-MAIL: [Redacted]
Collin C. Peterson, Chairman
House Committee on Agriculture
US House of Representatives
Washington, DC 20515-6100

Dear Chairman Peterson:

The National Association of Resource Conservation and Development Councils ("NARC&DC") respectfully submits the following comments for consideration on the issue of carbon sequestration/greenhouse gas and its impact upon climate change.

Although we did not fully comment on each of the questions presented, the NARC&DC believes that a prospective mandatory program that limited greenhouse gas emission can be effectively implemented. Local Resource Conservation & Development ("RC&D") Councils across the nation have been instrumental in the following aspects of carbon and greenhouse gas mitigation:

1) Aggregators of carbon credits;
2) Performing and facilitating research into best practices for effective sequestration in forestry and agriculture;
3) Implementation of on farm practices that reduce carbon and greenhouse gas emissions. (e.g. methane capture, use of renewable fuel technology and energy efficiency); and
4) Quantification and monitoring of greenhouse gas reduction and carbon sequestration capture in local areas.

The NARC&DC appreciates the invitation to offer comments to the Committee of Agriculture and welcomes the opportunity to provide further information and testimony on this matter.

Very truly yours,

Joan Smith Freeman

Joan Smith Freeman, President
National Association of Resource Conservation & Development Councils

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL ASSOCIATION OF STATE FORESTERS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Jay Farrell

Organization(s) you represent

National Association of State Foresters

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

NASF does not have a formal position on this topic.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

NASF supports a carbon reduction program that recognizes the role of forests in mitigating greenhouse gas (GHG) emissions and supports forest adaptation efforts. NASF does not believe forestry should be recognized as a capped sector in a national cap-and-trade program.

Forests can play a significant role in sequestering additional carbon and are considered a low-cost option to mitigating CO_2 emissions. This carbon can be stored in the forest ecosystems themselves, or in products. Forests and forest products already play a significant role in storing and sequestering carbon. In fact, in the United States, forests currently store approximately 151,651 teragrams of CO_2 equivalents ($TgCo_2$), and storage is growing at a rate of 595 $TgCo_2$ per year.[1] This is equal to approximately 10% of our annual emissions.[2] Wood from forests can also play a role in reducing atmospheric greenhouse gas levels by substituting for other materials such as steel, aluminum, plastic – all of which require emitting more carbon than wood both in original production and throughout their life-cycle.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

NASF does not have an official position regarding the distribution of emission allowances. Emission allowances could be distributed to forest landowners with forest management plans approved by the State Forester. In turn, forest landowners could sell allowances to firms falling "under the cap" in order to install and implement management practices which better equip their forests to mitigate and adapt to climate change. Providing no cost access to allowances for use by the forestry sector will be an essential component of any federal cap-and-trade program.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

---

[1] U.S. Agriculture and Forestry Greenhouse Gas Inventory: 1990-2005

[2] U.S. Agriculture and Forestry Greenhouse Gas Inventory: 1990-2005

In national programs of any sort, NASF recognizes that there is a wealth of lessons to be learned from existing programs, including the Western Climate Initiative, the Chicago Climate Exchange, the Regional Greenhouse Gas Initiative and California's registry program; and that the wisdom we can derive from these experiences should be incorporated into future programs. Beyond this, NASF believes climate change issues will undoubtedly require adaptive management as we learn from our experiences.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

NASF recommends that an agency with expertise in forestry have a consulting or lead role in the development of standards and principles and oversight of forestry offsets included as part of a federal cap-and-trade program. Additionally, an agency with expertise in forestry should be responsible for administering other incentives, beyond offsets, for additional climate mitigation in forests and forest adaptation tools for forest owners.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

NASF does not have a formal position on this topic.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

NASF does not have a formal position on this topic.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

A carbon reduction program that recognizes the role of forest management in improving carbon sequestration rates can have positive economic and social impacts in forest-based communities. Improving the health of forests through fuels reduction projects and other forest health treatments helps reduce emissions from wildfire, sequester additional carbon beyond "business as usual" and also contributes towards goals for renewable energy production. Harvesting forest biomass for domestic production of renewable energy will provide family-wage jobs in rural communities. As an ancillary benefit, emerging markets for woody biomass can provide new capital to help

cover the costs of forest management practices that maintain or improve forest health and rates of carbon sequestration while also reducing emissions from wildfire.

A restrictive definition for "renewable biomass" such as the one found in the 2007 Energy Independence and Security Act should be avoided in federal renewable energy and climate legislation. Eligible biomass should not be defined or restricted by land ownership classification, but should include requirements for sustainability. A broad definition can help address many of the barriers which stand in the way of meeting management objectives on all of the nation's forests. First, it can help generate critical markets for woody biomass and carbon credits which provide new income sources for families and individuals helping them cover their costs to own and maintain their forests. Keeping forestlands working and sustainable is a primary driver for our policy positions.

Federal carbon reduction programs should avoid unnecessary or hidden costs and penalties which disproportionately burden families and individuals who own forest land and serve as a disincentive for their participation.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenue generated under a carbon reduction program can best be used to provide programmatic support for keeping forests as forests, keeping them healthy, maintaining or increasing onsite carbon stocking, and sustainably managing them for wood products, wood energy and the array of ecosystem services that flow from forests. Support for these efforts is important, whether or not they can meet the strict requirements for carbon offset projects, and will help reduce atmospheric greenhouse gas levels below those mandated by the cap alone. Despite the fact that they may not be able to qualify for offset payments, support for these efforts could come from the sale of allowances for carbon emissions under cap-and-trade programs, as well as from other sources.

NASF believes that is important that mechanisms other than offsets be found to reward landowners who are already storing carbon and practicing carbon-friendly management; and thus, avoid additional carbon emissions. Such programmatic efforts should include:

- Increased funding for keeping forests as forests through programs such as the Forest Legacy Program, Land and Water Conservation Fund and others.
- Increased funding for efforts to reduce the susceptibility of forests to losses from fire, insects and disease.
- Funding of programs which allow for forest adaptation in the face of climate change and encourage stronger landscape connectivity to support adaptation for forest species.
- Improved funding for each State's Forest Resource Assessments, Strategies and State Wildlife Action Plans. The state assessments and strategies will identify near term opportunities to practice adaptive management for climate adaptation and mitigation and target early responses to major stressors on forests from climate change. The commitment of the federal lands sector is essential if these plans are to be effective and functional across the landscape.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

NASF does not have a formal position on this topic.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands in Federal, State and local ownership should play a role in helping to sequester carbon and/or reduce greenhouse gas emissions. Climate change threatens to increase the incidence and intensity of wildfire which already forces the Forest Service to spend half its budget on fire suppression. The critical forest health situation on federal lands in the west has the potential to amplify the threat from climate change. We believe that the Forest Service should be a key actor in directing and funding a coordinated adaptation response to maintain our forest resources, including their mitigation capacity. Federal lands can also serve as areas to further research and development related to the efficient harvest and conversion of forest biomass to renewable energy as well as in helping develop protocols for forest carbon markets. Carbon sequestered on Federal lands could potentially serve as a "reserve" available for forest landowners to acquire insurance against losses from reversals (e.g., losses from catastrophic events).

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

NASF does not have a formal position on this topic.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

In national programs of any sort, NASF recognizes that there is a wealth of lessons to be learned from existing programs, including the mandatory markets in the European Union, the Chicago Climate Exchange, the Regional Greenhouse Gas Initiative and California's registry program; and that the wisdom we can derive from these experiences should be incorporated into future programs.

NASF believes that state forestry agencies are in a unique position, not only to help guide the development of these programs, but also to assist in program delivery at the local level. Federal funds to support state climate mitigation and adaptation efforts should recognize the many important roles state forest agencies play in encouraging carbon friendly forest management.

A federal cap-and-trade program should not mandate the geographic location of offsets. Further, there should be a broad suite of cost effective options for voluntary landowner/manager engagement and should not preclude any land management activity that is capable of generating additional carbon sequestration. It is important to provide flexibility by maintaining a high quality voluntary market for use by the sectors that are not covered under the cap. The State Forestry Agencies are best positioned to assist with this forestry related activity.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

It is clear what we need to do as a global society in order to capitalize on the opportunity that forests present to reduce future atmospheric greenhouse gas levels. Achieving this end will require a multi-pronged approach, including:

- Markets for forestry carbon offset projects established pursuant to mandatory cap-and-trade programs.
- Voluntary markets for forestry carbon offset projects entered into by willing sellers and willing buyers. Voluntary markets should be transparent both in terms of what they provide to purchasers and the methods used to insure that these benefits are delivered.
- Programmatic support for keeping forests as forests, keeping them healthy, maintaining or increasing onsite carbon stocking, and sustainably managing them for wood products. These efforts are important to reward existing beneficial practices, whether or not these can meet the strict requirements for carbon offset projects, and will reduce atmospheric greenhouse gas levels below those mandated by the cap alone. Despite the fact that they may not be able to qualify for offset payments, support for these efforts could come from the sale of allowances for carbon emissions under cap-and-trade programs, as well as from other sources.

We support the forestry sector participating *voluntarily* in any cap-and-trade program, through development of offset projects that can be sold to capped entities. The forestry sector includes many small private landowners, public lands and large industrial landowners.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

NASF does not have a formal position on this topic.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

NASF does not have a formal position on this topic.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

NASF recommends that a cap-and-trade program should include offset projects including, but not limited to, forestry practices that can demonstrate carbon benefits which are real, surplus (additional), verifiable, enforceable, and permanent (i.e. the five-part test). Several forestry practices should be included:

- Afforestation
- Active management for forest products
- Biomass plantations and abandoned agricultural land

- Carbon-friendly development
- Urban and community forestry
- Avoided deforestation

Further, these projects should include recognition of:

- Carbon stored in forest products.
- Product substitution benefits – that is, where wood can be substituted for materials which have higher life cycle carbon emissions.
- Reductions in losses from fire, insect and disease.

Further, NASF believes that the approach taken should:

- Allow all types and sizes of landowners to participate.
- Require a statistically valid initial carbon stock assessment and periodic remeasurements of carbon stocks consistent with standards for such measurements
- Require a periodic third party review to assure the quality of forestry carbon offsets.
- Specify baselines appropriate for such projects with the specific type chosen depending upon what provides the best measure of additional carbon sequestered.

NASF is acutely aware that before all of the types of projects listed above can be shown to meet the five-part test for offset projects (e.g., particularly avoided deforestation), more work is needed on certain topics, such as how to accurately estimate external leakage for some categories of projects (in some cases, it is already clear), and how to estimate product substitution benefits. NASF notes that work is being pursued to refine approaches on these issues.

Any comprehensive federal climate program should clarify who is eligible to claim credit for carbon sequestered in products and for the substitution benefits from wood products and biomass energy. Such credits could potentially be claimed by landowners, manufacturers or end-users, and programs must include measures to ensure that double-counting does not occur. Further, regardless of which entity ends up being able to claim the carbon credit, to be effective in encouraging carbon friendly forest management, at least a portion of the benefit needs to flow to the landowner.

18) What should be the criteria for assessing offset projects?

NASF recommends that a cap-and-trade program should include offset projects including, but not limited to, forestry practices that can demonstrate carbon benefits which are real, surplus (additional), verifiable, enforceable, and permanent (i.e. the five-part test). As committed as NASF is to forests and all their benefits, its members recognize that to be credible, forest offsets must first and foremost guarantee reductions in atmospheric greenhouse gases. This recognition underlies all of our principles and recommendations on this topic.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

The verification system should be part of the rulemaking by the agency charged with implementing the new policy and with forestry expertise. This allows modification and adaptation over time as we learn how to most effectively and efficiently meet the climate change goals. In designing a rigorous system for verifying offsets, we recommend that the agency that manages the carbon reduction program to review, evaluate and consider adopting the structure and protocols of similarly rigorous existing and emerging carbon reduction programs.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

NASF supports a national cap-and-trade program that includes forestry practices that produce real, additional, verifiable, enforceable and permanent carbon benefits. As part of a mandatory cap-and-trade program, NASF recommends a statistically valid initial carbon stock assessment and periodic remeasurements of carbon stocks consistent with standards for such measurements. As part of the program, third-party reviews should occur to assure the quality of forestry carbon offsets.

NASF supports the development of a set of standardized tools designed to help determine which carbon pools will require measurement. These tools would help mitigate compliance costs for landowners and project developers, and should be developed based on local/regional data. Measurement should not be required for carbon pools nearly certain to have increases.

Incentive programs should adopt different project design guidelines than offset markets, as long as they are still limited to supporting forest carbon activities with measurable climate benefits. This enhanced flexibility should be used to incubate innovative forest carbon activities and otherwise increase opportunities for landowners to participate. These efforts are important to reward existing beneficial practices, whether or not these can meet the strict requirements for carbon offset projects, and will reduce atmospheric greenhouse gas levels below those mandated by the cap alone. Incentive programs should explore lowering compliance costs through a categorical approach, with standard carbon benefits assumed for specific practices and incentives provided accordingly in order to increase landowner participation.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Both marketable offsets and use of emission allowance auction revenues (from within the cap) are ways of incentivizing forest carbon sequestration projects. Offsets have higher standards due to their need to be equivalent to a capped emission reduction, while incentive systems that go beyond the cap can have more flexibility. Allowances and offsets should be fungible assets traded on a one-to-one basis. NASF recommends providing the flexibility through incentives in addition to offsets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Short-term contracts should be adopted to increase participation among families and individuals who own forest land. Allowing market flexibility for landowners and project developers to establish forest carbon contracts of different duration in response to market demand would be appropriate, provided that the environmental integrity of emissions reductions is not compromised. Clear rules should be established for replacing shorter-term credits so that environmental integrity is maintained, and contracts of varying duration should be standardized to allow them to remain fungible in offset markets.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

NASF does not have a formal position on this topic.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

The USDA Office of Ecosystem Services and Markets, USDA Forest Service along with a number of universities and others are addressing how a cap-and-trade program and carbon markets or transaction are best developed. NASF supports allowing landowners to "stack" credits. Forest landowners that generates credible carbon benefits should not be precluded from selling other ecosystem service (e.g., water quality, biodiversity) credits in respective markets as they develop.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Federal or state financial cost-share assistance should not preclude the landowner from selling the carbon or other ecosystem service credits in their entirety. Frequently implementing a single project can achieve multiple environmental and social goals, and project developers often use funding from a variety of sources in order to create a financially viable project. The more we can integrate (rather than separate or disqualify) carbon offset projects with objectives of other federal programs, the larger the impact. Meeting the requirements of the climate change related practice or standard should qualify the project, not the source of funding.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A producer must recognize and quantify the risk of reversal of carbon storage and provide adequate buffers (insurance) to possible future carbon project losses. Forest carbon contracts should assign clear obligation for reversals. There should be a suite of options to enable obligated parties to cover the risk of reversals, particularly those risks presented by wildfires, hurricanes, and other natural disasters.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Protocols and procedures should not be detailed in legislation and should be installed through in the rule-making process. The appropriate government agencies—in collaboration with state foresters, experts from the forestry sector, and other stakeholders—should develop these rules

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

A number of obstacles prevent landowners from implementing practices and technologies including a general lack of understanding among foresters and forest landowners with new markets for forest carbon offsets. In many cases, forest offset projects will involve initial investment costs to modify practices beyond "business as usual" or will require purchasing new technologies which promote carbon friendly management. Forest landowners will need some additional level of certainty with these new markets as well as increased financial values associated with carbon offsets before investing in forest offset projects.

These obstacles point to the need for developing consistent protocols, clear rules and understandable accounting mechanisms which simplify the exchange of offset credits between willing sellers and those interested in offsetting their GHG emissions. Simple methods of measurement and verification will expand participation by landowners.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Existing conservation and forestry programs have provided valuable incentives for sustainable forest management that contribute to the current ability of forests to provide carbon sinks, but more can be done. Existing and new programs need to include the types of incentives that will invite significant landowner participation in installing practices that will improve forest adaptation and climate mitigation on private lands. These programs will be important sources of assistance for those landowners that wish to maintain and enhance carbon stocks in working landscapes but are unwilling to commit to obligations that may be necessary to generate participate in offset markets. These programs should consider including federal support for aggregation services for families and individuals who—collectively—have projects that reach "scale" to participate in offset markets. Maintaining flexibility and program control at the state/local level will also help speed adoption.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The following components are suggested for consideration in development of federal policy regarding potential climate adaptation and mitigation strategies for the nation's forests. The intent is to primarily utilize existing authorities (as amended) to provide expanded program frameworks and funding.

particularly for the adaptation components. The rationale for adaptation is that such programs can and should be implemented and adequately funded whether or not cap-and-trade legislation comes to pass. However, if cap-and-trade policies are established, supplemental or expanded revenue streams should enhance funding for adaptation as well as mitigation.

Adaptation strategies should be clear enough that questions about additionality and leakage that may apply to mitigation (in the context of carbon credit programs) are not at issue. A comprehensive approach to forest-climate policy should include a combination of improved resource assessment capabilities, monitoring, technical assistance, incentives and potential role in cap-and-trade legislation. Potential components may include the following:

I. Assessment: Determination and characterization of stressors (e.g. temperature shifts, change in precipitation patterns, air quality impacts, etc.) and their impacts on the condition of forest resources over time.

RECOMMENDATION: Through administrative guidance, utilize the State Assessment and Resource Strategy process as authorized in the recent Farm Bill to identify and describe forest-climate impacts, vulnerabilities, opportunities and priorities for adaptation/mitigation intervention.

RECOMMENDATION: Expand and accelerate applied research that builds models to assess and predict climate impacts on forest resources at precisions useful to state-level planning.

RECOMMENDATION: Convene panel of experts or similar initiative to identify research needs and package analytical tools and services for distribution as soon as possible.

RECOMMENDATION: Improve the Forest Inventory and Analysis (FIA) Program to achieve timely monitoring, evaluation and reporting on climate impacts for all states including potential for "early detection or indicator forest sites."

RECOMMENDATION: Assess status and capability of nurseries to provide appropriate genotype and provenance seed and seedlings for adaptation afforestation/ reforestation purposes.

RECOMMENDATION: Provide financial and technical assistance to nurseries as necessary to mitigate expanded production costs associated with changes in air quality regulations such as soil fumigation.

II. Identification of forest-climate adaptation strategies and management practices: Specification of types of measures and interventions necessary to implement adaptation strategies subject to Statewide Assessments.

RECOMMENDATION: As part of the State Assessment and Resource Strategy, identify those measures necessary to accomplish forest-climate adaptation objectives.

RECOMMENDATION: Amend the Forest Stewardship Program (FSP) to include a featured component for implementing "forest-climate adaptation management practices." It is proposed that the Stewardship Program provide the administrative framework for providing technical assistance and developing implementation plans for non-industrial private forest landowners to install such practices. Plans and measures would bring attention to a national priority and qualify for Stewardship recognition in and of themselves.

"Forest-Climate Adaptation Management Practices may include the following:

- Afforestation/ reforestation that adapts or adjusts to either anticipated loss or opportunistic expansion of forest types, particularly within landscapes subject to high fragmentation
- Afforestation/reforestation that utilizes specific genotypes selected for adaptation resiliency as well mixed species plantings and agro-forestry
- Silvicultural measure such as thinning, timber stand improvement, release etc. that prevents, minimizes or takes advantage of climate stressors that otherwise improves forest sustainability

- Measures that minimize or prevent insect, disease or invasive infestations that might be accelerated by changes in climate
- Measures that improve forest stand resilience and ability to recover from storm damage associated with changes in climate
- Measures that minimize impacts of drought associated with climate stressors
- Measures that improve water quality/quantity and related forest hydrology functions otherwise stressed by climate change including but not limited to riparian buffers and modifying stand densities to adapt to soil moisture dynamics
- Measures that facilitate adaptation of wildlife to climate-induced change in forest habitat including establishment of migration corridors
- Measures to reduce increased risk of fire or otherwise successfully manage fire-dependent forest ecosystems influenced by climate-stressors
- Assignment of priority for forested areas that may buffer or protect high value resources such as public water supplies
- Measures that improve resistance and adaptation to climate related changes in air quality and related deposition such as nitrogen, ozone, and acid rain
- Measures to protect and maintain potential genotypes that express adaptation to climate stressors
- Measures employed across contiguous forest landscapes that collectively achieve diverse ages classes, species mix, stand structure and other characteristics that assist in adapting to changes in climate

RECOMMENDATION: Promote and take measures to improve administrative procedures that facilitate contracting, grants, inter-agency coordination, and partnership relationships to achieve implementation of "forest-climate adaptation management practices."

RECOMMENDATION: Enhance and expand forest fire protection capabilities provided by the State Fire Assistance Program to address consequences of climate change as specified in the State Assessment and Resource Strategy.

RECOMMENDATION: Provide expanded or project-specific funding for Urban and Community Forestry Program grants that accomplish high priority adaptation and mitigation projects as identified in the State Assessment and Resource Strategy

RECOMMENDATION: Include specific provisions within the recently authorized Emergency Forest Restoration Program for adaptation measures that respond to restoration opportunities following landscape level disasters

III. Cost-share and incentives to promote adoption of forest-climate adaptation management practices It is proposed to provide dedicated or specified funding for implementation of forest-climate adaptation management practices. Such funding may be from new sources and/or administratively designated and allocated for such purposes from existing programs as might be appropriate. In addition to cost-share, incentive payments should also be considered, particularly for commitments to adaptation measures that may not be associated with cost recovery.

RECOMMENDATION: Consider allocating dedicated funding for forest-climate adaptation management practices from existing programs such as Environmental Quality Incentives Program, Conservation Reserve Program, Conservation Security Program, Conservation Innovation Payments, Cooperative Conservation Partnerships, Wildlife Habitat Incentives Program and other appropriate sources. Based upon an approved Stewardship Plan, a forest landowner would qualify for funding from some or all of the respective programs.

RECOMMENDATION: Establish dedicated funding for forest-climate adaptation management practices as might be developed through cap-and-trade carbon auction revenue stream legislation.

RECOMMENDATION: Provide a tax credit or other tax relief measures with appropriate roll-back provisions for forest-climate adaptation management practices that provide long term, high value adaptation benefits, e.g. maintaining forest cover in a specified condition to protect public water supply

IV. Retention/ expansion of forest cover as part of mitigation strategies

In addition to adaptation strategies it is proposed to develop and enhance programs and incentives that promote retention and expansion of forest cover to mitigate the impacts of forest-climate stressors.

RECOMMENDATION: Expand funding for Forest Legacy and Healthy Forest Reserve Programs and place priority on projects that help mitigate the impacts of forest-climate stressors as identified in State Assessment and Resource Strategy Plans.

RECOMMENDATION: Fund the Community Forest and Open Space Program as authorized in the recent Farm Bill. Place a priority on projects that mitigate impacts of forest-climate stressors as identified in the State Assessment and Resource Strategy Plans.

RECOMMENDATION: For forest lands that provide high mitigation value as specified in the State Assessment and Resource Strategy (particularly in areas subject to high rates of deforestation and critical values at risk), provide tax relief measures with appropriate roll-back provisions for landowner commitments to maintain land in forest cover.

RECOMMENDATION: Evaluate the opportunity to utilize Qualified Forestry Conservation Bonds as authorized in the recent Farm Bill for high priority mitigation projects as identified in the State Assessment and Resource Strategy.

NATIONAL ASSOCIATION OF [Redacted] STATE FORESTERS

[Redacted]

April 10, 2009

The Honorable Collin Peterson, Chairman
House Committee on Agriculture
1301 Longworth House Office Building
Washington, DC 20515

Dear Chairman Peterson:

On behalf of The National Association of State Foresters (NASF) I am pleased to submit the attached response to the climate change questionnaire distributed by the House Committee on Agriculture on March 11, 2009.

The National Association of State Foresters (NASF) represents the directors of forestry agencies from the fifty states, eight U.S. territories and associated states, and the District of Columbia. As resource professionals with a public trust responsibility for managing and protecting the nation's nonfederal forests, NASF members understand and directly contribute to the critical role that forests play in climate change mitigation and adaptation.

As a founding participant of the Forest Climate Working Group (FCWG), NASF endorses the that groups consensus responses that are being submitted under separate cover. The attached NASF responses are intended to supplement FCWG responses with recommendations from the state forestry agency perspective. A few key points from NASF comments are:

- Forests can and must play a role in any options designed to reduce greenhouse gas emissions and mitigate climate change impacts.
- Forests provide carbon-friendly renewable products and ecosystem services as well as critical wildlife habitat—funding streams from cap and trade programs and carbon markets or fees should be dedicated to state forestry and wildlife agencies to support on the ground resource management capacity and efforts to address adaptation challenges.
- The Forest Service State & Private Forestry (S&PF) and Forest Inventory and Analysis (FIA) programs are strong national assets well positioned to meet climate change needs and enable full participation by private forest landowners in carbon markets.
- The USDA Office of Ecosystem Services and Markets is a concentrated source of expertise that should play a key role across government in determining how a cap and trade program and carbon markets or transactions are developed.

Thank you for your leadership on this important topic. Please feel free to contact me if you have any questions or if NASF can be of additional service.

Sincerely,

Jay Farrell

Jay Farrell
Executive Director

Executive Director
Jay Farrell

2009 Executive Committee
President: Leah W. MacDonald, Kentucky
Vice President: Steven W. Koehn, Maryland
Treasurer: Jeff Johnke, Colorado
Past President: Larry Kirkfirman, North Dakota
Vice President Eastern Representative: Steven Sinclair, Vermont
Western Representative: Pete Anderson, Nevada
Southern Representative: Eugenio Gonzalez, Puerto Rico

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL ASSOCIATION OF
WHEAT GROWERS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Mark Guede

Organization(s) you represent

National Association of Wheat Growers

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director of Government Affairs, Environmental Policy

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A cap-and-trade program is the most effective approach. It sets up a market based system to provide the least cost means to deliver the greatest greenhouse gas reductions possible. A cap-and-trade program that allows agriculture and forestry sequestration to offset capped sector emissions also provides a potential multi-billion economic benefit for farmers, ranchers and foresters.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture and forestry should not be considered as a capped sector. Agriculture and forestry emissions are too small and diffuse to regulate in a cost effective manner. They should, however, be allowed to sell offsets to capped entities which will lower the overall cost of compliance to the economy.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Initially, there should be a balance between the distribution between free allowances to mitigate against economic impacts and auctioned allowances. The distribution of allowances should be prioritized to result in the lowest cost to the economy. Allowances for the agriculture and forestry sectors should be allocated at no cost to projects that may not yet qualify to participate in an offset market but have future potential for greenhouse gas reductions. They should also be distributed to early actors who were reducing or sequestering carbon before the program was enacted.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A cap-and-trade program should pre-empt various voluntary programs currently in existence. Projects initiated under these programs should be allowed to move forward under a cap-and-trade program if they meet the criteria established to ensure that credits are real, verifiable, and credible.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

A collaboration among existing agencies should be utilized to administer the program. While the Environmental Protection Agency should have authority to administer the larger cap-and-trade program, the US Department of Agriculture should exercise the statutory authority provided to them in the 2008 Farm Bill to administer the development and implementation of agriculture and forestry offset policies. In addition, USDA has the best organizational ability through CSREES and NRCS to provide educational and technical information directly to the agricultural and forestry communities.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The CFTC should be the regulator of the derivatives or futures markets as provided in the Derivatives Markets Transparency and Accountability Act of 2009. They should also work closely with USDA to make sure the development of offsets policies are designed to maximize credits for carbon sequestration.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

Yes. The system should provide the transparency, oversight and structure that allows for verifiable greenhouse gas reductions while allowing economic growth.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and

forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

It depends upon whether the carbon reduction program is carried out through legislation or regulation. In response to the Supreme Court decision in Massachusetts v. Environmental Protection Agency, EPA is poised to make an endangerment finding which will then trigger regulations that will cap the emission of more that 100 tons of carbon per year by any entity. That's the equivalent of about 25 dairy cows. For a modest herd of 167 cows, requiring permits costing a minimum of $45 each will cost that farmer $24,955 per year. And that's just for the cows.

Legislation, on the other hand, can be fashioned in such a way to provide both an economic benefit through the sale of agriculture and forestry carbon credits and use of the allowance pool to mitigate against any possible increases in input costs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

One way is to provide revenue to the agriculture and forestry sectors from the sale of allowances and offsets. Secondly, they should be provided to those sectors that have the highest potential to be impacted by any increases in energy or other input costs.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes. A robust carbon offset program is the best way for keeping potential costs to the economy low and revenue from the sale of allowances can be provided to those impacted.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

All lands and forests can and should play an appropriate role.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Price should be determined by market price and the availability of credits, which is why there needs to be a robust program of developing credit generating projects to keep the

supply high and the cost relatively low. An artificial limit on carbon prices places an artificial limit on farmer participation in an offsets market.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU-ETS currently does not include agriculture or forestry offsets so costs are higher and has limited the EU in implementing low cost reduction strategies.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

All of the above. Having USDA develop protocols for offsets should be strict enough to ensure that quality offsets are being created but not so strict that they unduly limit participation in a carbon market.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

I believe those who argue that offsets should be artificially limited take that position because they fear the offsets being created are not real, credible and verifiable. The better position is to have a system that can create real, credible and verifiable offsets, and then do not limit the number of offsets. If a limit is necessary, I would recommend a limitation in the range of 2 to 3 billion tons annually.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress should not be prioritizing the distribution of offsets. The market should determine who can engage in the sale of qualified offsets and at what price. These should be private contractual transactions between the provider and the buyer of offset credits.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Much work has been done in this area particularly through institutions such as Kansas State University, Colorado State University and others. USDA should draw on the work already done as they begin developing protocols for measurement, monitoring and verification as they have been directed by statute to do through the 2008 Farm Bill. The criteria should be stringent enough to produce real, credible and verifiable credits with real value but not so stringent that they discourage participation.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

The criteria developed pursuant to the Environmental Services Markets provisions in the 2008 Farm Bill

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Congress has already done this through the Environmental Services Markets provisions in the 2008 Farm Bill, particularly the provisions requiring the USDA Secretary to consider the role of third parties in conducting independent verification of benefits produced for environmental services markets.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

A standards-based approach should be utilized in the development of the protocols under the Environmental Services Markets provisions of the 2008 Farm Bill and project based information used to improve the accuracy of the standards.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

There should be both a robust market for selling offsets as well as an allowance pool to be used to mitigate against any potential input increases for various sectors.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

I would encourage the use of the term duration rather than permanence and the duration should be set by contract, perhaps 5 to 10 years for soil carbon sequestration and a longer period for forestry sequestration. Contracts should be sufficiently flexible to recognize Acts of God or unintentional reversals with the loss of carbon being substituted with credits "banked" in a buffer pool. Insurance similar to crop insurance is also an option to cover unintentional reversals. For intentional reversals, contractual damages or other appropriate penalties may be considered.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

If credits developed under voluntary programs such as CCX meet the protocols of a new cap-and-trade program, they should be traded as appropriate. Those that don't meet the new standards could be compensated through the allowance pool but should not be allowed to participate in the cap-and-trade market in order to maintain the environmental integrity of the program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Revenues from the allowance pool could be used to compensate early actors. Any activity that reduces greenhouse gas emission and has additional environmental benefits such as water quality or wildlife habitat should be allowed to be stacked and credited appropriately from markets for environmental services.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Any project that meets the measurement, monitoring and verification protocols should be allowed to be sold on the carbon market regardless of the original intent of the project. Projects carried out pursuant to a Federal or state government program would probably not be considered as additional under most proposals

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Unintentional reversals due to Acts of God should not be addressed through contractual liability but the lost carbon could be compensated for by establishing a buffer reserve holding unused credits. Intentional reversals could be addressed through contract damages or other appropriate penalties

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Authority to develop protocols and procedures have been delegated to USDA under the Environmental Services Markets provisions of the 2008 Farm Bill.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Education and access to technical expertise from individuals experienced in developing carbon sequestration projects. The costs of measurement, monitoring and verification must be covered in a way that makes economic sense in order for farmers and foresters to participate.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

There are no existing conservation or forestry programs that have the standards and protocols necessary to allow producers to participate in a mandatory cap-and-trade program. Financial and technical incentives should be included to speed up adoption and implementation of an agriculture and forestry offsets program.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Reduced or zero tillage	Good	Good	Medium/Low	High/Medium
Nitrogen use efficiency crops	Excellent	Excellent	High/Medium	Medium
Restoration of organic soils	Excellent	Excellent	Medium	Medium
Restoration of degraded lands	Good	Good	Medium	Medium
Agronomy	Good	Good	Medium/Low	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL CARBON OFFSET
COALITION (NCOC)
Committee on Agriculture
U.S. House of representatives
Biographical Form

Name Ted Dodge

Organization (s) you represent National Carbon Offset Coalition (NCOC)

Address [Redacted]

Email [Redacted]

www.ncoc.us web page

Executive Director

MY area of expertise is in the area of development and trading of forest soil and alternative energy offsets credits. Therefore my responses are given with those issues in mind.

I did not respond to all questions.

Part 1: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issue. Do you think congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Enact a cap–and-trade program. A cap-and –trade program which allows the use of agricultural and forestry offsets will; create a new revenue sources for the agricultural and forestry sector while incentivizing the implementation of conservation practices providing local conservation and while addressing greenhouse gas mitigation with a low cost mitigation strategy.

2) Should agriculture and forestry sectors be covered under a carbon reduction program? Why or Why not?

No! The agriculture and forestry sectors are the two industries that can provide greenhouse gas sinks through forest and soils offsets. These offsets can provide a new revenue source for landowners incentivizes the installation of conservation practices at the local level and provide industries under cap low cost mitigation alternatives. A cap and trade program which use agricultural and forest offsets in this manner rather than trying to mandate reductions in the agricultural and forest sectors creates a positive situation rather than a punitive situation for agriculture and forestry.

3) If a cap- and-trade program is chosen, how should emission allowances be distributed? For example should they be at no cost, auctioned, or a combination of both? How should congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allotted at no cost, if so should there be a limit on the number of no-cost allowances?

There should be a mix of no cost and auctioned allowances. Agriculture should not come under a cap but be allowed to provide offsets to those industries under a cap for the reasons stated above in questions 2 & 3.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Only when there may be some elements in those programs which meet or exceed the criteria in a federal program. Currently the Chicago Climate Exchange (CCX) is the only program that provides for soils and forestry offsets in a manner which meets the needs of farmer's ranchers and foresters, while using a science based approach that provides emitters a wide array of soil and forestry offsets. It is for that reason that the CCX should be the model which guides the development of any federal program.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Existing agencies should be used. In the case of agriculture and forestry the U.S. Department of Agriculture should be the agency with primary responsibility for regulating forestry and agricultures program activities.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

The CFTDC should continue its role. Agricultural and forestry offsets can best be achieved through the establishment of those offsets as a commodity therefore the CFTC is the entity that needs to regulate the market.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated transparent markets accessible to anybody and anyone; b) flexible instruments on lightly regulated transparent derivative markets accessible to only major market participants, or: c) flexible instruments on unregulated, opaque over the counter markets accessible on to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cp-and-trade program also be permitted to develop under similar options as for energy-based commodities?

Yes The market must allow for the involvement by agriculture and forest producers and rural based organizations capable of assisting in bring such offsets to a rules based market.

8) Will enactment of a carbon program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include residents of rural areas; populations served by USDA nutrition programs: agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Yes it can if rural areas are not given special consideration in legislation. Distances traveled and typically more and larger vehicles required operating in rural areas, agriculture and forestry input costs and shipping costs can all create negative situations. It is for these reasons that any program must seek to create increased revenue from green energy, carbon offsets, and tax rebates or other forms of relief structured for rural areas.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

The sale of offsets on forest and agricultural lands needs to be available for market participation by landowners and rural organizations capable in assisting landowners in bringing such projects to a private market operated under federal regulations and protocols.

10) Should businesses that are affected (either indirectly or directly) by overall costs due to a carbon reduction program receive transitional assistance?

Yes

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Public lands should be managed for greenhouse gas emission reductions which are compatible with multiple use. Greenhouse gas emission reductions obtained should be counted in a national accounting. In the case of public lands where livestock grazing is a existing use the federal government should seek program funding or offset credits to assist private landowners who have or wish to install sustainable livestock grazing on private lands which are run in conjunction with a BLM or Forestry allotment when that project being implemented by the private landowner for trade on a carbon offset market.

12) Should carbon market prices be determined exclusively by market forces or should limits on carbon prices be established?

Market forces need to establish the carbon price. An artificial price cap will only act to limit the number and quality of offsets available to capped industries.

13) What if any lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

The U.S. needs to insure that Forestry and soils offsets are allowed and that the standards, protocols, and contracting requirements for those offsets to works for the U.S. agriculture and forestry sectors.

The Chicago Climate Exchange is the only entity that has worked with agriculture and forestry groups, the research community and rural based organizations in a manner that has created a suite of carbon offsets which can achieve cost effective reductions for capped industries.

The lesson learned from the European Union's Emission trading system in regards to agriculture and forestry offsets is they need to be allowed and there needs to be protocols and standards that work for working forest and agricultural lands or the cost effective mitigation options they present will not be available.

The existing regional programs in place or being designed in the U.S. place too great a limit on soils and forestry offsets. The CCX has achieved the proper balance and should be the model program for the future implementation of such offsets in the U.S.

Part 11: Carbon Reduction Program Administration and Implementation

14) What options or combinations of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

The agriculture and forestry sectors should be allowed to participate in a federally regulated carbon market which sets standards, protocols, contracting , and third party verification criteria which work for working agriculture and forestlands.

The work carried out by the DOE, EPA, and USDA in the Bush administration related to the 1605 b National Greenhouse Registry should be used as the starting point for the development of such standards and protocols.

15) Should the total number of offsets issued annually by the government be limited? If so how much?

The federal government needs to reduce the number of allowances over a predetermined time starting with a set level in order for a market to develop and operate. A recommendation for the establishment of such limits is beyond my skill set.

16) How should congress prioritize the distribution of available offsets (who gets them and how much)

Not in my skill set.

17) What should be the criteria for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Eligible projects should meet or exceed existing USDA conservation standards. The existing 1605b National Greenhouse Gas Registry has gone a long way towards defining the development of agricultural and forest offsets and should be used as a guide to the development of any future program standards. Until the COMET VR model is completed by the USDA/NRCS the use of default values established by review of peer reviewed research data should be allowed.

The use of independent third party verification which meets national and international verification standards must be part of any program. With the current technologies the requirement to measure soil or forest carbon at the project level is not viable (the transaction costs are too great). Default values based on landscape level models which draw from benchmark farms or forest lands need to be put in place. Funding to complete COMET VR and similar programs for forest and rangeland is essential if we are to have access to affordable measurement and monitoring technologies for agricultural and forestry offsets.

18) What should be the criteria for assessing offset projects?

Start with the existing 1605b National Greenhouse Gas Registry developed during the Bush Administration by DOE, USDA, & EPA. Also look to the protocols and standards in operation by the Chicago Climate Exchange. These are the only protocols and standards beside the 1605 b that had researchers, farmers, foresters and agricultural based organizations involved across the board.

For offsets to be effective they must be available for working agricultural and forestlands, achieve the level of technical excellence available through existing USDA conservation practices, be cost effective to implement monitor and measure, and provide low cost mitigation options to capped industries.

19) How should congress design a system for verifying offset projects?

Look to existing forest, cropland and rangeland verification and planning standards, Use the existing 1605b national Greenhouse Gas Registry and the CCX model as the starting point for agricultural and forestry offsets.

Keep the program based in the private sector and set federal standards for project verifiers which require certification of verifiers by offset project categories.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Until new technologies can be brought to the field level the use of pre-calculated (default) values is the only viable means to operate. Funding needs to be directed to improving measurement and monitoring technologies for agricultural and forest offsets as current default values tend to be very conservative and reduce the value of offsets, but cost must be kept in line if offsets are going to be effective

The COMET VR program and similar programs for forest and rangelands if implemented could be used in place of default values and measurement technologies and would be my first choice to improve the measurement and monitoring of offsets on agricultural and forest lands.

21) What should be the relationship between offsets and allowances?

Offsets should be available to industries that exceed their available allowances.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility.

Contracts for a specified period of time (5 to 10 years) are the only viable option if the program is going to be able to work for working agricultural and forest lands. The use of vintage credits verified prior to the year they are traded is a workable model. Offsets should be viewed as a mitigation tool which can be used prior to the development of energy sources or technologies which can be put in place to reduce greenhouse gas emissions. Therefore agricultural and forestry offsets should are a bridge and a tool we can bring to bear now. Contracting for the implementation or maintenance of an eligible practice for a specified period of time is the only viable option. Long term leases will only eliminate working agricultural and forest lands from the program.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g. the Chicago Climate Exchange or an emission registry)

The buyers of such projects should get credit for early action! It is not in the nation's best interest when addressing climate change to create a perverse incentive for companies not to act now! The establishment of a discount or other rating should be done after the establishment of a federal program. Those offsets which generally fall in the established program should not be discounted. Those which fail to meet the majority for the established standards should be discounted by a specified percentage.

24) The term "additionality" and "stackability' are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early actors and already undertaken activities that sequester carbon or recued greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack credits"

Currently the only people sequestering any carbon are farmer's ranchers and foresters. Geologic sequestration is at this time only a concept and most agree it is 15 to 20 years out before it becomes commercially available as a mitigation option. That means agriculture and forestry offsets are what can be brought to bear now. It is not in our best interest to create a

perverse incentive for landowners. Early adopters need to be allowed into the carbon market. When they enter into the market they are subject to third party verification, and contract requirements, and often have to adopt changes in their current practice to meet sequestration requirements.

The best approach is to set a start date and allow all to enter into the market from that point in time. Early adopters will bring the other producers into the market through their efforts. This will increase the effectiveness of the program and provide additional local conservation benefits.

Producers need to be allowed to stack their credits. This will create the largest land conservation program ever implemented in this nation. In most cases just because you are implementing or managing a project for water quality, soils quality or wildlife habitat does not mean you are doing everything you need to implement a carbon sequestration program.

25) How should activities that may have been paid for in part by federal assistance or state government programs (i.e. cost share, technical assistance) be treated. How those activities should be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emissions.

Cost shared projects that meet the requirements of a carbon sequestration program need to be allowed into the market. No one has paid the landowner for the carbon the cost share was for another conservation benefit. To not allow the use of such projects is to limit the ability to stack credits which will greatly increase the scale of the offset program in the U.S. Typically when a landowner enters into a carbon offset contract they are subject to increase measurement monitoring and contract requirements. This then makes the carbon offset verifiable. Why would we not want to support and promote this?

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Each project needs a reserve pool or an insurance pool from which a certain portion of the offsets are held in place in the event of a loss of credits in case of a natural disaster or another uncontrolled event. The broker or project aggregator should be responsible to replace lost offsets that exceed the reserve or insurance pool.

If a producer violates a contract they must be held liable and be required to replace the offsets or repay the principle with interest if an offset market is going to be legitimate.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

The USDA should be the lead agency for development of any protocols and procedures. The existing 1605b National Greenhouse Gas Emission Registry needs to be used as the starting pointy in order to not lose the years of work cone to develop this registry in the earlier part of this decade.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Lack of funding for research on measurement, monitoring and verification technologies

Lack of understanding and education on the part of USDA and other local staff on the issue of climate change and carbon sequestration.

Low prices under the current voluntary market.

Misinformation put out by opponents to terrestrial sequestration on the opportunity and viability of agricultural and forestry offsets to assist in addressing in the reduction of greenhouse gas emissions.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts sequester carbon and /or reduce greenhouse gas emissions? If not what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/ implementation?

No! While the practice technical standards in existing conservation and forestry programs provide us with the practice standards we need to implement a legitimate carbon sequestration

program none have the necessary funding or available technical assistance e to make a program viable or insure that the projects are verified and contracts are upheld.

Congress needs to work with USDA to establish the practice standards, measurement, monitoring, verification, and contracting protocols and standards which will work for working agricultural and forest lands.

Congress needs to fund the development of cost effective measurement, monitoring and verification technologies to increase the value of agricultural and forestry offsets.

Congress needs to establish a carbon market which operates in the private sector. Federal agencies should only be the keeper of the standards not the providers of technical assistance of carbon sequestration projects and third party verification. The private sector can scale up quickly and then leverage the other conservation programs through stacking.

Forestry Practices that should be available as offsets

Type of practice	Effectiveness	Ability to verify	Cost for Ag producers	Capactiy
Management of Exisitng stands	excellent	excellent	high	medium
Credit for long term Wood products	excellent	good	medium	low
Afforestation	excellent	excellent	high	low
Reforestation	excellent	excellent	high	low
Urban Forestry	moderate	excellent	high	low

Practices associated with livestock operations

Type of practice	Effectiveness	Ability to verify	Cost of Ag Producers	Capacity
Sustainable grazing	excellent	good	medium	medium
Methane digesters	excellent	excellent	high	low
Pasture management	excellent	excellent	high	medium

Crop Production

Type of practice	Effectiveness	Ability to Verify	Cost of Ag producers	Capacity
Conservation Tillage (no till)	good	excellent	medium	medium
Grass planting Cropland	high	excellent	high	low

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL CATTLEMEN'S BEEF ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Tamara Thies

Organization(s) you represent

National Cattlemen's Beef Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Chief Environmental Counsel

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

If the United States decides to enact climate change legislation to slow, stop and reverse greenhouse gas emissions, major studies show that energy and other costs of doing business would increase significantly. Because energy prices are a major factor in the cost of agricultural production, NCBA is very concerned that the sector would be burdened with a large cost-of-doing business increase that is generally unable to be passed on to consumers. A study on the subject done by Doane Advisory Services last year determined that under the Lieberman-Warner bill, the cost of producing an acre of corn would increase by $40 per acre. The same report estimated that the increase in total production expenses for eight major commodities considered would reach $6 billion in 2020. Such cost increases would cut directly into farmer profits and be economically devastating for the industry. In addition, these cost increases significantly impact our competitiveness on the world market, especially when our competitors don't have to follow the same regulations. We cannot afford to put our food and agriculture sector in jeopardy and end up exporting our nation's food and agriculture industry to countries where production and compliance is cheaper. That is why Congress needs to take its time, be thoughtful, and design an environmentally protective and economically sustainable climate policy.

A carefully designed cap-and-trade program may be the most effective way to reduce greenhouse gas emissions while minimizing the cost to farmers and other industries, but only if agriculture is allowed to produce "offsets" and not be included under the cap. Indeed, NCBA believes that such an approach would achieve greater environmental benefits than if agriculture were to be regulated under the program. U.S. farms and ranches can provide low cost, real, and verifiable carbon offsets that greatly lower costs to regulated industries and society of a cap and trade system while achieving real greenhouse gas emission reductions. An offset program would allow greenhouse gas reducing changes in energy production technologies and investments in capitol and infrastructure to occur, while providing market liquidity and low cost emission reductions to help the market function properly. Such an approach would provide additional environmental benefits including cleaner water, cleaner air, and better wildlife habitat, while enhancing the fertility and productivity of the soil resource needed to provide food, feed, fuel, and fiber.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture should not be covered under a carbon reduction program. Instead, U.S. farms and ranches should be allowed to provide low cost, real, and verifiable carbon offsets that lower costs to regulated industries and society of a cap and trade system.

Agriculture is a minor source of greenhouse gas emissions in the United States. EPA's April 2008 "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 - 2006, states that 2006 GHG emissions from the entire agriculture sector represented only 6.4% of total U.S. GHG emissions, and a majority of that amount, 3.8%, is attributable to nitrous oxide emissions from biological processes that occur in the soil and water and from anthropogenic sources, including fertilization, retention of crop residues, irrigation, tillage practices, etc., all necessary ingredients in producing low cost, high quality food to feed ourselves and the rest of the world. Other agriculture emissions include methane and nitrous oxide from livestock production, accounting for only 2.6% of total U.S. GHG emissions.

Two U.S. EPA documents emphasize the use of manure as a benefit for GHG reduction. In Chapter III of EPA's National Water Program Strategy: Response to Climate Change, EPA states "Agricultural producers have the potential to reduce nitrous oxide releases by expanding the use of manure, biosolids or other organic residuals." Because manure provides this important benefit, EPA's National Water Program will "encourage the use of organic residuals in row-crop and animal agriculture operations." p. 32. Second, in EPA's latest "Inventory," the EPA attributes mineral soil carbon sequestration "to the conversion of cropland to permanent pastures and hay production, a reduction in summer fallow areas in semi-arid areas, an increase in the adoption of conservation tillage practices, and an increase in the amounts of organic fertilizers (i.e. manure and sewage sludge) applied to agricultural lands." p. ES 13-14

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Allowances should be distributed to the agriculture sector at no cost. Such an approach would incentivize carbon reduction and carbon sequestration projects that could provide flexible cost containment opportunities in a cap and trade program. A portion of allowances should be distributed to early actors in the agricultural sector who took steps to reduce or sequester carbon before a cap was enacted. Because agriculture is always evolving, and technologies and practices have improved over the years, farmers have converted to alternative tillage practices such as no-till or ridge till, have reduced fertilizer application rates, and have enhanced crop uptake of nutrients. Some livestock producers are able to use methane digesters and invest in covers for manure storage or treatment facilities while others are able to reduce enteric emissions with dietary modifications. Producers who have taken these steps should not be disadvantaged by being excluded from compensation for future offsets that occur as a result of these ongoing efforts. At a

minimum, they should be provided with allowances for providing such environmental benefits.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Once a federal program of GHG reduction is enacted, NCBA does not believe it would be feasible, fair, or cost effective to permit the continuation or initiation of separate state or regional programs. A centralized federal program would create a unified and uniform effort focused on common goals for government, business, and consumers and avoid confusion and differential treatment for industry inherent in multiple programs developed by states or regions. It is unfair for businesses located in some regions of the country to be helped or hurt under a cap and trade program simply because of where they happen to be located. States or regions should not be allowed to use a climate change cap and trade program as a carrot or a stick when it comes to business location or expansion decisions. The playing field should be level across the country.

In addition, none of the current mandatory regional programs has developed a comprehensive offset program which is essential for lowering costs of a cap and trade program. Any new nationwide cap and trade program should include a robust offset mechanism for all the reasons set forth in previous questions.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

A combination of existing governmental agencies should be used to regulate a newly created cap and trade program. While the EPA would be effective in regulating the system as a whole, it is essential that the USDA promulgate the rules and administer an agricultural offset program. The USDA has the statutory authority provided in the 2008 Farm Bill, the institutional resources, and technical expertise necessary to create and administer an agricultural offset program that works for agriculture. USDA has a track record of working with farmers as well as studying, modeling, and measuring conservation and production practices that sequester carbon and that promote appropriate manure management and nutrient application on agricultural lands. The USDA should be given adequate flexibility in implementing the offset program that allows them to account for new technologies and practices that emerge, which result in emission reductions from agricultural sources.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Yes, the CFTC should be the regulator of the carbon market due to their experience in regulating commodities. In addition, the House and Senate Agriculture Committee jurisdiction over the CFTC will allow these committees to stay close to the regulatory effort and the impact this market is having on all aspects of the American economy.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes, they should be permitted to develop under similar options as energy-based commodities due to the close connection between energy markets and a resulting carbon market.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Most economic studies of last year's Lieberman-Warner climate change bill conclude that costs to society as a whole would increase if the program were enacted. Estimated increased costs to the agricultural sector of the economy were particularly alarming. The EPA estimated that crude oil prices would rise by 36.6% and natural gas prices would increase 50%. A study by Doane Advisory Services estimated that these increases would result in the cost of producing an acre of corn being $40 higher per acre than without a climate change program, and the increase in costs for rice would be even larger. The increase in total production expenses for eight major crops was estimated to be $6 billion in 2020. If CCS does not become available until after 2020, the Doane study estimates that increased production expenses would reach $12 billion with an $80 per acre increase in corn production costs and a $153 increase per acre for rice. These cost increases not only hurt farmers and livestock producers, but they also adversely affect vulnerable segments of our society in a regressive way.

One way to at least partially offset the predicted significant cost-of-doing-business increases for agriculture and living expenses for society as a whole would be for Congress to enact a robust carbon offsets program. An offsets market provides protection for both the larger economy and for the rural areas that would otherwise be unduly affected by increases in energy costs with no means of making new revenue.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Revenue should generally be distributed on the basis of need associated with increased energy costs, and should be provided to sectors and sources that can provide the lowest cost, short term reductions of GHG emissions in the forms of allowances and offsets. Congress might consider allocations similar to those contained in the Lieberman-Warner bill. In addition, early actors in the agriculture sector should be rewarded with revenue generated from the sale of allowances.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, businesses, including agriculture operations, that are negatively affected by increased costs associated with a climate change program should be given necessary transitional assistance as a "safety net" in an effort to alleviate the possibility of going out of business due to increase costs of doing business. One important way to hold down costs of the program for the business community is to establish a robust and unlimited offsets program that includes all aspects of the agricultural sector.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands need to play an important role in helping to sequester carbon and/or reduce greenhouse gas emissions because of the enormous number of acres involved and the potential to put these acres to positive use. The U.S. Forest Service manages more than 190 million acres and the Bureau of Land Management more than 260 million acres. Existing soil surveys show that significant portions of these lands have the potential to sequester carbon through range management practices. The potential for trees to sequester carbon is critical. Additionally, greenhouse gas emissions can be reduced by more careful management of fire risks on forest and rangeland.

Much of this land is not under any specific management scheme pursuant to a permit. The land managing agencies may need additional authority to manage these lands for GHG benefits. To the extent carbon credits are produced from this management that qualify for

trading on the open market, the land management agencies should be encouraged to produce the credits, and the funds generated from this activity should be used to further encourage the work. They could be divided between the land managing agency to be used for further management and an outside entity that performed the work or management, if such an entity is involved.

The most likely agents to manage the public lands for GHG benefits are those already using the land under a permit, such as ranchers. Involving permittees in managing lands under permit for GHG benefits should be a purely voluntary endeavor. In either case, GHG benefits generated will have to meet the test of "additionality", among other tests, in order to be traded on the open market as carbon credits. Funds generated from such credit should be divided between the permittee and the land managing agency to provide an adequate incentive for performing the work. The payment would be for the service provided to society of producing marketable carbon credits.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

NCBA is a strong believer in allowing market forces to work. Setting an artificially low price on the value of carbon would be a disincentive to developing and producing innovative offsets and technologies for carbon reduction. In addition, artificially low prices of carbon would have the effect of increasing the price of compliance for the regulated sectors of the economy. The lower the carbon price the fewer participants in the offsets market because participation in such a market is directly linked to the economic benefit of such efforts. The fewer the offsets available for purchase, the higher the price of the program for regulated sectors. In fact, certain of the regulated sectors are very concerned that there may not be enough offsets available to them for purchase if the price of carbon is too low. Therefore, they support a carbon price floor in an effort to encourage participation and innovation by offsets providers. Establishing a carbon price floor may be an effective answer to these concerns.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The European Union ratified the Kyoto Protocol and established EU's Emissions Trading Scheme (EU-ETS). Since the launch of the EU-ETS in January 2005, allowance prices have been volatile. The biggest problems with the system are two. First, the initial allocations of emission allowances were too generous. The generous emission allowance allocations were the result of the fact that companies were given as many allowances as they thought they needed, and discovered that emission reductions were easier to accomplish than anticipated. Consequently, the price of allowances plummeted. Second, companies were prohibited from banking allowances. The ability to bank allowances is a

powerful incentive for innovation to cut emissions below what is required and saving unused allowances for future use. As a result of these two factors, the system was less successful in reducing GHG emissions than it could have been, and the price of carbon was lower.

The EU-ETS does not include a domestic offsets program. It utilizes the Clean Development Mechanism (CDM) aimed at developing countries and Joint Implementation (JI) programs. Consequently, the EU is unable to implement low-cost GHG reduction strategies, such as an offsets program for the agriculture sector. CDM approves offsets projects on a case-by-case basis causing a huge backlog in the system and a high cost of implementation. A set of reasonable and more flexible standards needs to be developed to foster more innovation and participation in an offsets program. For example, key Kyoto terms of additionality, permanence, and verification should be redefined in Copenhagen this December to allow such flexibility. Otherwise, many innovative offsets project producers would not be able to be rewarded for their efforts.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Greenhouse gas reduction options should not be limited by the federal government. A reduction is a reduction and should be recognized as such. Voluntary and incentive based programs would be more effective than mandatory programs in the agricultural sector. Federal assistance in research and providing a safety net to those in need of one are also important considerations. A cap and trade program with a significant agriculture offset market should include payments to early actors and those faced with high energy costs with money generated from the sale of allowances. Agreed upon protocols for offsets should be created to ensure that quality offsets are being created and sold, and to lessen the significant administrative and cost burdens associated with case-by-case evaluation of offset projects. For example, such protocols would help reduce the costs of measuring, monitoring, and verifying individual projects.

Because agriculture is a relatively minor emitter of GHGs, see question #2 above, the entire agriculture sector should be eligible to produce offsets. The imposition of performance standards for some agriculture entities would be unnecessary, unwarranted, and unfair. In fact, animal agriculture can generate some of the highest quality offsets for purchase by the regulated sectors. It is essential to the regulated community that a high number of such

high quality offsets be available for purchase. Otherwise, there may not be enough offsets to sufficiently lower costs of a cap and trade program.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The use of domestic offsets must not be artificially limited. Current estimates predict that agriculture and forestry lands can help to reduce up to 20% of US GHG emissions on an annual basis. In addition, economic modeling of bills considered by the U.S. Senate last year show dramatically lower compliance costs as more offsets are allowed to be used. Any approach that lowers overhead costs for companies in capped sectors is a positive. NCBA believes it is unwise and market distorting to place an artificial cap on the amount of domestic offsets a covered entity can use to meet its yearly obligations. Our goal should be to remove as much GHG from the atmosphere as possible. Artificial caps would prevent legitimate carbon sequestration, livestock methane capture, and manure gasification projects from occurring.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress should not distribute available offsets. It should let the market decide. Offsets are carbon reduction and sequestration projects that should be treated differently from the allowances that Congress should decide how to distribute. An offset provider should be allowed to sell or trade an offset on the market for the best possible return. These should be private transactions guided by federal regulations that define offset qualities and any market mechanisms that regulate the carbon market. Congress should not be in the business of dictating these decisions any more than they decide to whom a cattle producer should sell his cattle.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Because of the vast number of agriculture entities that would be eligible to generate offsets under a cap and trade program, it is essential that the USDA establish protocols that must be used by offsets providers in an essential effort to cut down on case-by-case assessments of offsets projects. Otherwise, the U.S. system, like the European system, risks being bogged down by administrative burdens that would be associated with the shear magnitude of the program. For example, measurement rates for various offset types should be established at a national level using data from field studies and the latest science.

It may be that project developers may create some offsets that will be of higher quality than other offsets. If this occurs, there should be a system in place to appropriately value the quality of an offset and prices should be paid accordingly.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The USDA should establish a system of third party verifiers to inspect offsets projects to ensure compliance with required standards.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The USDA should be given the authority to design a system for verifying agriculture offset projects. The USDA has the technical expertise to design an appropriate system for agriculture.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should establish a standards-based approach using values derived from USDA studies and protocols; otherwise the system is likely to get bogged down much like the European system has.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

There needs to be both an offsets market and an allowance set aside for the agriculture sector. Both features are needed to ensure a system that preserves the environmental integrity of offsets while not penalizing early actors who have already stored carbon in the ground, or reduced emissions through dietary modifications in the livestock sector. While it is preferable to allow early actors to benefit from an offsets market, if the additionality issue cannot be overcome, providing allowances to early actors would at least provide some benefit and recognition for their efforts. Otherwise, early actors are inexplicably and unfairly punished for protecting the environment years before others decide to take such actions. In addition, offsets and allowances should both be fully tradable, salable and bankable.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The idea of permanence needs to be flexible in an offsets program that includes agriculture. Agriculture is capable of producing offsets that are in fact permanent, including, for example, dietary modifications in livestock that permanently lower levels of methane emissions from enteric fermentation, and creating energy through the destruction of methane from anaerobic digesters, and other manure gasification technologies. Other agriculture offsets projects, however, may not be considered permanent in the traditional sense. Instead, these projects (such as soil carbon sequestration) should be eligible as offsets on a time-specific contract basis, perhaps on a five or ten year term. Congress should consider establishing an "insurance" program or "buffer pool" to replace reversals due to Acts of God or other unintentional events. Project developers should be penalized for intentional reversals.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing offsets projects should be eligible as future offsets under a cap and trade program as long as they comply with regulatory standards and protocols established under a mandatory program. It would be unfair to punish early actors who have been on the forefront of carbon reduction efforts by being excluded from compensation for future offsets that occur as a result of ongoing efforts. If the additionality issue cannot be overcome, early actors should, at a minimum, be provided with allowances in recognition and reward for their pioneering work.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Agriculture is always evolving. As technologies and practices improve, farmers are converting to alternative tillage practices such as no-till or ridge till. They are reducing fertilizer application rates and enhancing crop uptake of fertilizer nutrients. Some livestock producers are able to use methane digesters and invest in covers for manure storage or treatment facilities while others are able to reduce enteric emissions with dietary modifications. Producers who have taken these steps should not be disadvantaged by being excluded from compensation for future offsets that occur as a result of these ongoing efforts.

Producers undertake many projects that provide environmental and public benefits such as clean water, wildlife habitat, and reduced soil erosion. Projects participating in a greenhouse gas offset market should not be excluded from also participating in other markets for environmental services that currently exist or may arise in the future. The reverse is also true: producers who currently undertake environmental projects that result in greenhouse gas reductions should not be excluded from participating in an anticipated

carbon offsets program. Allowing producers to stack credits will maximize the economic viability of carbon sequestration and manure management projects, ensuring more projects are undertaken and synergies with other environmental priorities are developed. In addition, new climate programs should complement existing conservation programs within the Farm Bill.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Any project that meets established standards and protocols should be allowed to be sold on the carbon market regardless of the original intent of the project.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Producers should only be paid for projects that actually sequester carbon or reduce greenhouse gas emissions. In the event of a reversal as a result of and Act of God or other unintentional event, lost carbon could be replaced by a buffer reserve holding unused credits. Such a buffer reserve should be established by purchasers of carbon credits instead of producers of carbon credits. Such an approach would resemble modern insurance programs under which it is the owner of the product who pays the insurance, not the manufacturer of the product. Once the offset is sold, liability for reversals due to Acts of God should rest with the owner. Farmer/producers should not be held liable for unintentional reversals once an offset is sold. Prior to a sale, offset reversals are the responsibility of the farmer/producer. Again, it is the owner of the offset at all stages in the process who should be liable for unintentional reversals. Liability for intentional reversals should rest with the person who is directly responsible for the reversal.

Another approach to consider may be that owners of offsets may purchase insurance to compensate for unintentional reversals. Again, the responsibility for insurance coverage should rest with the owner of the offset, not the creator of the offset, once the offset is sold.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Any cap and trade legislation must provide an initial list of project types that are eligible agricultural offsets. Both the regulated community and the agricultural sector need assurances that agricultural offsets will be available to lower costs of a climate change

program. The regulated community needs to know that a sufficient quantity of offsets will be available for purchase so that they can comply with a mandatory cap. The agricultural sector needs to know which projects types Congress considers to be eligible as agricultural offsets in order to assess the full impact of cap and trade legislation on agriculture. An initial, non-exhaustive list of project types in the legislation itself is critical to addressing these concerns. Shifting the burden of making these decisions to an entity other than Congress generates uncertainty that should be avoided. For example, will soil carbon sequestration be eligible as an offset? It is currently not eligible in Europe and there is no assurance that it will be eligible in the United States unless Congress specifically states that it shall be eligible in the cap and trade statute itself. Leaving this decision up to the EPA or other review panel does not provide comfort to the agriculture community.

The establishment of protocols and procedures for an agricultural offsets program should rest solely with the USDA. The USDA has the statutory authority provided in the 2008 Farm Bill, the institutional resources, and the technical expertise necessary to create and administer an agricultural offset program that works for production agriculture. USDA has a track record of working with farmers as well as studying, modeling, and measuring conservation and production practices that sequester carbon and that promote appropriate manure management and nutrient application on agricultural lands. USDA should be given adequate flexibility in implementing the offset program that allows them to account for new technologies and practices that emerge, which result in emission reductions from agricultural sources.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Producers need to be educated by and have access to technical expertise from individuals experienced in developing carbon sequestration projects. The measuring, monitoring and verification of offsets need to be made cost effective for agricultural producers.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

There are no existing programs that have established standards and protocols for agricultural offsets projects. Any cap and trade bill should provide financial incentives and technical expertise to encourage the adoption and implementation of agricultural offsets.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Improved Manure Handling	Good	Good	Medium	Medium
Manure Application Technology	Good	Moderate	Medium	High
Manure Gasification/Combustion	Excellent	Excellent	High	Low
Dietary Modifications	Moderate	Moderate	High	Low
Soil Carbon Sequestration	Good	Good	Low	Medium

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL CENTER FOR
APPROPRIATE TECHNOLOGY
Committee on Agriculture

U.S. House of Representatives

Biographical Form

Name

Kathleen Hadley

Organization(s) you represent

National Center for Appropriate Technology

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director, NCAT

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

The National Center for Appropriate Technology (NCAT) believes that Congress must develop legislation to reduce greenhouse gas emissions (GHG) in the United States. We can support a variety of carefully designed approaches. Any approach, such as carbon tax, cap and trade or cap and dividend will have strengths and weaknesses.

We recognize that any cap on GHG emissions will cause difficulty for citizens, businesses, and industries that are dependent on fossil-based energy. We have special concerns about how these efforts might affect rural and low-income communities. In addition to producing real and verifiable greenhouse gas reductions, any federal program to cap carbon emissions must mitigate harm to low-income people and vulnerable sectors of our economy. In our opinion, a cap-and-dividend approach is the option least likely to harm low-income and vulnerable sectors of the economy.

Though agriculture is a relatively minor source of most greenhouse gases, agriculture can be a part of the solution. A carbon tax would create a stream of tax revenue that could be

used to promote lower-carbon production practices. For example, many current agriculture conservation programs could be funded in part from emission or carbon taxes. Programs such as the Environmental Quality Incentive Program, Conservation Stewardship Program, and Conservation Reserve Program are already improving soil quality, preventing erosion, and simultaneously sequestering carbon.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

NCAT supports including both agriculture and forestry in a carbon reduction program if a cap-and-trade or carbon tax program is enacted. These sectors emit about 8 percent of greenhouse gases, especially nitrous oxide (N_20) and methane (CH_4). These sectors also have some potential for sequestering carbon. The same management practices that sequester carbon will also improve water quality, soil nutrient content, and wildlife health and diversity.

NCAT does have concerns regarding measurement and verification in these sectors. Comprehensive measuring and monitoring strategies and tools must be in place to ensure that real, meaningful, and long-term reductions in atmospheric greenhouse gas levels occur and that emission reductions targets are met. Mitigating global climate change will require innovative solutions from all sectors including agriculture and forestry. However, carbon

reduction programs should focus on strategies such as efficient energy use and technology advancements that provide more reliable forms of emissions reductions.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

If a cap-and-trade program is chosen, the allowances should be distributed through a fully auctioned market. The atmosphere is best viewed as a public resource belonging to everyone. Permits to pollute the atmosphere should not be given away for free. Moreover, the United States should learn from Europe's experience giving away carbon permits. The practice was unsuccessful and counterproductive.

We recognize that some flexibility may be necessary. For example, economic and pragmatic reasons may dictate beginning with a partially auctioned market and moving in phases toward a fully auctioned market.

Congress should focus on industries that are the most significant emitters, such as coal-fired utilities. In agriculture, except for large confined animal feeding operations, emissions are low and dispersed. Farming and ranching is a relatively small GHG contributor and it may make sense to leave them outside of the allowance system entirely.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

No. It makes more sense to have one national program rather than competing and divergent programs in various regions. This is a serious national and global problem and a single program is necessary

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Any cap-and-trade program must be as transparent and verifiable as possible. The program will also need to be highly structured and regulated. NCAT is extremely concerned that derivative markets in carbon reduction have the potential to become a new poorly regulated market prone to trades at high volumes and prices higher than actual values. This could create a bubble-and-burst situation similar to what the real estate and financial sectors recently experienced.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Since it was founded in 1976, NCAT has been committed to working with low-income people to mitigate energy-related costs and hardships associated with these costs.. In the case of carbon reduction, we are especially concerned about potential economic burdens on low-income people that could result from higher prices for basic goods such as food and shelter.

Like other sectors of the economy, agriculture includes energy-intensive enterprises. We are concerned about the potential consequences of higher energy costs on these enterprises. Through our ATTRA – National Sustainable Agriculture Information Service (www.attra.ncat.org) and other projects, we are committed to working with agricultural producers on energy alternatives that will allow producers to reduce input costs, conserve energy resources, and diversify operations through new energy crops and energy generation facilities.

We also recognize that many residents of rural areas have high rates of emissions per capita and could face special difficulties. We are committed to working with rural small businesses and residents on energy alternatives.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

At least a portion of the revenue should be returned directly to the public in the form of payroll tax reductions, direct payments, or through some other mechanism that rewards energy conservation and mitigates harm to low-income people. A major portion of the revenue should support energy-related research and development targeted at industries with the greatest potential to reduce our reliance on fossil fuels. This research and development certainly includes exploring renewable energy, energy efficiency, and energy conservation.

The revenues should support U.S. Department of Agriculture conservation programs and practices that clearly and measurably reduce GHG emissions. These include the Conservation Reserve Program (CRP), the Rural Energy for America Program (REAP), organic production systems, conservation tillage, reforestation, and aforestation.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

We are flexible on this issue, and we recognize that there may be a need for transitional assistance to economically vulnerable sectors of the economy. Support for low-income individuals should be the first priority.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The main lesson the United States should learn is that carbon permits should be auctioned, not given away. A no-cost distribution of carbon permits created windfall profits for a few large European utilities and demonstrated the need for tight regulation of any cap-and-trade system.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

We could support a variety of options or a combination of options. We generally do not support including the agriculture sector in the allowance scheme. However, if agriculture sector is included we could support bonus allowances for selected agriculture and forestry sectors. If a voluntary offset program is chosen, it will be crucial for payments to be based on strict and verifiable measurements and practices that represent new, or additive, reductions in GHG emissions.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Yes. Limiting offsets is critical in the agriculture sector because offsets are not easy to measure and verify. Total offsets in the range of from 5 to 15 percent of current GHG levels may be possible.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Offsets should go to those industries and activities that can provide the quickest and easiest GHG reductions, as well as the most additional, or new, and most verifiable GHG reductions.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

A nationwide, standardized formula for measuring, verifying, and monitoring the legitimacy of offsets should be developed. This formula should include issues such as baseline determination, ownership, permanence, additionality, transparency, leakage, and ancillary environmental and sustainable development benefits.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Assessment should be based on the level of commitment, attention, ability to provide real GHG reductions, transparency of the proposed activities, inclusion of ancillary environmental benefits, and use of third-party protocols and verification.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

We recognize that a standards-based approach may be adequate and pragmatically necessary for certain kinds of projects, but whenever feasible we prefer a project-based approach that is based on real field measurements.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

The contract length should be at least 20 years. The contract may include some flexibility if, at some future point, GHG emitters demonstrate their ability to meet and continue a low level of emissions, with perhaps some flexibility

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

The existing private and voluntary systems are generally loose and ineffective. We believe they will reduce the legitimacy of a national system. We believe that a national carbon reduction scheme should supplant the existing systems.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

Early actors could be supported at a much-reduced level so these producers and forest landowners will maintain their efforts. However, the activities of early actors should absolutely not be counted as new reductions for meeting national carbon targets or caps. In agriculture, perhaps this could be best handled through NRCS conservation programs such as the new Conservation Stewardship Program

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

These activities should remain part of those Federal and state programs in which they are already enrolled. They should not be back-doored into a new cap and trade system, largely because they are non-additional.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes. The system should require verifiable reductions in all offset projects and all revenues should be returned if the project fails. A reserve of offsets should be maintained by all projects to provide a safety cushion if an uncontrolled GHG release occurs.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

The protocols and procedures should be fairly detailed in legislation. Leaving these critical issues to the interpretation of a bureaucracy is not appropriate. In the agriculture sector, NRCS and Environmental Protection Agency would be important agencies to involve.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Agricultural producers and landowners face a number of obstacles to implementing climate-friendly practices and technologies. One major obstacle is the risk of adopting new techniques and practices that pose the potential for production and profitability losses. Other risks include not meeting sequestration targets due to fire, flood, weed or pest outbreaks or other unforeseen events.

A second major obstacle is the current low value of sequestration credits. More incentives may be required to offset the cost of implementing changes in practice, potential risks and a lack of information.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? *Please respond in 300 words or less.*

A careful review of NRCS conservation practice standards should be undertaken to understand in more detail how specific conservation practices reduce GHG emissions. Based on that review, careful consideration should be given to increasing incentives for these practices so that farmers and ranchers can begin to utilize them.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The questionnaire did not ask about the cap-and–dividend approach, another proposal for reducing our GHG emissions. The cap-and-dividend approach to GHG reductions is a much simpler program than a cap-and–trade system or a carbon tax. With the cap-and–dividend approach, a carbon cap is imposed on the entities that first place carbon in the economy, such as companies that operate coal mines and oil wells. This is different than the cap-and-trade approach, which taxes end-users by regulating thousands of smokestacks.

Program revenue from the cap-and-dividend approach would be generated by auctioning the regulatory permits these few hundred energy supply businesses would need to operate. Ninety percent of the revenues from the auction would be put into a trust fund that would pay out equal shares on a monthly basis to every person in the country. This payout is the dividend. These dividend funds would help reduce the economic burden people and businesses will see from higher energy prices. This program would be much simpler to administer and understand. We encourage the Committee to investigate the cap-and-dividend proposal along with the cap-and-trade and carbon tax proposals.

Please list specific types of **forestry practices** that could be available to offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** in sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reduction (Excellent, Good, Moderate)	**Cost** for agricultural producers and private landhold owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private landhold owners to implement immediately (High, Medium, Low)

Please list specific types of **producer associated with livestock operations** (e.g. **manure management, grazing management practices**) that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** in sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reduction (Excellent, Good, Moderate)	**Cost** for agricultural producers and private landhold owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private landhold owners to implement immediately (High, Medium, Low)
Methane Digesters	Good	Excellent	High	Low
Cross-Fenced Livestock	Excellent	Excellent	Low	High
Prescribed Grazing	Good	Low	Medium	High

Please list specific types of **crop production practices** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** in sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reduction (Excellent, Good, Moderate)	**Cost** for agricultural producers and private landhold owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private landhold owners to implement immediately (High, Medium, Low)
Organic Systems	Excellent	Good	Medium	Medium
Cover Crops	Excellent	Good	Low	**High**
Nitrogen fixing crop rotations	Good	Good	Low	**High**
Composting	Good	**Moderate**	Low	Medium
No till	**Moderate**	**Moderate**	Medium	Medium

ATTRA

Agriculture, Climate Change and Carbon Sequestration

A Publication of ATTRA—National Sustainable Agriculture Information Service • 1-800-346-9140 • www.attra.ncat.org

By Jeff Schahczenski and Holly Hill
NCAT Program Specialists
© 2009 NCAT

Carbon sequestration and reductions in greenhouse gas emissions can occur through a variety of agriculture practices. This publication provides an overview of the relationship between agriculture, climate change and carbon sequestration. It also investigates possible options for farmers and ranchers to have a positive impact on the changing climate and presents opportunities for becoming involved in the emerging carbon market.

Table of Contents

Introduction 1
Climate change science 2
How does climate change influence agriculture? 3
How does agriculture influence climate change? 5
Agriculture's role in mitigating climate change 6
The value of soil carbon: Potential benefits for agriculture 8
Charge systems: Carbon tax 8
Cap and trade: A private market for greenhouse gas emissions 9
Subsidizing positive behavior 12
Summary 13
References 14
Resources 14
Appendix: How to get involved in voluntary private carbon markets 15

An organic wheat grass field. Growing research is showing that organic production systems are one of the most climate-friendly systems of food production.

Introduction

The Earth's average surface temperature increased 1.3 degrees Fahrenheit over the past century, and is projected by the Intergovernmental Panel on Climate Change to increase by an additional 3.2 to 7.2 degrees over the 21st century (IPCC, 2007a). These seemingly slight changes in temperature could have profound implications for farmers and ranchers. According to the Environmental Protection Agency, an increase in average temperature can:

- lengthen the growing season in regions with relatively cool spring and fall seasons;
- adversely affect crops in regions where summer heat already limits production;
- increase soil evaporation rates; and
- increase the chances of severe droughts (2008a).

Innovative farming practices such as conservation tillage, organic production, improved cropping systems, land restoration, land use

ATTRA—National Sustainable Agriculture Information Service is operated by the National Center for Appropriate Technology (NCAT) and is funded under a grant from the United States Department of Agriculture's Rural Business-Cooperative Service. Visit the NCAT web site (www.ncat.org/sat_contracts.php) for more information on our sustainable agriculture projects.

NCAT

change and irrigation and water management, are ways that farmers can address climate change. Good management practices have multiple benefits that may also enhance profitability, improve farm energy efficiency and boost air and soil quality.

Climate change science

Natural shifts in global temperatures have occurred throughout human history. The 20th century, however, has seen a rapid rise in global temperatures. Scientists attribute the temp increase to a rise in carbon dioxide and other greenhouse gases released from the burning of fossil fuels, deforestation, agriculture and other industrial processes. Scientists refer to this phenomenon as the enhanced greenhouse effect.

The naturally occurring greenhouse effect traps the heat of the sun before it can be released back into space. This allows the Earth's surface to remain warm and habitable. Increased levels of greenhouse gases enhance the naturally occurring greenhouse effect by trapping even more of the sun's heat, resulting in a global warming effect. *Figure 1* illustrates the natural and enhanced greenhouse effects (Pew Center on Global Climate Change, 2008).

The primary greenhouse gases associated with agriculture are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). Although carbon dioxide is the most prevalent greenhouse gas in the atmosphere, nitrous oxide and methane have longer durations in the atmosphere and absorb more long-wave radiation. Therefore, small quantities of methane and nitrous oxide can have significant effects on climate change.

Several excellent resources and fact sheets explain the greenhouse effect and the science behind climate change. See the **Resources** section for information on how to obtain copies.

Related ATTRA Publications

Conservation Tillage

Pursuing Conservation Tillage Systems for Organic Crop Production

Energy Saving Tips for Irrigators

Anaerobic Digestion of Animal Wastes: Factors to Consider

Biodiesel: The Sustainability Dimensions

Ethanol Opportunities and Questions

Renewable Energy Opportunities on the Farm

Federal Resources for Sustainable Farming and Ranching

Figure 1. The Greenhouse Effect
Source: The National Academy of Sciences. www.climatechange.ca.gov/publications/faqs.html

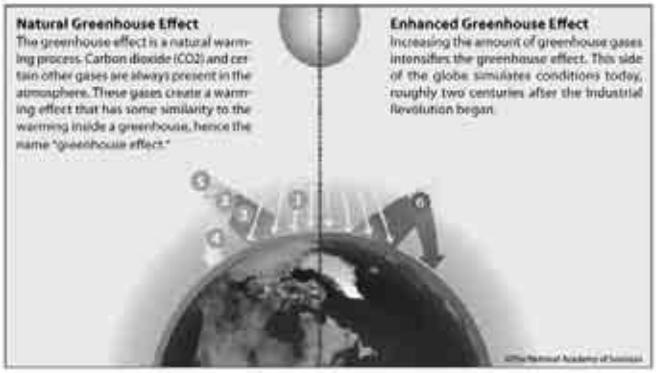


Illustration of the greenhouse effect (courtesy of the Marion Koshland Science Museum of the National Academy of Sciences). Visible sunlight passes through the atmosphere without being absorbed. Some of the sunlight striking the earth **(1)** is absorbed and converted to heat, which warms the surface. The surface **(2)** emits infrared radiation to the atmosphere, where some of it **(3)** is absorbed by greenhouse gases and **(4)** re-emitted toward the surface; some of the heat is not trapped by greenhouse gases and **(5)** escapes into space. Human activities that emit additional greenhouse gases to the atmosphere **(6)** increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and amplifying the warming of the earth.

How does climate change influence agriculture?

Climate change may have beneficial as well as detrimental consequences for agriculture. Some research indicates that warmer temperatures lengthen growing seasons and increased carbon dioxide in the air results in higher yields from some crops. A warming climate and decreasing soil moisture can also result in production patterns shifting northward and an increasing need for irrigation. Changes, however, will likely vary significantly by region. Geography will play a large role in how agriculture might benefit from climate change. While projections look favorable for some areas, the potential of increased climate variability and extremes are not necessarily considered. Benefits to agriculture might be offset by an increased likelihood of heat waves, drought, severe thunderstorms and tornadoes. An increase in climate variability makes adaptation difficult for farmers.

The U.S. Department of Agriculture released a report in May 2008 that focused on the effects of climate on agriculture, specifically on cropping systems, pasture and grazing lands and animal management (Backlund et al., 2008). The following findings are excerpted from the report:

- With increased carbon dioxide and higher temperatures, the life cycle of grain and oilseed crops will likely progress more rapidly.
- The marketable yield of many horticultural crops, such as tomatoes, onions and fruits, is very likely to be more sensitive to climate change than grain and oilseed crops.
- Climate change is likely to lead to a northern migration of weeds. Many weeds respond more positively to increasing carbon dioxide than most cash crops.
- Disease pressure on crops and domestic animals will likely increase with earlier springs and warmer winters.
- Projected increases in temperature and a lengthening of the growing season will likely extend forage production into late fall and early spring.
- Climate change-induced shifts in plant species are already under way in rangelands. The establishment of perennial herbaceous species is reducing soil water availability early in the growing season.
- Higher temperatures will very likely reduce livestock production during the summer season, but these losses will be partially offset by warmer temperatures during the winter season (Backlund et al., 2008).

How does agriculture influence climate change?

Agriculture's contribution to greenhouse gas emissions

Agriculture activities serve as both sources and sinks for greenhouse gases. Agriculture sinks of greenhouse gases are reservoirs of carbon that have been removed from the atmosphere through the process of biological carbon sequestration.

The primary sources of greenhouse gases in agriculture are the production of nitrogen-based fertilizers; the combustion of fossil fuels such as coal, gasoline, diesel fuel and natural gas; and waste management. Livestock enteric fermentation, or the fermentation that takes place in the digestive systems of ruminant animals, results in methane emissions.

Carbon dioxide is removed from the atmosphere and converted to organic carbon through the process of photosynthesis. As organic carbon decomposes, it is converted back to carbon dioxide through the process of respiration. Conservation tillage, organic production, cover cropping and crop rotations can drastically increase the amount of carbon stored in soils.

In 2005, agriculture accounted for from 10 to 12 percent of total global human-caused emissions of greenhouse gases, according the Intergovernmental Panel on Climate Change (IPCC, 2007b). In the United States, greenhouse gas emissions

Conservation tillage, organic production, cover cropping and crop rotations can drastically increase the amount of carbon stored in soils.

from agriculture account for 8 percent of all emissions and have increased since 1990 (Congressional Research Service, 2008). *Figure 2* presents recent data in carbon dioxide equivalents (CO_2e). Greenhouse gases have varying global warming potentials, therefore climate scientists use carbon dioxide equivalents to calculate a universal measurement of greenhouse gas emissions.

Figure 2. Greenhouse gas emissions and carbon sinks in agricultural activities, 1990-2005 (CO_2 equivalent).

Source	1990	1995	2000	2005	Avg. 2001-2005
	million metric tons CO_2 equivalent ($MMTCO_2$-Eq)				
U.S. Agricultural Activities					
GHG Emissions (CH_4 and N_2O)					
Agriculture Soil Management[a]	366.9	353.4	376.8	365.1	370.9
Enteric Fermentation[b]	115.7	120.6	113.5	112.1	115.0
Manure management	39.5	44.1	48.3	50.8	45.6
Rice Cultivation	7.1	7.6	7.5	6.9	7.4
Agricultural Residue Burning	1.1	1.1	1.3	1.4	1.2
Subtotal	530.3	526.8	547.4	536.3	540.1
Carbon Sinks					
Agricultural Soils	(33.9)	(30.1)	(29.3)	(32.4)	(31.7)
Other	na	na	na	na	na
Subtotal	(33.9)	(30.1)	(29.3)	(32.4)	(31.7)
Net Emissions, Agriculture	496.4	496.7	518.1	503.9	508.4
Attributable CO_2 emissions:[c] Fossil fuel/mobile combustion	46.8	57.3	50.9	45.5	52.6
% All Emissions, Agriculture[d]	8.5%	8.0%	7.7%	7.4%	8.0%
% Total Sinks, Agriculture	4.8%	3.6%	3.9%	3.9%	4.0%
% Total Emissions, Forestry	0.2%	0.2%	0.2%	0.3%	0.3%
% Total Sinks, Forestry[e]	94.3%	92.0%	94.8%	94.7%	95.0%
Total GHG Emissions, All Sectors	6,242.0	6,571.0	7,147.2	7,260.4	6,787.1
Total Carbon Sinks, All Sectors	(712.8)	(828.8)	(756.7)	(828.5)	(801.0)
Net Emissions, All Sectors	5,529.2	5,742.2	6,390.5	6,431.9	5,986.1

Source: EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005. April 2007. (http://epa.gov/climatechange/emissions/usinventoryreport.html). Table ES-2, Table 2-13, Table 6-1, Table 7-1, and Table 7-3. (EPA data are reported in teragrams (Tg), which are equivalent to one million metric tons each.

a. N_2O emissions from soil management and nutrient/chemical applications on croplands.

b. CH_4 emissions from ruminant livestock.

c. Emissions from fossil fuel/mobile combustion associated with energy use in the U.S. agriculture sector (excluded from EPA's reported GHG emissions for agricultural activities).

d. Does not include attributable CO_2 emissions from fossil fuel/mobile combustion.

e. Change in forest stocks and carbon uptake from urban trees and landfilled yard trimmings.

Figure 3. Agricultural greenhouse gas emissions, average from 2001 to 2005. *Source: EPA, 2007 inventory report, April 2007. www.epa.gov/climatechange/emissions/usinventoryreport.html*

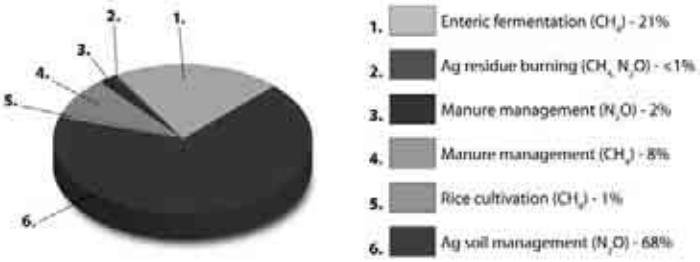


Figure 3 illustrates agricultural greenhouse gas emissions by source in the United States.

The following is evident from the information in *Figures 2 and 3:*

- Despite some improvement in certain areas since 1990, the U.S. agricultural production sector increased its greenhouse gas emissions and expanded its role in climate change.
- The U.S. agricultural production sector is a net emitter of greenhouse gas emissions. That is, agricultural production annually creates more greenhouse gas emissions than it captures, despite the potential for the sector to sequester higher levels of carbon with management changes.
- The U.S. agricultural production sector contributes more greenhouse gas emissions from methane (CH_4) and nitrous oxide (N_2O) than from carbon dioxide (CO_2).
- Agricultural soil management is the single greatest contributor to greenhouse gas emissions from the U.S agricultural production sector. Enteric fermentation (flatulence and belches of ruminants) and manure management are also large contributors.

Carbon sequestration

Carbon sequestration in the agriculture sector refers to the capacity of agriculture lands and forests to remove carbon dioxide from the atmosphere. Carbon dioxide is absorbed by trees, plants and crops through photosynthesis and stored as carbon in biomass in tree trunks, branches, foliage and roots and soils (EPA, 2008b). Forests and stable grasslands are referred to as carbon sinks because they can store large amounts of carbon in their vegetation and root systems for long periods of time. Soils are the largest terrestrial sink for carbon on the planet. The ability of agriculture lands to store or sequester carbon depends on several factors, including climate, soil type, type of crop or vegetation cover and management practices.

The amount of carbon stored in soil organic matter is influenced by the addition of carbon from dead plant material and carbon losses from respiration, the decomposition process and both natural and human disturbance of the soil. By employing farming practices that involve minimal disturbance of the soil and encourage carbon sequestration, farmers may be able to slow or even reverse the loss of carbon from their fields. In the United States, forest and croplands currently sequester the equivalent of 12 percent of U.S. carbon dioxide emissions from the energy, transportation and industrial sectors (EPA, 2008b).

Figure 4. Carbon pools in forestry and agriculture. *Source: EPA. www.epa.gov/sequestration/local_scale.html*

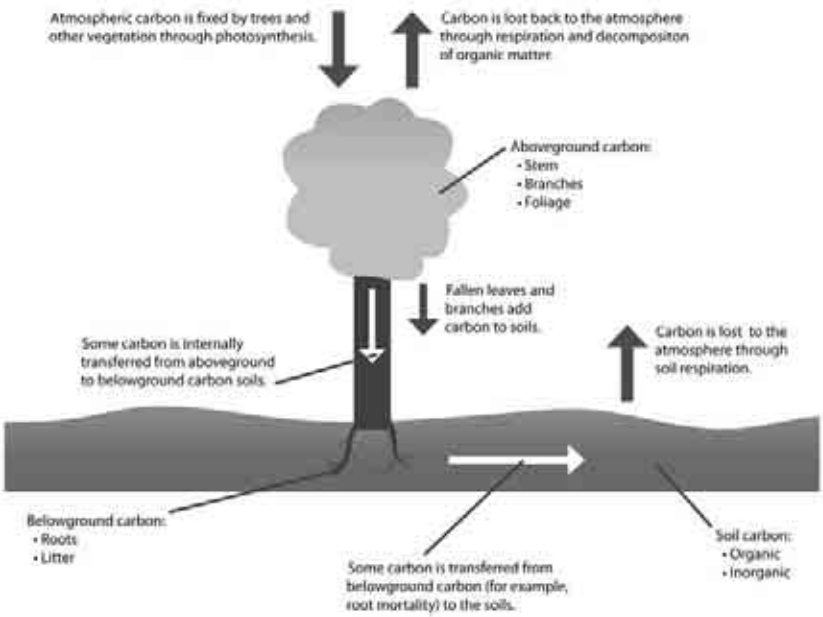


Figure 4, adapted from the EPA, illustrates the different processes through which trees and soils can gain and lose carbon.

Agriculture's role in mitigating climate change

Several farming practices and technologies can reduce greenhouse gas emissions and prevent climate change by enhancing carbon storage in soils; preserving existing soil carbon; and reducing carbon dioxide, methane and nitrous oxide emissions.

Conservation tillage and cover crops

Conservation tillage refers to a number of strategies and techniques for establishing crops in the residue of previous crops, which are purposely left on the soil surface. Reducing tillage reduces soil disturbance and helps mitigate the release of soil carbon into the atmosphere. Conservation tillage also improves the carbon sequestration capacity of the soil. Additional benefits of conservation tillage include improved water conservation, reduced soil erosion, reduced

fuel consumption, reduced compaction, increased planting and harvesting flexibility, reduced labor requirements and improved soil tilth. For further information, see the ATTRA publication *Conservation Tillage*.

Improved cropping and organic systems

Recent reports have investigated the potential of organic agriculture to reduce greenhouse gas emissions (Rodale Institute, 2008). Organic systems of production increase soil organic matter levels through the use of composted animal manures and cover crops. Organic cropping systems also eliminate the emissions from the production and transportation of synthetic fertilizers. Components of organic agriculture could be implemented with other sustainable farming systems, such as conservation tillage, to further increase climate change mitigation potential. See the ATTRA publication *Pursuing Conservation Tillage Systems for Organic Crop Production* for more information.

Generally, conservation farming practices that conserve moisture, improve yield potential and reduce erosion and fuel costs also increase soil carbon. Examples of practices that reduce carbon dioxide emissions and increase soil carbon include direct seeding, field windbreaks, rotational grazing, perennial forage crops, reduced summer fallow and proper straw management (Alberta Agriculture and Rural Development, 2000). Using higher-yielding crops or varieties and maximizing yield potential can also increase soil carbon.

Land restoration and land use changes

Land restoration and land use changes that encourage the conservation and improvement of soil, water and air quality typically reduce greenhouse gas emissions. Modifications to grazing practices, such as implementing sustainable stocking rates, rotational grazing and seasonal use of rangeland, can lead to greenhouse gas reductions. Converting marginal cropland to trees or grass maximizes carbon storage on land that is less suitable for crops.

Irrigation and water management

Improvements in water use efficiency, through measures such as irrigation system mechanical improvements coupled with a reduction in operating hours; drip irrigation technologies; and center-pivot irrigation systems, can significantly reduce the amount of water and nitrogen applied to the cropping system. This reduces greenhouse emissions of nitrous oxide and water withdrawals. For more information, see the ATTRA publication *Energy Saving Tips for Irrigators*.

Nitrogen use efficiency

Improving fertilizer efficiency through practices like precision farming using GPS tracking can reduce nitrous oxide emissions. Other strategies include the use of cover crops and manures (both green and animal); nitrogen-fixing crop rotations; composting and compost teas; and integrated pest management. The ATTRA Farm Energy Web site contains information about reducing nitrogen fertilizer on the farm at the following link: *www.attra.ncat.org/farm_energy/nitrogen.html*.

Methane capture

Large emissions of methane and nitrous oxide are attributable to livestock waste treatment, especially in dairies. Agriculture methane collection and combustion systems include covered lagoons and complete mix and plug flow digesters. Anaerobic digestion converts animal waste to energy by capturing methane and preventing it from being released into the atmosphere. The captured methane can be used to fuel a variety of on-farm applications, as well as to generate electricity. Additional benefits include reducing odors from livestock manure and reducing labor costs associated with manure removal. For more information on anaerobic digestion, see the ATTRA publication *Anaerobic Digestion of Animal Wastes: Factors to Consider*.

Conservation farming practices that conserve moisture, improve yield potential and reduce erosion and fuel costs also increase soil carbon.

Biofuels

There is significant scientific controversy regarding whether biofuels — particularly those derived from oilseeds (biodiesel), feed corn (ethanol) or even from cellulosic sources — are carbon neutral. To ascertain the true climate neutrality of biofuels requires a careful life-cycle analysis of the specific biofuel under consideration. Also, an analysis is needed to understand what the global land use change implications will be if farmers grow more of a specific biofuel feedstock. For further information on biofuels, see the ATTRA publications *Biodiesel: The Sustainability Dimensions* and *Ethanol Opportunities and Questions.*

Other renewable energy options

Renewable energy opportunities such as wind and solar also present significant opportunities for the agriculture sector to reduce greenhouse gas emissions. For further information about these options, see the ATTRA publication *Renewable Energy Opportunities on the Farm.*

"Creating farm and forestry systems with strong incentives for growing soil carbon could well be at the center of climate stabilization." (Mazza, 2007)

The value of soil carbon: Potential benefits for agriculture

As Mazza (2007) has remarked, "creating farm and forestry systems with strong incentives for growing soil carbon could well be at the center of climate stabilization."

Thus, a new crop that farmers and ranchers may grow in the future is carbon. The Natural Resources Conservation Service, part of the USDA, has long been a promoter of managing carbon in efforts to improve soil quality.

As with any crop, farmers and ranchers need a market for this new crop, as well as a price that will make it more profitable to grow. From a broader social context, the questions of who will purchase this new crop and what is a fair price are also of private and public importance. Voluntary private carbon markets exist in the United States. Federal government markets are expected to be created soon. How to value carbon from the perspective of the individual farmer and rancher, as well as society at large, is the heart of understanding the role agriculture can play in carbon sequestration and climate stabilization.

The two most frequently discussed systems to create value for offsetting greenhouse gas emissions are known as *carbon taxation* and *cap and trade.* Government subsidies are discussed less often, but will also play a role in greenhouse gas emission reductions.

Charge systems: Carbon tax

By taxing every ton of carbon in fossil fuels or every ton of greenhouse gas companies emit, entities that emit greenhouse gases or use carbon-based fuels will have an incentive to switch to alternative renewable fuels, invest in technology changes to use carbon-based fuels more efficiently and in general adopt practices that would lower their level of greenhouse gas emissions. Thus a carbon or greenhouse gas emission tax values carbon in negative terms of tax avoidance. Those farms and ranches that emit or use less carbon-intensive fuels pay a smaller tax.

From the perspective of farmers and ranchers, a carbon tax would increase the direct and indirect costs of agricultural production. Farmers and ranchers use carbon-based fuels directly in the forms of petroleum and natural gas and indirectly in the forms of carbon-based fertilizers and pesticides and fuel-intensive inputs. Thus, a carbon tax could move farmers and ranchers to shift to systems of production that either eliminate the use of fossil fuels and inputs or at least improve the efficiency of their use.

However, proponents of carbon taxes have generally sought to exclude the agriculture sector from such taxation. For the most part, carbon tax proponents have been more interested in placing greenhouse gas emission taxes on upstream producers of the original source products. This includes coal, petroleum and natural gas producers and major emitters such as large electric utilities. Nonetheless, as people work to reduce greenhouse gas emissions, the potential to place a carbon tax on sectors like agriculture may become more likely.

Benefits of a carbon tax for farmers and ranchers

A major benefit of a carbon or greenhouse gas emission tax would be the creation of a stream of tax revenue that the government could use to further induce the practice and technology changes necessary to lower greenhouse gas emissions. For example, many of the current agriculture conservation programs, such as the Environmental Quality Incentive Program and the newer Conservation Stewardship Program, support improvements in soil quality and could be funded in part from emission or carbon taxes, thereby providing a revenue source to subsidize those who adopt or maintain emission-reduction practices or carbon sequestration activities. See the ATTRA publication *Federal Resources for Sustainable Farming and Ranching* for more information. Tax revenues could also assist in the support of conservation programs like the Conservation Reserve Program, which works to keep sensitive and highly erodible lands out of production since these lands sequester soil carbon.

Another benefit of this approach is that a tax provides a clear and stable cost to current practices. A tax also makes it easier to determine changes that will be more profitable in a new cost environment. For instance, if a concentrated animal feeding operation understood the cost of their emissions as expressed by their emission tax, it would be easier for the operation to determine alternatives to current practices that would be cost efficient. At a high enough tax rate, installing methane digesters to lower greenhouse gas emission would become economically feasible.

Finally, it has been argued that a carbon tax approach is cost effective in implementation, at least when compared to the cap-and-trade method of achieving greenhouse gas emissions reductions. As recent Congressional Budget Office report states: "available research suggests that in the near term, the net benefits (benefits minus costs) of a tax could be roughly five times greater than the net benefits of an inflexible cap" (Congressional Budget Office, 2008).

Downside of a carbon tax

The introduction of any tax results in discussions of where the burden of taxation lies and issues of equity. In short, taxation is about who pays and who does not. New taxes also often result in a public discussion of the fairness of the tax. There is logic to the argument that the burden of a carbon or greenhouse gas emission tax should be placed first and foremost on those who either create carbon-intensive fuels or those who are the largest emitters of greenhouse gases. The greatest source of greenhouse gas emissions in the United States is the combustion of fossil fuels. Since agriculture uses a small percentage of U.S. fossil fuels, an argument can be made that the burden of taxation should not to fall on this sector. Still, agriculture is heavily dependent on fossil fuels and any carbon or greenhouse gas emission tax would likely be costly.

A tax provides a clear and stable cost to current practices.

The ability of any individual farmer or rancher to pass on the increased costs of fossil fuels that this kind of taxation would create is much more limited than in other sectors of the economy. For instance, if a carbon tax is placed on diesel fuel, diesel fuel manufacturers can more easily pass on the tax burden to the consumers of the diesel. The ability to pass on costs to consumers is greater in industries where there is little product substitution and where a few producers dominate the market. This is not the case for farmers and ranchers, given their relative lack of market concentration and power.

Cap and trade: A private market for greenhouse gas emissions

A government-sponsored cap-and-trade system would create a new market for greenhouse gas emissions by creating a new property right — the right to emit.

The market is created by a government that sets a limit or cap on total greenhouse gas emissions allowed. Companies that

emit greenhouse gases are issued emission permits that allow a certain amount of emissions. Companies and groups that exceed their allowed emissions must purchase offsets from other entities that pollute less than their allowance or from entities that sequester carbon.

These exchangeable emission permits, often called allowances, are measured in tons of carbon dioxide equivalents per year. Carbon dioxide equivalents provide a common measure for all greenhouse gas emissions and are calculated by converting greenhouse gases into carbon dioxide equivalents according to their global warming potential.

Over time, the government will continually lower the total level of allowances to meet an established level of acceptable total emissions. As the supply of allowances decreases, the value of the allowances will rise or fall depending on demand and on the ability of emitters to make necessary changes to reduce emissions or purchase offsets from groups more capable of reducing emissions.

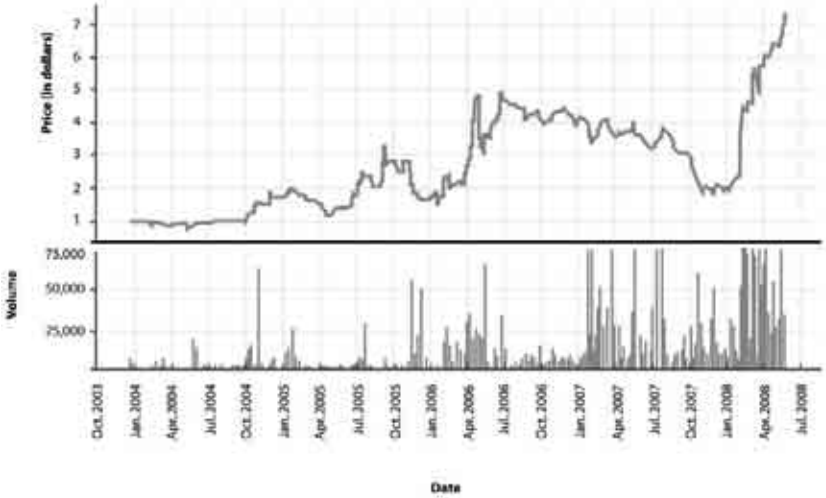
Benefits for farmers and ranchers

Depending on the practices adopted, farmers and ranchers could be a source of inexpensive carbon reduction and capture the value of these allowances as offsets. In short, the value of offsets would become the market price of carbon equivalents. This would become the value of the new crop — carbon — that farmers and ranchers could grow.

From the May 26, 2008 issue of *High Country News*:

> For example, if a farmer shifted to an organic system of production, measurable improvements in the ability of the farmer to sequester carbon could be verified and the farmer could sell this sequestered carbon at the current carbon market price set in the new emissions market (Ogburn, 2008).

Figure 3. Chicago Climate Exchange daily report. *Source: Chicago Climate Exchange. www.chicagoclimateexchange.com*



A limited, privately created and voluntary cap-and-trade system called the Chicago Climate Exchange (CCX) has been in operation in the United States since 2003. The emission cap is set by emitting entities that voluntarily sought to limit greenhouse gas emissions. Purchases of agriculture offsets have been part of this exchange. As can be seen from *Figure 5*, the price of carbon dioxide equivalents per ton has varied significantly over the life of the exchange and hit its highest level in 2008 at $7.35 per ton. This price has not yet resulted in an overwhelming participation by farmers and ranchers.

Downsides of cap and trade

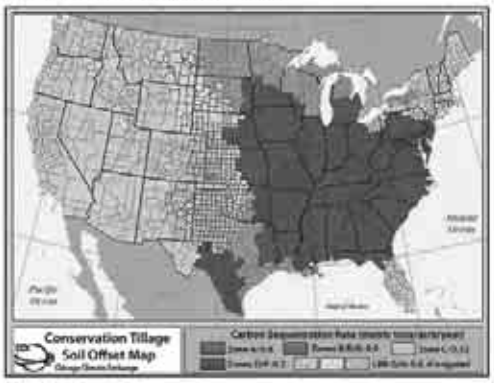
For farmers and ranchers to provide carbon offsets for greenhouse gas emitters, farmers and ranchers must be willing to make long-term, or even permanent, changes in not only practices but perhaps whole systems of production. These changes also need to provide verifiable changes that result in true offsets of greenhouse gas emissions. The issues of verifiability, permanence and what is known as *additionality* are critical to the success of agriculture's role in the cap-and-trade system and the ultimate reduction of greenhouse gas emissions.

Verifiability is critical because the system or practice change must result in a measurable change in the amount of carbon stored. For example, the adoption of a no-till cultivation practice is thought to result in soil with higher carbon sequestration capacity. However, there is continuing scientific debate over whether the practice of continuous no-till does in fact lead to long-term additional storage of carbon in the soil (Baker et al., 2007).

The CCX divided the United States into zones and allocated specific levels of carbon sequestration to each acre farmed in a particular zone under continuous no-till practices, as illustrated in *Figure 6*.

While there may be some need to simplify the implementation of a nationwide soil carbon sequestration project related to tillage practice change, it is very

Figure 6. Conservation tillage soil offset map. *Source: Chicago Climate Exchange.* www.chicagoclimateexchange.com



doubtful that the actual carbon storage levels allocated can be achieved across areas that are so large. Finally, the CCX does not verify the actual carbon storage as a result of the practice change, but only monitors that the practice is maintained during the life of the contract. Thus, it is doubtful the carbon offset truly matches actual carbon sequestered.

The issue of permanence is also critical. What happens after a farmer or rancher changes to a practice or system of production, is paid for carbon stored and then decides to change practices and potentially release the carbon that he or she was paid to sequester to offset emissions?

Additionality refers to the issue that a farmer or rancher can only offer and be paid for an offset for a new sequestration of carbon, not for a practice or a system of production already in place. For instance, if a rancher developed a permanent wind shelter belt, that change in land use would likely result in new, or additional, carbon sequestration. However, a rancher who already developed a similar shelter belt would not be eligible for an offset because the rancher would not be providing additional carbon sequestration. Likewise,

a farmer already engaged in conservation tillage would not provide additional carbon storage by maintaining that practice. However, the current USDA Conservation Stewardship Program provides a possible payment structure that pays farmers to maintain practices.

Additionality is also important because of the possibility that perverse incentives may be created that encourage farmers or ranchers to release carbon so that they can get paid to store it. For example, a farmer practicing no-till farming may decide to abandon the practice because of the new availability of per-acre payments and switch back to no-till at a later time. To address this and stop additional greenhouse gas emissions, the idea of offsets would need to be expanded to include farmers and ranchers already undertaking a practice or specific land use that stores soil carbon.

Subsidizing positive behavior

A final mechanism that could expand the ability of the agriculture sector to mitigate greenhouse gas emissions is one that is already well known — a direct subsidy. Many federal conservation programs provide incentives, known as cost shares, that help farmers and ranchers make changes in practices to conserve natural resources. For more information, see the ATTRA publication *Federal Resources for Sustainable Farming and Ranching*. For example, data in *Figure 7*, adapted from a Natural Resources Conservation Service bulletin, indicates various crop and animal management practices that can either lower greenhouse gas emissions or increase carbon sequestration. Under the Conservation Stewardship Program and the Environmental Quality Incentive Program, farmers and ranchers can receive incentives to adopt new practices or receive support to maintain such practices. Though not designed to address climate change issues specifically, many federal conservation programs already provide public incentives to reduce greenhouse gas emissions.

Figure 7. Agricultural practices and benefits. *Source: NRCS. http://soils.usda.gov/survey/global_climate_change.html*

Conservation Practice	GHG Objectives	Additional Benefits
CROPS		
Conservation tillage and reduced field pass intensity	Sequestration, emission reduction	Improves soil, water and air quality. Reduces soil erosion and fuel use
Efficient nutrient management	Sequestration, emission reduction	Improves water quality. Saves expenses, time and labor.
Crop diversity through rotations and cover crops	Sequestration	Reduces erosion and water requirements. Improves soil and water quality.
ANIMALS		
Manure management	Emission reduction	On-farm sources of biogas fuel and possibly electricity for large operations, provides nutrients for crops.
Rotational grazing and improved forage	Sequestration, emission reduction	Reduces water requirements. Helps withstand drought. Increases long-term grassland productivity.
Feed management	Emission reduction	Reduces quantity of nutrients. Improves water quality. More efficient use of feed.

In the future, conservation programs could be refocused to lower greenhouse emissions or increase carbon sequestration. Perhaps modifications of the Conservation Stewardship Program and the Environmental Quality Incentive Program could allow for longer contracts (currently a maximum of five years) so that outcomes are reached and maintained. Also, the programs could add specific validation procedures to assure climate targets are met and sustained.

Benefits of subsidies

There is an immediate benefit to farmers and ranchers willing to make changes that meet the challenges of climate stabilization. If sufficiently funded with outreach and technical assistance, efforts can be made to assure that all farmers and ranchers — regardless of their situation — take advantage of these programs. Finally, resources can be prioritized to different regions of the country or to specific practices or systems of production so programs can be cost-effective in reaching climate change goals.

Downside of subsidies

Subsidies are a public cost, and this is a considerable downside. Furthermore, subsidies are based on the idea that the government can know and assure that the practices it pays for achieve the intended outcomes. For example, the federal government provides significant subsidization of corn ethanol production. Many argue that this changed the price of field corn and increased costs for people who use corn as animal feed and for other countries that import corn to feed people. There are also questions about how subsidies can reduce greenhouse gas emissions. Will subsidizing a shift to a continuous no-till cultivation operation result in greater carbon sequestration? If the scientific understanding of the relationship between carbon sequestration and no-till is simply in error, then public dollars spent to change farmer behavior would be wasted. Furthermore, will subsidization offer the least expensive way to achieve a specific outcome?

Paustian et al. (2006) estimated that it would take a price of at least $13 per ton of carbon dioxide equivalent ($50 per ton of carbon) per year to offset 70 million metric tons (MMT) of carbon dioxide equivalents. This would be a total public cost of close to $1 billion dollars per year for perhaps as long as 40 years. Also, this represents an offset of only 4 percent of total U.S. greenhouse gas emissions in 2004. Is this the least expensive way to reduce greenhouse gas emissions compared to alternative public expenditures? For instance, what if public dollars were committed to a research program to improve the gas mileage of automobiles?

Finally, how do we know that Paustian et. al. are correct in their estimation of the incentive needed to change farming and ranching practices? Recently, Sperow (2007) estimated an average cost to sequester carbon at $261 per ton of carbon. This is considerably higher than the Paustian estimate. While the difference between these studies can be explained by the fact that there is a wide regional variation in carbon sequestration capacity and how sequestration is accomplished, public costs would nonetheless be significant to achieve greenhouse gas emission reductions through subsidization.

The public sector will play an important role in determining how to engage the agriculture sector in the reduction of greenhouse gas emissions.

Summary

The public sector will play an important role in determining how to engage the agriculture sector in the reduction of greenhouse gas emissions. The government can use its power to tax, subsidize or create a new market mechanism to do this. In 2008, the U.S. Senate debated climate change legislation, including the Lieberman-Warner bill. This bill proposes a modified cap-and-trade system with the expectation that the agriculture sector will provide at least 15 percent of the offsets needed to reduce greenhouse gas emissions 71 percent from 2005 levels by 2050. Whether this or future legislation will become the base of future climate change improvements, there is little doubt that agriculture will play some role in the effort.

References

Agricultural and Food Policy Center. 2008.Carbon Markets: A Potential Source of Financial Benefits for Farmers and Ranchers, Texas A&M University System. *www.afpc.tamu.edu/pubs/2/519/RR%2008-03.pdf*

Alberta Agriculture and Rural Development. 2000. Greenhouse Gas Emissions and Alberta's Cropping Industry – Things You Need to Know. *www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/ed3010*

Backlund, P., et al. 2008. U.S. Climate Change Science Program and the Subcommittee on Global Change Research May 2008. The effects of climate change on agriculture, land resources, water resources, and biodiversity in the United States. *www.climatescience.gov/Library/sap/sap4-3/final-report/default.htm*

Baker, J.M., et al. 2007. Tillage and Soil Carbon Sequestration — What Do We Really Know? Agriculture, Ecosystems and Environment. 118: 1-5.

Chicago Climate Exchange. 2009. Offset Project Verification. *www.chicagoclimatex.com/content.jsf?id=102*

Congressional Budget Office. 2008. Policy Options for Reducing CO_2 Emissions, Congressional Budget Office study. *www.cbo.gov/doc.cfm?index=8934*

Congressional Research Service. 2008. Climate Change: The Role of the U.S. Agriculture Sector. Renee Johnson. *http://fpc.state.gov/documents/organization/81931.pdf*

EPA. 2008a. Agriculture and Food Supply. *http://epa.gov/climatechange/effects/agriculture.html*

EPA. 2008b. Carbon Sequestration in Agriculture and Forestry. *www.epa.gov/sequestration/index.html*

EPA. 2008c. Local Scale: Carbon Pools in Forestry and Agriculture. *www.epa.gov/sequestration/local_scale.html*

Farmers Union. 2008. Carbon Credit Program Brochure. *http://carboncredit.ndfu.org/pdfs/cebrochure.pdf*

IPCC. 2007a. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning (eds)]. *http://ipcc-wg1.ucar.edu/wg1/wg1-report.html*

IPCC. 2007b. Climate Change 2007: Agriculture. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)]. *www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter8.pdf*

Mazza, Patrick. 2007. Growing Sustainable Biofuels — Common Sense on Biofuels, Part 2. Harvesting Clean Energy Journal (online). *http://harvestjournal.squarespace.com/journal/2007/11/12/growing-sustainable-biofuels-producing-bioenergy-on-the-farm.html*

Ogburn, Stephanie Paige. Climate cash-in: Western farmers and ranchers use crops — and cows — to tap into the carbon market. High Country News, May 26, 2008. *www.hcn.org/issues/371/17713*

Paustian, et al. 2006. Agriculture's Role in Greenhouse Gas Mitigation. Pew Center on Global Climate Change. *www.pewclimate.org/docUploads/Agriculture%27s%20Role%20in%20GHG%20Mitigation.pdf*

Pew Center on Global Climate Change. 2008.Climate Change 101 – The Science and Impacts. *www.pewcenteronthestates.org/uploadedFiles/Climate%20Change%20101,%20The%20Science%20and%20Impacts.pdf*

Rodale Institute. 2008. Regenerative Organic Farming: A Solution to Global Warming. *www.rodaleinstitute.org/files/Rodale_Research_Paper-07_30_08.pdf*

Sperow, M. 2007. The Marginal Costs of Carbon Sequestration: Implications of One Greenhouse Gas Mitigation Activity. Journal of Soil and Water Conservation. 62(6):367-375.

Resources

Web sites

Environmental Protection Agency – Carbon Sequestration in Agriculture and Forestry. *www.epa.gov/sequestration*

Environmental Protection Agency Global Warming Impacts on Agriculture, *http://epa.gov/climatechange/effects/agriculture.html*

Pew Center on Global Climate Change, *www.pewclimate.org*

Consortium for Agricultural Soil Mitigation of Greenhouse Gases (CASMGS), *www.casmgs.colostate.edu*

Climate Friendly Farming, Washington State University Center for Sustaining Agriculture and Natural Resources, *http://cff.wsu.edu*

Pacific Northwest STEEP - Solutions to Environmental and Economic Problems, *http://pnwsteep.wsu.edu*

ClimateandFarming.org, *www.climateandfarming.org*

Soil Carbon Center at Kansas State University, *www.soilcarboncenter.k-state.edu*

Reports

Harnessing Farms and Forests in the Low-Carbon Economy: How to Create, Measure, and Verify Greenhouse Gas Offsets. The Nicholas Institute for Environmental Policy Solutions. Edited by Zach Willey & Bill Chameides, Environmental Defense. Duke University Press. Durham & London. 2007

Addressing Climate Change and Providing New Opportunities for Farmers. Institute for Agriculture and Trade Policy. Mark Muller, Catherine Hofman, Paul Hodges. September 2000. *www.iatp.org/iatp/publications.cfm?accountID=258&refID=29793*

Agriculture and Climate Change: Greenhouse Gas Mitigation Opportunities and the 2007 Farm Bill. Evan Branosky and Suzie Greenhalgh. World Resources Institute Policy Note. March 2007. *http://pdf.wri.org/agricultureandghgmitigation.pdf*

Soil Carbon Sequestration in Agriculture: Farm Management Practices Can Affect Greenhouse Gas Emissions. Dept. of Land Resources and Environmental Sciences, Montana State University Extension Service. Perry Miller, Rick Engel, and Ross Bricklemyer. *http://msuextension.org/publications/AgandNaturalResources/MT200404AG.pdf*

Using Agricultural Land for Carbon Sequestration. Purdue University. Andrea S. Bongen. *www.agry.purdue.edu/soils/Cosquest.PDF*

Contracting for Soil Carbon Credits: Design and Costs of Measurement and Monitoring. Department of Agricultural Economics and Economics, Montana State University Department of Soil and Crop Sciences and Natural Resource Ecology Laboratory, Colorado State University. May 2002. Siân Mooney, John Antle, Susan Capalbo, and Keith Paustian *www.climate.montana.edu/pdf/mooney.pdf*

Multiple Benefits of Carbon-Friendly Agricultural Practices: Empirical Assessment of Conservation Tillage. Center for Agricultural and Rural Development, Iowa State University. Lyubov A. Kurkalova, Catherine L. Kling, Jinhua Zhao. February 2003. *www.card.iastate.edu/publications/DBS/PDFFiles/03wp326.pdf*

Appendix

How to get involved in voluntary private carbon markets

The future of the voluntary carbon market remains to be seen. Currently, farmer payments from carbon offsets alone are not substantial enough to rationalize decisions for land management changes. However, it is important that the farm sector be included in solutions for mitigating climate change. Before enrolling in any type of carbon credit program, however, it is important to understand eligibility requirements, contract expectations and verification policies. Review all of these items with carbon aggregators before deciding to enroll.

Eligibility

The following table was developed by the National Farmers Union Carbon Credit Program to help farmers determine eligibility for enrollment in specific projects (Farmers Union, 2008). Different aggregators might have different requirements for eligibility, enrollment and contracts.

Eligible land and credit-earning potential

No-till: Carbon credits are issued at the rate of 0.2 to 0.6 metric tons of carbon per acre annually to participants who commit to continuous conservation tillage on enrolled land for at least five future years. In most cases, credit can be earned for the pervious year. Enrolled acres may be planted in low-residue crops, such as beans, peas and lentils, no more than three of the contract years. Alfalfa or other hayed forage will be considered as no-till for these contracts.

Seeded grass stands: Carbon credits are earned at a rate of 0.4 metric tons to 1 metric ton per acre annually, even if enrolled in Conservation Reserve Program. Grass stands seeded prior to January 1, 1999, are not eligible for enrollment in the program. Credits can be earned back to 2003 with proper documentation.

Native rangeland: Grassland with a formal grazing plan may earn up to 0.52 tons per acre annually. Credits can be earned back to 2003 with proper documentation.

Forestry: Trees planted after 1990 can earn carbon credits annually, provided no harvest is intended.

Methane offset: Methane captured or destroyed can earn carbon credit. Animal waste systems, including anaerobic digesters and covered lagoons, can be enrolled. Each ton of methane captured earns 21 tons of carbon credits (Farmers Union, 2008).

Finding an aggregator

Several aggregators are located across the country to help farmers and ranchers enroll in carbon offset projects. The following aggregators provide Web sites with detailed information on contracts and enrollment. For a full list of carbon aggregators for the Chicago Climate Exchange, visit their Web site at *www.chicagoclimatex.com*.

- National Farmers Union Carbon Credit Program, *http://carboncredit.ndfu.org*
- National Carbon Offset Coalition, *www.ncoc.us*
- Pacific Northwest Direct Seed Association, *www.directseed.org/carbontrading.html*

How to enroll

You will need to provide the following information to enroll in carbon sequestration programs:

- Land maps to document ownership of a given tract of land, including the legal description of the tract.
- Document of management practices, such as program forms for croplands, grass and forest management.
- A signed contract between the landowner and the Chicago Climate Exchange or an aggregator for the appropriate management practices (Agricultural and Food Policy Center, 2008).

Contracts

Contracts are based on a five-year period for crop production and rangeland projects. At the end of the contract, producers are free to renew the contract for another five years or let the contract expire. Once a contract expires, landowners have no more obligations to the CCX or to the aggregator. However, if a landowner discontinues the approved sequestration production practice prior to the end of the contract, the CCX or aggregator will ask the owner to return the amount of carbon that would have been sequestered up to that point or pay for the same amount of carbon at market price. Additionally, the project owner will not be allowed to further participate in the CCX (Agricultural and Food Policy Center, 2008).

Verification

Once a project is approved, the aggregator is responsible for obtaining independent verification by an approved verifier to ensure the actual greenhouse gas sequestration. A project is subject to initial and annual verification for the duration of its contract with the Chicago Climate Exchange (Chicago Climate Exchange, 2009).

Agriculture, Climate Change and Carbon Sequestration

By Jeff Schahczenski and Holly Hill
NCAT Program Specialists
© 2008 NCAT
Holly Michels, Editor
Amy Smith, Production

This publication is available on the Web at:
www.attra.ncat.org/attra-pub/carbonsequestration.html or
www.attra.ncat.org/attra-pub/PDF/carbonsequestration.pdf

IP338
Slot 336
Version 012309

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL COTTON COUNCIL OF AMERICA
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Jon W. Hardwick

Organization(s) you represent

National Cotton Council of America

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Chairman (chief elected industry officer)

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

Congress must give due diligence to the merits and economic impacts of any carbon reduction legislation, particularly under the current economic conditions and uncertainty. Since reasonably priced energy is the lifeblood of the American economy and 85 percent of that energy currently is derived from fossil fuels, any regulation designed to reduce fossil fuel emissions will have profound effects. Electricity prices could jump by 36 to 65 percent by 2015 and 80 to 125 percent by 2050 (1). These additional costs will be additively passed on to the consumer, thus, exacerbating or delaying recovery from the present recession. Higher energy and consumer costs will be regressive, having a greater impact on lower income families. In 1997, the Senate refused to ratify the Kyoto Protocol, voting 95 to 0 not to accept a treaty that harms the U.S. economy and does not require developing nations, such as China and India, to likewise reduce their carbon dioxide outputs (2). And, this vote was made when the U.S. economy was in much better condition than it is today.

Upon open discussion and debate, should the Congress decide to move forward with emission reduction legislation, it must fashion a system which minimizes the inevitable negative economic consequences and effectively meets verifiable goals.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Agriculture should not be included as a regulated entity in a cap and trade program. U.S. farmers are already burdened with a myriad of regulations. Unlike other businesses, farmers can not pass the cost of regulation on to its customers; rather, any additional regulatory costs equate to a decrease in farm income, a disincentive for future farmers, and, therefore, a threat to U.S. food security. According to USDA data, in 2005, agricultural greenhouse gas sources accounted for about 7% of total U.S. greenhouse gas emissions (3). On the other hand, agriculture has the potential to act an effective sink for emissions. It has been estimated that 20% to 40% of targeted greenhouse gas emission reductions in the U.S. could be met by agricultural soil carbon sequestration alone (6). Agriculture would not only have to meet its allowance but would have to make even further efforts to produce offsets. Such additional efforts may not be practical or cost effective. In either case, the availability of offsets would be reduced. Offsets are the essential component of a cap and trade program that minimize economic impacts.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

Implementing a unilateral program to address a global issue will inherently establish an economic disadvantage for U.S. businesses and will encourage the relocation of American industry to more favorable economic climates. Relocations will simply shift emissions to other parts of the world and will reduce any net impact on global emissions while transferring American jobs and resources overseas.

Congress must design its cap and trade program in such a way as to minimize economic impacts and the incentive to relocate. Therefore, allowances should be distributed at no cost to industry. The federal government should not view a cap and trade program as another source of government revenue; rather, resources should remain within the marketplace so that businesses can invest in emission reduction technology that will work for their particular operation.

Auctioning of allowances has several disadvantages. It will result in variable allowance costs, making it difficult for businesses to budget and plan. It will also give an advantage to larger companies that have more resources to purchase the credits they need. Larger businesses will be able to drive up the price of carbon, making it more difficult or impossible for smaller businesses to compete.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

NCC staff is not familiar with existing regional and state carbon reduction programs. However, a national carbon cap and trade program would be even more complicated and less effective if it consists of a patchwork of numerous smaller programs. There needs to be a consistent program so that industry can know what to expect and how to plan accordingly.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

It is imperative that USDA be given statutory authority to develop, implement, and administer an agricultural offset program in any carbon cap and trade legislation. USDA is the most logical administrator of such a program for a number of reasons:

1. The 2008 Farm Bill already requires the Secretary of Agriculture to establish technical guidelines for measuring environmental services from conservation and other land management activities with a priority to be given to establishing guidelines for participation in carbon markets.

2. USDA-NRCS already has an online program which would allow farmers to estimate the carbon flux of their operation. The Voluntary Reporting of Greenhouse Gases-CarbOn Management Evaluation Tool (COMET-VR) tool is a decision support tool for agricultural producers, land managers, soil scientists and other agricultural interests. COMET-VR provides an interface to a database containing land use data from the Carbon Sequestration Rural Appraisal (CSRA) and calculates in real time the annual carbon flux using a dynamic Century model simulation (http://www.cometvr.colostate.edu).

3. USDA has a long and well-established working relationship with the U.S. agricultural industry. It has the technical expertise to conduct research and technology transfer. The

Department has an extensive infrastructure with personnel present in every county of the U.S. and established working relations with farmers and state and local officials.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The CFTC has a long history of providing oversight and regulation of futures and options markets. It is our opinion that carbon futures and derivative markets should continue to fall under the regulatory jurisdiction of the CFTC. Another consideration is the appropriate industry advisory committee within the CFTC. Agricultural industries should be directly represented on an advisory committee for carbon markets.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

The U.S. cotton industry recognizes the importance of carbon derivates market to the success of a cap-and-trade program. During the past year, the cotton industry has experienced firsthand the financial strain caused by the uncertainty and unpredictable risk of a dysfunctional futures market. This has led to a greater appreciation of the importance of oversight and transparency in futures and derivatives markets.

In testimony before the House Agriculture Committee, the cotton industry offered our support for The Derivatives Markets Transparency & Accountability Act of 2009. Changes in regulations and oversight encompassed in that legislation should apply to carbon derivative markets.

These changes include: establishing trading limits to prevent excessive speculation; subjecting all contract and over-the-counter market participants to speculative position limits; subjecting speculative entities to the same weekly reporting requirements as the trade; and limiting hedge exemptions and limit eligibility for hedge margin levels to those actually involved in the physical handling.

In addition, the CFTC should disaggregate index funds and publish the number of positions and total value of the index funds and other passive, long-only and short-only investors, and data on speculative positions relative to their bona fide physical hedges; and establish reporting requirements for index traders and swap dealers in designated contract markets (exchanges), derivative transaction execution facilities and all other trading areas. Also, as an important caveat, no action should be taken to discourage over-the-counter transactions with legitimate commercial

purposes – transactions that are transparent and have proven to be beneficial risk management tools utilized by producers, merchants, and manufacturers.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Reasonably priced energy is the lifeblood of the American economy. It is only logical that any restrictions on access to such energy sources will have profound negative impacts on our economy. Agriculture will be even more severely impacted because farmers can not pass on these additional costs to the buyer.

According to a Doane's study (5), recent increases in crude oil prices from 2000-2007 have already added $135.38 to the per acre production costs of cotton. Using S. 2191 as a model, climate change legislation will add another $24.88-48.06 to that cost between 2007 and 2020. These increases do not include the increased costs of transportation, fertilizer and other inputs, or downstream costs such as ginning.

The negative impacts of climate change legislation will be regressive in nature, more severely impacting low-income populations and smaller farming operations.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

The federal government should not view a carbon cap and trade program as another source of tax revenue. As that seems unlikely, Congress must use the collected revenues to minimize the negative impacts to the economy that will inevitably be created. Agricultural trade will be disadvantaged under a cap and trade program. U.S. cotton's largest competitors, China and India, will not be under such constraints; their prices will be cheaper and they will be able to capture more of the market share.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

This question requires further clarification for NCC to respond.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

NCC has no position on public land use.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

To the greatest extent possible, the market should drive a carbon cap and trade program. A market approach will maximize creativity and flexibility, increasing the potential for success. However, in the event that demand for carbon credits forces credit prices to the point of undue economic hardship, the administering agency should be allowed to hold a reserve of allowances that it can release at the appropriate time to relieve market pressure.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Congress can use the experience of the European Union's cap and trade system by distributing allowances that are congruent with emission reduction goals. In issuing allowances, a deficiency must be created in order to compel industry to reduce emissions and to establish a market for offsets. Congress must also take caution in setting reduction goals that are in advance of technology and the ability to practically meet such goals.

Congress should also note that the EU's cap and trade system has not worked. Most of the EU member nations failed to meet established reduction goals. Congress should include in any cap and trade legislation a sunset clause which will mandate review of the success of its cap and trade program and allow for adjustments or expiration of the program.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Agricultural offsets can play an important role in carbon emission reduction. USDA estimates that it may be technically possible to sequester an additional 89-318 MT of carbon annually on U.S. croplands and grazing lands. Based on 2001 emissions, this level of carbon sequestration would offset between 5 and 17 percent of gross U.S. GHG emissions (3). It has been estimated that 20-40 percent of targeted emission reductions in the U.S. could be met by agricultural soil sequestration alone (6).

Not every area of the U.S. will be as efficient in soil sequestration as other areas. A map of soil sequestration potential for agriculture has been published (6). The vast majority of soil carbon sequestration potential lies east of the Rocky Mountains with the exceptions of the eastern seaboard, Florida, and most of Texas, Louisiana, Oklahoma, Arkansas, and Missouri. Predetermined practices or standards will favor certain areas particularly the Midwest. Farmers must be allowed to be as innovative as possible within their own operations to benefit from an offset market.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

In order to assure that a cap and trade program is flexible and the least costly, Congress should not put a limit on offsets. The market will determine the need for offsets and their costs. Additionally, the vast majority if not all of offsets should be domestically generated. International offsets will be a further drain on the U.S. economy as billions of dollars are funneled into other countries. These offsets will also be much more difficult to verify.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offsets should not be distributed at all. Distribution of offsets would negate the entire purpose of a cap and trade program. The purpose of the offsets is for businesses that can not meet its allowances to purchase offsets at market value and keeping the economic impact to a minimal level.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

It will not be feasible to directly measure each and every offset project. Based upon research and empirical data, legitimate estimates that can take into account diverse variables will have to be developed. Verification and monitoring can be achieved through carbon brokers and authorized third party entities (See Question 14).

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

For offsets to generate credible emissions reductions, they must meet a number of quality criteria. Offsets must involve actual emission reductions. They should be monitored and quantified as accurately as possible and be verified by an independent third party. Offset standards should address the issues of leakage and permanence. Finally, offsets should be specifically owned and accountable in a registry to ensure that they are not counted multiple times (7).

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Congress should authorize USDA to do verifications or delegate that authority on a third party basis. Congress should not attempt to design a verification system. In a market-based cap and trade system, the most likely scenario will be the appearance of carbon aggregators or brokers who will serve both the buyers and sellers of carbon offset credits. Farmers will not know how to locate and negotiate with individual companies and it will not be cost effective for regulated companies to search out numerous farmers to purchase the credits they need. Credit brokers will contract with farmers who are undertaking greenhouse gas reduction activities. The duration and conditions of contracts would vary with specific projects. It will be the responsibility of the broker to verify that the conditions of the contract are being met. USDA would verify a significant sampling of projects and could issue brokerage licenses which would be revoked from brokers offering poor quality (unverified) credits.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

It would be impractical and cost prohibitive to quantifiably verify every on-farm project. Congress should allow USDA to establish practice standards which are associated with pre-calculated values. The results of such preset values would have to take into account numerous variables such as soil type, rainfall, and cropping systems. A predetermined carbon value could then be assigned to various practices under specific conditions.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The only relationship between offsets and allowances should be a market-driven one. Congress will set the caps and allowances at diminishing levels over time until the determined emission level is achieved. The issued allowances will determine the demand, availability, and price of the offsets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Permanence and duration of offsets will be determined by the inherent nature of the offset and practicality. For example, forestry has a high potential for sequestering carbon over a long period of time if the timber is used for housing lumber or furniture. However, forest growth follows a sigmoid curve and, over time, growth rate will slow and the forest will become a net emitter. These forests, then, will have to be managed, i.e. harvested and replanted, in order to keep the growth rate and, thus, the sequestration at a high level. Soil carbon sequestration may have a shorter life span; for example, soil carbon will eventually reach a saturation point depending on the original soil carbon level and other factors. The farmer may find it necessary to plow e.g. to relieve compaction problems. The length of the contracts will be dependent upon these factors but should allow the maximum flexibility in order for operators to voluntarily participate.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Agriculture is always evolving. As technologies and practices improve, farmers are converting to alternative tillage practices such as no-till or ridge-till. They are reducing fertilizer application rates and enhancing crop uptake of fertilizer nutrients. Some livestock producers are able to use methane digesters and invest in covers for manure storage or treatment facilities while others are able to reduce enteric emissions with dietary modifications. Producers that have taken these steps should not be disadvantaged by being excluded from compensation for future offsets that occur as a result of these ongoing efforts.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Many practices undertaken to reduce greenhouse gas emissions will provide additional public benefits, such as clean water, wildlife habitat, and reduced soil erosion. Projects participating in a greenhouse gas offset market should not be excluded from also participating in other markets for environmental services that currently exist or may arise in the future. Allowing producers to "stack" credits will maximize the economic viability of carbon sequestration and manure management projects, ensuring more projects are undertaken and synergies with other environmental priorities are developed. In addition, new climate programs should complement existing conservation programs within the Farm Bill.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Such activities should be granted full emissions reduction credit even if they were initiated for other goals (See Question 24).

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A producer should be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions if agriculture is going to be deemed a credible source of offsets. It has been proposed that these discrepancies can be handled through the aggregator or broker who would withhold a percentage of the contract in the event of such loss or failure. In the case of natural disaster, crop insurance has been suggested as a means to cover losses.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

USDA should be the department responsible for developing regulations for an agricultural offset program (See Question 5). Any cap and trade legislation must provide an initial list of project types that are eligible agricultural offsets. Both the regulated community and agricultural sector need assurances that agricultural offsets will be available to lower costs of a climate change program. The regulated community needs to know that a sufficient quantity of offsets will be available for purchase so that they can comply with a mandatory cap. The agricultural sector needs to know which project types Congress considers to be eligible as agricultural offsets in order to assess the full impact of cap and trade legislation on agriculture. An initial, non-exhaustive list of project types in the legislation itself is critical to addressing these concerns. Shifting the burden of making these decisions to an entity other than Congress generates uncertainty that should be avoided.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

In introducing carbon-reducing practices and technologies, the obstacles faced by U.S. farmers include education, technical assistance, implementation costs, and verification costs. USDA is already equipped to deal with most of these issues.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing conservation programs should not be blurred with agricultural offsets. These two programs must be maintained separately. First of all, not all farms are involved in conservation programs, either by choice or incompatibility with particular farming operations. Secondly, agricultural offset projects should not be excluded from also participating in other conservation programs. Farmers should be allowed to accumulate credits for both conservation and climate change efforts. Such a policy will maximize the economic incentive, ensuring more projects are implemented particularly if new climate programs are complimentary to existing conservation programs.

Congress could set aside a percentage of the revenue collected from allowances for USDA to use in technical assistance and cost share involved in climate change projects.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

[1] Anne E. Smith, prepared statement at the Legislative Hearing on America's Climate Security Act of 2007, S. 2191, the Committee on Environment and Public Works, United States Senate, November 8, 2007, p. 6, available at http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=808ac79be-c338-4a76-b438-205eb79da3d5.

[2] U.S. Senate Roll Call Votes 105th Congress - 1st Session, available at http://www.senate.gov/legislative/LIS/roll_call_lists/roll_call_vote_cfm.cfm?congress=105&session=1&vote=00205

[3] *U.S. Agriculture and Forestry Greenhouse Gas Inventory: 1990-2008.* August 2008, Global Change Program Office, Office of the Chief Economist, U.S. Department of Agriculture. Technical Bulletin No. 1921. 161 pp.

[4] Lewandrowski,J. et al. *Economics of Sequestering Carbon in the U.S. Agricultural Sector*. Technical Bulletin No. (TB-1909) 69 pp, April 2004, available at http://www.ers.usda.gov/publications/tb1909.

[5] Doanes Advisory Services. May 2008. *An Analysis of the Relationship between Energy Prices and Crop Production Costs*, 15 pp.

[6] *Opportunites for Agriculture to Offset Climate Change*, available at http://www.agcarbonmarkets.com/Resources.htm.

[7] *Ensuring Offset Quality*. July 2008. Offset Quality Initiative, available at http://www.offsetqualityinitiative.org

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Conservation tillage and residue management	Excellent	Excellent	Low	High
Cover cropping	Excellent	Excellent	Medium	High
Nutrient management	Excellent	Good	Low	High
Water management	Good	Good	Medium	Medium
Improve fuel and energy use efficiency	Excellent	Excellent	Medium	Medium

[Redacted]
www.cotton.org

PRODUCERS • GINNERS • WAREHOUSEMEN • MERCHANTS • COTTONSEED • COOPERATIVES • MANUFACTURERS

April 9, 2009

The Honorable Collin C. Peterson
Chairman, House Committee on Agriculture
U.S. House of Representatives
1301 Longworth House Office Building
Washington, DC 20515

Dear Chairman Peterson:

The National Cotton Council (NCC) appreciates the opportunity to respond to your thorough questionnaire and for the opportunity to comment on the critical issue of agriculture's role in global climate change.

In light of the current economic situation and uncertainty, NCC would urge you and your colleagues to carefully consider the ramifications of any legislation to regulate greenhouse gases. Estimates of the economic impact of a cap and trade system continue to escalate. Recent estimates from administration sources suggest that the President's cap and trade plan could cost industry close to $2 trillion, nearly three times the initial White House estimate (*U.S. News & World Report, March 24, 2009*). Such costs will certainly result in higher fuel, electricity, fertilizer, and input costs for U.S. farmers, putting them in yet further competitive disadvantage with China, India, and other developing nations which have and continue to insist on exemption from such regulatory programs.

NCC urges Congress to take pause and to carefully consider the costs and benefits of a carbon reduction program, to review existing and emerging data and opinions in this new field of climate science, and to evaluate the experiences of the European Union and other Kyoto signatories with cap and trade programs.

If Congress determines that legislation is necessary, NCC supports the inclusion of U.S. agriculture as a means for carbon offsets in order to mitigate, to some degree, the inevitable increases in input costs and the resultant decrease in farm income. The House Committee on Agriculture should insist upon a role in any climate change legislation. NCC looks forward to working with you and your colleagues on this important issue.

Respectfully submitted,

Jon W. Hardwick

Jon Hardwick
Chairman

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL COUNCIL OF FARMER COOPERATIVES
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Charles F. Conner

Organization(s) you represent

National Council of Farmer Cooperatives

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President and Chief Executive Officer

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cup-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

First, we welcome the effort of this Committee to gather, analyze and present the information sought by these questionnaires and hope that similarly open and wide ranging efforts to gather information and educate stakeholders is carried out by other Committees of jurisdiction in Congress.

It should be noted that the question, and this entire effort, presupposes a settled scientific consensus that global warming exists, that it is caused by human actions, and that the effects can be easily reversed by the proposed legislation. Some of our members, like some members of Congress and some in the scientific community, dispute one or more of these contentions and call for additional scientific research on the subject.

However, if the current scientific theories underpinning the need for this legislation are correct, we do not slight the potential impacts of global warming; agriculture is an industry dependent like no other on the weather. Yet, any legislation must be compatible with an economically viable system of production agriculture.

Thus, the NCFC cannot embrace any type of climate change legislation without better information and analysis of its effects on the entire US economy and, in particular, the agricultural sector. Any action by the US to effectively reduce its greenhouse gas (GHG) emissions in the aggregate, can only be sustained if they are undertaken by other nations around the world that are concurrently adopting equally significant reductions. Furthermore, the currently available analyses of the aggregate economic effects of US climate change legislative proposals, and the effects on both sectors of agriculture and individual producers, are far too indeterminate, unclear or uncertain for good policy to be made. We feel it unwise and irresponsible to enact mandatory GHG measures without a more complete and thorough understanding by all the major affected US parties as to what these changes would mean for their incomes, businesses, livelihoods and ways of life. We think it is also unwise to adopt such policies without establishing that US agriculture's overseas competitors are going to bear comparable costs as a result of their own nations' efforts to reduce GHG emissions; US agriculture's competitiveness in both domestic and export markets could be hurt significantly if this is not the case. In addition, any measures adopted to address these competitiveness concerns must also be WTO legal and not threaten possible retaliatory trade sanctions. Lastly, we are especially concerned about the cost implications of GHG legislation given the depths and extent of the nation's current economic crisis whose negative affects are all too immediate and from which we have yet to see a reprieve.

Our nation's top priority should be to get our fiscal house in order. As we do, NCFC would advocate for a voluntary, pro-growth, technology-driven approach to addressing climate change.

With respect to specific climate change policies, should one be enacted, NCFC is aware of the pros and cons of both a cap and trade approach and a carbon tax approach. The carbon tax approach seems attractive as it would give all participating parties certainty as to the exact size of the net tax and cost burdens that would be added to the bottom line.

On the negative side, a carbon tax program could prove difficult to implement in practice, as the tax code will need to reflect specific exemptions or deductions for specific GHG emission reduction practices that farmer cooperatives and their members could adopt to lower their tax burdens. This could prove enormously complex and difficult, adding great complications to the tax code. More analysis is needed to determine what, if any, taxation tools should be utilized to reduce GHG emissions.

A credit offsets program under a cap and trade system might offer the best set of incentives for farmers to continue to pursue production innovations and gain the market benefits as a result. For these reasons, a subset within NCFC would prefer a cap and trade system because of the potential for their farmer-owners to take advantage of a robust offset market, if one is established.

We must be mindful, however, that a cap and trade system will have winners and losers, in agriculture as in other areas of the economy. One problem that we foresee is that this system could aggravate the existing regional differences in agriculture, and lead to producers in one region of the country having a significant competitive advantage over those in another region.

At present, there are four farmer-owned cooperatives that refine petroleum. These cooperatives service 60 percent of the agricultural producers in the U.S. with petroleum products. Under cap and trade, there are considerable inequities in how the petroleum industry is treated. This subset of our membership is exploring a hybrid approach that would apply cap and trade to the "smokestack emissions" with an exemption or delay on the treatment of fuels in order to analyze fuel cost impacts on agriculture and rural America.

NCFC's membership is as broad and diverse, geographically and by commodity, as any agricultural trade association; the difficulty in reconciling the basic structure of what a program would look like, even within our membership, reflects the enormity of trying to find a system that will work for American agriculture as a whole.

Recognizing that a cap and trade approach is the predominant policy option under consideration in Congress today, and for purposes of simplicity, we orient all of our following answers in the context of cap and trade policy.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture, including all farmer-owned cooperatives, should not be a capped sector under a GHG reduction program, nor subject to performance standards for GHG emission guideline and reductions under Section 111 of the Clean Air Act. The federal costs to cap and regulate the nearly 2 million farming and ranching operations in the US relative to the GHG emission reductions that could be achieved would make such a proposal impractical, inefficient and highly cost ineffective.

US agriculture's GHG emissions from 1990 to 2005 have remained nearly constant, increasing by less than 0.5% since 1990, with both year-to-year increases and decreases occurring in that period. Over this same period, US fruit and vegetable production has increased by 9%, feed grains and oilseeds by 35%, red meat and poultry production has increased 40%, milk production has increased 20%, and egg production has increased about 33%, according to figures provided by the US Department of Agriculture (USDA) figures. US agriculture accounts for about 6.5% of all US GHG emissions, according to the latest inventory published by EPA last year. EPA also reports that agriculture can account for about 20% of the emission reductions or sequestration that occurs. It is far more sensible to allow agriculture to participate in the cap and trade program's voluntary offsets credit market. As noted above, a credit offsets program, with market-driven benefits that explicitly and directly reward innovation, would offer the best set of incentives for farmers to continue to pursue the same type of innovations as in the past that led to the sector's impressive GHG emissions record.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Allowances should be made available to capped emitters at little or no cost in the first several years of a cap and trade program. Electricity and other energy costs will go up under any cap and trade bill that sets allowances significantly lower than baseline levels, but the increases will be far more dramatic if those allowances are auctioned to emitters. Auctioning all carbon allowances at $20 per ton (as was assumed by OMB in the President's 2010 budget request), would increase electricity costs approximately 40 percent in Indiana, 30 percent in Kentucky, 20-25 percent in Ohio and 15 percent in the Carolinas. Producers and their cooperatives have far less opportunity than others in agriculture to recoup such increases in production costs through the sale of GHG offsets and would be disproportionately disadvantaged by allowances being auctioned off. For example, production costs would go up, and eventually such cost increases will lead to supply effects that will result in comparable retail price increases and potential loss of market competition, globally. We believe that the better approach is what was done under the 1990 Clean Air Act Amendments – where allowances to power plants for sulfur dioxide

emissions were distributed at little or no cost – and still cutting emissions by more than half. Even if GHG emission allowances are distributed to emitters for free, electric rates will still increase, but at far more reasonable levels and rates. Carbon emissions will still decrease at the same pace as under a 100 percent auction system.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Our members prefer a single national program rather than separate state or regional programs. Consistent with that preference, Congress should consider integrating any existing programs into a new federal program. One significant concern to our members with some of the existing carbon offset programs in operation today is that they fail to provide full value for all of the concrete, verifiable GHG reductions that some farmers can achieve. As such, we believe a new, national offsets program needs to be established with tiered pricing for offsets that reflect the higher degree of certainty around the actual offsets achieved by some practices, like methane capture and destruction, relative to other practices.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

We believe that the existing set of federal agencies in place today can develop and properly implement a cap and trade program. While EPA, in consultation with the relevant Cabinet agencies, should have responsibility for setting broad offset program objectives and standards, without question the details of the offsets programs for the relevant sectors should lie in their corresponding Cabinet agency. In the case of agriculture, that Cabinet agency is of course USDA.

Multiple USDA agencies in several different USDA mission areas will be needed to help develop and maintain the most sound and effective agricultural offsets program. But without question, only one single existing USDA agency should be used to manage the day-to-day details of the operation of agricultural offsets market. That agency should be in a direct line of supervision that runs up the chain of command into the Secretary's office, and an official in the Office of the Secretary (OSEC) should have the authority and responsibility to ensure that these cross-mission area contributions can be and are secured.

To ensure this line of authority into OSEC, we suggest that a new senior position be created in OSEC (perhaps an "Assistant Deputy Secretary for Climate") that reports to the Deputy Secretary and Secretary. This person, with the full delegated powers of the Deputy Secretary and Secretary, would have sufficient managerial authority over all USDA agency budgets and senior personnel performance appraisals to be able to ensure that all the needed cross mission area efforts are secured and those efforts properly coordinated.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Until the full scope and details of the cap and trade program are determined the designation of the appropriate regulatory oversight should not be predetermined. CFTC should retain oversight until such time that it is determined that a different regulatory approach is required due to the scope and details of the program.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

The key to appropriately functioning markets is transparency and liquidity. Recent history has demonstrated that these instruments are not self-regulating and yet innovation that facilitates liquidity can be stifled by excess regulation. The evolving market for derivatives related to carbon reduction will need to first grow with highly structured instruments and some flexible instruments on lightly regulated, transparent derivative markets. As the markets mature they can transition to a broader range of products but only with transparency and some degree of regulation to protect the integrity of the market.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Please see combined response to questions 8, 9, and 10 below.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Please see combined response to questions 8, 9, and 10 below.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

No one should underestimate the sacrifices that will be called for from citizens and business across multiple sectors and regions of the US economy, including the nation's rural areas, to achieve the real, meaningful GHG reductions called for by the President and certain leaders in Congress. Prices of electricity and petroleum products and other related key determinants of business and household expenses will go up, and for some more than others. The ability to generate offsets and earn credits notwithstanding, farmer cooperatives and their member-owners are very concerned about the potential that a carbon reduction program will result in higher energy costs and higher costs for construction materials and other inputs. For example, either a cap and trade system or a carbon tax likely would result in higher electrical costs for farmers served by rural electric cooperatives (which as a group generally are more dependent on coal). There also is a concern that a carbon reduction program may affect fertilizer manufacturing and result in higher fertilizer costs.

Some of our cooperatives will see higher increases in energy costs relative to other agricultural businesses in other parts of the country. Not all our members will be able to benefit to the same degree from carbon offset trading opportunities. Even where there are good value offset trading opportunities, there will be significant lead time for those to be realized in some farmers' cases relative to others, and that lead time will result in its own uncertainties and economic hardships.

As a general matter of principle, it is fair and appropriate for a substantial portion of the revenues created through the auction of GHG allocations to be used to reduce the level of sacrifice called for from those less able to bear it. Large sectors or regional portions of agriculture itself may be found to be bearing their own disproportionate share of the sacrifices needed to achieve national GHG reductions. These portions of agriculture itself should very well receive a share of the assistance provided from the revenues generated by the auctioning of allowances.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

We have no position on this question.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should be set by the market forces in operation in the offsets trading program. Part of the reason why the current voluntary program is not getting more

participation is because carbon prices are low. Prices are low because there is no well-defined program upon which to establish market value, resulting in low participation. The expectation is that a well-defined mandatory system would allow the market to actually determine market value with buyers and sellers understanding the rules. The belief is that a mandatory system will result in higher market prices for carbon. Our members have not considered the implication of carbon prices being too high. As for other commodity exchanges, it may be appropriate to set daily price change limits and position limits to ensure their orderly functioning, but the job for setting these limits should be that of the market operators working with the federal regulators and not by statute. In general, we believe there should be no artificial limit on how high or low a price carbon can reach ultimately.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The Europeans should have allowed row crops to participate. The Europeans set their caps for the capped sectors too high, and set the cost of allowances too low, and so there was too little value in the offsets market to create a thriving and effective credit trading system. The Europeans required direct verification of each GHG offset seller's GHG mitigation measures. This unnecessarily drove the transactions costs of the offsets program far too high for the amount of the carbon being offset and sought far too much certainty about the offset than is needed to provide systematic, real, high quality and good value carbon offsets. This verification standard therefore contributed significantly to the poor performance of the system.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Our members would strongly prefer that the foundation of this program be thriving and relatively high volume carbon offsets market. Bonus allowances for selected GHG emission reduction activities could be included as a companion and work in parallel to the offsets market. The first and most important need that should be addressed with any revenues generated by allowances allocated to USDA would be for transitional assistance to those operations not able to benefit from cap and trade for whatever reason, and are therefore bearing only the costs of GHG reduction in the US. Such funds could also be

used for research and development of further low cost GHG reducing or mitigating practices in agriculture.

If the intended meaning of the phrase "performance standards" is that meaning associated with the standards set in Section 111 of the Clean Air Act (CAA) and used to establish Title V CAA permit requirements, we thoroughly reject the use of performance standards in the GHG program. If a sector is not capped under the program, then those uncapped entities should be permitted to generate offset credits for sale to the emitters seeking the least cost solution to meet their capped emissions targets. Failure to adopt this offset approach simply raises the overall costs of the program to all participants.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No, as long as the offsets program can establish that the offsets being purchased are real and verifiable and that a tiered pricing system is used that assigns a higher price for those offsets with a lower degree of uncertainty as to the exact value of GHG reductions being achieved, as discussed above.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The distribution of the offsets, assuming they are real and verifiable, will be determined by the market facilitating the trades among willing sellers and buyers given the prevailing prices.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Please see combined response to questions 17, 18, 19 and 20 below.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Please see combined response to questions 17, 18, 19 and 20 below.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Please see combined response to questions 17, 18, 19 and 20 below.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

We assume that the term "offsets projects" as it is used here means simply offsets that are offered for sale by individuals or businesses. First, in terms of ensuring that the offsets being offered for sale can be "real", we believe the final cap and trade legislation should require that any offsets offered for sale have to be shown, under peer reviewed science utilized through standards established by public notice and comment rulemaking, to be real and achievable for the conditions at hand at the locations where the offsets are being generated.

Second, in terms of verifying that these potentially "real" offsets are in fact being achieved through the appropriate application of the peer-reviewed practices and given the actual conditions at hand, we believe it is sufficient to use a statistically rigorous third part audit system of some sample of the population of offsets being offered, or perhaps of some subcategory of the offsets. Farmer-owned cooperatives could serve as part of the pool of third party verifiers under this sample-based review system.

Relative to the subcategory sampling approach, we believe this verification process must provide for even more rigorous third party audit techniques for those offset providers in a certain subcategory that wish to bear the higher audit costs in order to establish that their offsets have a higher degree of certainty as to the exact quantity of GHG reductions being achieved for that class of offsets. This would allow these providers to be eligible to a higher price in the credits market for these "higher quality credits."

Each and every offset being offered for sale does not need to be verified by third party audit. Such a system would increase the transactions cost of the program more than needed to give the sufficient degree of certainty across classes of offsets, or the entire offsets program, that real and verifiable offsets are in fact being achieved.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

We are unclear what you are referring to in this question with respect to a "relationship between offsets and allowances." If our response to this question does not capture what you intended, please do not hesitate to contact us so we can respond appropriately.

Under a cap-and-trade system, two separate markets should exist; a market for offsets and a market for allowances. However, there will be a tendency for the two markets to have like movements as the allowance prices and offset prices will have significant effects on each other. As we have indicated in previous responses (refer to question 3), we are advocating that allowances should be made available to capped emitters at little or no cost in the first several years of a cap and trade program. We recognize this could depress offset prices in the early years but that is a trade-off we are willing to make in order to lessen the shock of

increased electricity and other energy costs on farmer cooperatives and the member owners. Over time, the number of allowances would reduce and/or the price paid for allowances would increase thereby increasing the market price of offsets and spurring greater offsets and offsets market activity. It is beyond our organization's capabilities today to do the analysis needed to determine exactly how to strike the ultimate balance among the cost of allowances, the price of offsets, a strong supply of offsets and a robust offsets market. For the first several years, though, the need for no-cost allowances to minimize the energy price shocks takes precedence over finding this long term balance.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The most important factor in establishing the permanence and duration of offsets while still preserving sufficient flexibility in the contracts is simply making the selling party fully responsible under their contract for ensuring the integrity of the offset relative to circumstances that are under the control of the seller. If for some reason under the control of the seller the offset is no longer being provided, the seller should be legally obligated to secure the equivalent value of offsets at the seller's cost and give those to the purchasing party.

The length of the contract should be at least 3 years to find the right balance of transactions cost per trade while increasing the general sense of confidence in the permanence of the reductions to be achieved by the overall program. Longer contracts can be allowed and encouraged between willing parties, again to lower further the transactions costs per trade, but that is a decision between the contracting parties. Longer contract periods imply more risk for the seller, and should result in a higher price received for the offsets.

Accidents and equipment failure would be the responsibility of the seller, and they should either self-insure for such contingencies, or purchase insurance where available.

Examples of circumstances not under the control of the producer-seller would include natural disasters (major flooding or other large storm events, drought, wildfire), or policy decisions by governmental entities that affect agriculture and land use (such as restrictions on the availability of irrigation water).

Peer-reviewed research that meets standards set by the notice and comment rulemaking process should be used to establish the probability of such major natural disasters and their potential impacts on the resulting GHG emissions for the different classes of offsets being offered. Such risk information could be used in different ways, including the creating of different risk premiums charged to each trade in different offset classes, where the funds collected by those premiums are used to purchase other diversified offsets that hedge against the risks of catastrophic failure in the system. Society as a whole should also bear some of this catastrophic risk in the form of higher than anticipated GHG emissions as a realistic cost of doing business in an uncertain world where perfect hedges are simply uneconomical or impossible.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Please see combined response to questions 23, 24, and 25 below.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Please see combined response to questions 23, 24, and 25 below.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Existing offset commitments in pre-existing voluntary markets must be eligible for participation in the new cap and trade program, but to do so they must:

- Be able to meet the new standards and contractual obligations;
- Require ongoing actions by the offset seller to ensure that offsets will continue to occur; and
- Only be paid for the future offsets that occur as a result of these ongoing actions, and not for offsets that occurred in the past.

Stacking credits should be allowed in the case where, in addition to the water, air or habitat benefits from a landowner's participation in a federal assistance program designed and implemented for such purpose, also provide GHG benefits. The same is true if there is an environmental credit market (as distinct from a federal financial assistance program) that trades in these other non-GHG benefits. More farmers will be able to generate more offset credits than would otherwise occur, helping the climate and other aspects of the environment.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Please see the answer to question 22.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Fewer rather than more protocol and procedural details should be set in legislation, with the majority being left to proper notice and comment rulemaking, provided there is continual and effective oversight from the Congressional Committee's of jurisdiction.

Relative to the agencies that should manage the programs, please see our answer to question 5.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less

The primary obstacle at this point in time is that carbon credits are undervalued relative to the costs of many of these sound and verifiable practices that establish real offsets. The creation of hard caps for the emitting sectors that are set low enough to achieve the GHG objectives as recommended by the President and some in Congress should remedy this particular problem. Further, the cap and trade program will need to establish well-defined credit trading markets with all parties' obligations clearly defined (including the risks of failure to meet contractual obligations due to circumstances under and beyond the contracting parties' control), and where the transaction and verification costs are kept to the lowest level possible while still providing for sound trades of real value.

Furthermore, farmers that are aggressively adopting GHG emission reduction practices are adding costs to their operations not likely being borne by their domestic and overseas competitors, and not only is that hurting the economic sustainability of their operations, it simply shifts GHG emissions from their farms to their competitors, the effect commonly referred to as "leakage."

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No, they do not. Higher levels of compensation for the costs of these practices and technologies are needed by producers to increase their adoption and ensure their long term maintenance and value. Congress could increase the financial incentives in these programs to achieve these ends, but the federal government would also incur significantly higher costs of overseeing these financial assistance agreements to provide the certainty that these GHG emission reductions are really taking place. Alternatively, allowing for the stacking

of the value of these existing programs onto that provided by the GHG offsets trading market will also lead to more widespread adoption and greater long term certainty as to the size of offset being created. But under this alternate approach, the necessary costs to ensure the integrity of the commitments and trades will fall to the market, where there will be clearer and more effective incentives to drive the costs of verification and risk management to their lowest levels possible. For a given level of GHG reduction, these integrity and verification costs will be lower under the market based trading system than under a federal financial assistance program. Furthermore, using this market-based system for GHG offset credit trading will do a better job of ensuring that the level of GHG reductions actually taking place match that level needed to achieve the program's objectives, given that the market value of the GHG credits will adjust automatically as the market functions to match supply with the regulatory-driven level of aggregate demand.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

As indicated in our responses to questions 1 and 28, the issue of leakage is a very real concern for farmer cooperatives trying to keep up with domestic and international competition. Farmer cooperatives market a wide range of commodities and value added products, some of which are produced under energy-intensive circumstances while others may be import-sensitive or rely on a strong export market. If the only recourse is to pass along increased costs to the consumer in the form of higher priced goods, we will lose our competitive edge in the global market place.

Furthermore, those agricultural products with the least opportunity to participate in an offset market will have the highest sensitivity to competition from international competitors not subject to emissions reductions standards. For example, the biggest competition US specialty crop producers face comes from Central and South America. Legislation should not give overseas producers an unfair competitive advantage due to the fact that they do not have to comply with emissions reduction goals.

Under a cap-and-trade system, industries in countries that are not subject to what is required in the U.S. would have a competitive advantage. Jobs, businesses, and productivity would flow overseas, but so would emissions. To address this, all major international parties must take on comparable carbon policies.

With respect to biofuels incentives, NCFC supports an energy policy that maximizes a role in energy independence for American agriculture and farmer cooperatives.

Farmer cooperatives are vital players in this country's quest for energy independence and in ensuring that producers are able to capitalize on expanded market opportunities. Ethanol, biodiesel, and manure conversion, along with conservation, are important tools in securing a more affordable and accessible domestic renewable energy supply.

NCFC encourages passage of a comprehensive energy bill that recognizes the contributions of the American farmer and rancher in the renewable energy industry to meet the needs of U.S. agriculture and our nation. NCFC promotes expanded development and use of renewable fuels and other energy sources as part of a competitive energy policy to help meet U.S. agriculture and our nation's energy needs. We continue to be a strong proponent of policies that promote the use manure as a feedstock to produce gas, fuel, or electricity. We also support continued extension of renewable fuels tax incentives and other provisions encouraging production of renewable fuels.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)*	**Ability** *to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)*	**Cost** *for agricultural producers and private forestland owners to implement (High, Medium, Low)*	**Capacity** *of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations*** *(e.g.* ***manure management, grazing/pastureland practices****)* that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)*	**Ability** *to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)*	**Cost** *for agricultural producers and private forestland owners to implement (High, Medium, Low)*	**Capacity** *of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)*
Methane Digester	Excellent	Excellent	High	Low
Methane Capture (by covering lagoons)	Excellent	Good	Low	Medium
Enteric management (animal feed/ration)	Good	Moderate	Medium	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)*	**Ability** *to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)*	**Cost** *for agricultural producers and private forestland owners to implement (High, Medium, Low)*	**Capacity** *of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)*
No-till	Moderate	Moderate	Medium	Low to medium, varies by region
Substitution of manure for commercial fertilizer	Excellent	Excellent to Good	Low	High
Improvements in conservation measures associated with manure applications to reduce N2O emissions either from the field or from nitrogen in runoff off of cropland.	Excellent	Good	Low to medium	High

NATIONAL COUNCIL OF FARMER COOPERATIVES

April 10, 2009

The Honorable Collin Peterson
Chairman
Committee on Agriculture
U.S. House of Representatives
1301 Longworth House Office Building
Washington, DC 20515

Dear Chairman Peterson:

On behalf of the more than two million farmers and ranchers who belong to one or more farmer cooperative(s), the National Council of Farmer Cooperatives (NCFC) applauds your efforts to examine both the positive and negative impacts that climate change legislation may have on farms, small businesses, farmer cooperatives and families across rural America.

Since 1929, NCFC has been the voice of America's farmer cooperatives. Our members are regional and national farmer cooperatives, which are in turn composed of nearly 3,000 local farmer cooperatives across the country. NCFC members also include 27 state and regional councils of cooperatives. NCFC is unique in Washington as the only national organization devoted solely to promoting, protecting and advancing the interests of farmer cooperatives and their owner-members.

NCFC values farmer ownership and control in the production and distribution chain; the economic viability of farmers and the businesses they own; stewardship of natural resources; and vibrant rural communities. We have an extremely diverse membership, which we view as one of our sources of strength – our members span the country, supply nearly any agricultural input imaginable, provide credit and related financial services (including export financing), and market a wide range of commodities and value added products. Earnings from these activities are returned to their farmer members on a patronage basis, helping to improve their income from the marketplace. These earnings are then recycled through rural communities as farmers and ranchers purchase goods and services from local businesses, thereby sustaining rural America.

In Congress, it seems the debate over global warming has evolved from a discussion over whether climate change is occurring to one of how the world can reduce greenhouse gas emissions without stalling economic growth. So, the question arises: Will agriculture be better off, or worse? Farmers in the field, agribusiness executives in the boardroom, and trade association leadership in Washington are all asking these questions.

Right now, policy proposals are being discussed – by lawmakers, regulators, academics and non-governmental organizations – that could shape how agriculture's contributions for reducing greenhouse gases are counted. As you have said on a number of occasions, all sectors of the agricultural economy, but especially producers, must be involved in this process to ensure that any

incentives are aligned with the economic interests of farmers and ranchers. Scientists and policy makers are looking at things from the strategic, 30,000 foot view. Involvement by producers and producer organizations can guide the process to develop a system that can be implemented on the farm level, and can answer basic questions that a producer might have, such as, "What happens to a carbon credit when I sell my land?"

In addition, involvement will be important to ensure that any costs associated with increased carbon reduction are offset by benefits in the marketplace. We have to take a real look at the additional costs that the legislation could impose on farm and household budgets across rural America. Most importantly, any legislation has to work for both individual producers and the cooperatives that they own.

For example, there are four farmer-owned cooperatives that refine petroleum. These cooperatives service 60 percent of the producers in the U.S. with petroleum products. Any approach to reducing greenhouse gas emissions must prevent significant problems to the rural based small business refiners fueling rural communities and agriculture. To avoid potential harm to small refiners, a hybrid approach may work best and our members are exploring their options in this regard. At the same time, dairy cooperatives are examining the potential benefits their producers might access under a straight cap and trade system. These are just two examples that demonstrate the complexity of this issue, highlighting the fact that a one-sized-fits-all approach poses difficulties just within the agricultural sector.

As with any difficult issue, farmers, ranchers and the wider agricultural community still have a lot to learn about this subject. A number of important issues remain outstanding, and even the basic structure of what a program would look like or how to reconcile U.S. standards with those overseas have not been settled on. For these reasons, NCFC recently began a series of briefings to bring together representatives from a broad range of agricultural and farm organizations to discuss the real world costs that climate legislation will impose on farms, cooperatives and rural households across America. Our first briefing surveyed recent analyses on the potential impacts producers might face as a result of increased input costs. Future sessions will look at commodity specific impacts as well as opportunities provided in a cap-and-trade system, and how legislation might affect the transportation infrastructure and agricultural trade.

As all of us in agriculture continue to explore how this issue will impact our businesses, we must keep the focus both on how the sector can contribute towards the greater good while maintaining the competitiveness needed to thrive in a global economy.

Again, thank you for your thoughtful leadership on this important issue. NCFC looks forward to working with you to improve climate change legislation so that it recognizes the importance and unique nature of production agriculture.

Sincerely,

Charles F. Conner
President and CEO

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL FARMERS UNION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Roger Johnson

Organization(s) you represent

National Farmers Union

Address

[Redacted]

Email

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

While there are a number of other mechanisms available to Congress to reduce greenhouse gas emissions (GHG) including setting limits on significant GHG emitters (similar to mechanisms in the Clean Water Act) or imposing a national tax on carbon, the flexibility of a cap-and-trade program holds the most promise in making actual reductions in GHG emissions while minimizing, to the extent possible, overall energy costs increases resulting from climate legislation.

Specifically focusing on agriculture, a cap-and-trade program with a properly crafted agricultural offset program provides farmers and ranchers a means to contribute to overall GHG emission reductions through carbon sequestration and reduction of emissions from livestock projects. These projects could be meaningful revenue streams for producers who will experience some increase in agricultural input costs.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

No, agriculture and forestry sectors should not be subject to an emissions cap as they are too small and diffuse to be directly regulated. The lion's share of the United States' two million farms and ranches emit minor quantities of GHG emissions (below 25,000 tons/year). Establishing a regulator scheme to capture emissions from each of these two million farms would be extremely costly and burdensome and not yield significant GHG emission reductions.

It also is important to note that the energy-related GHG emissions from the agricultural sector would be regulated upstream at the fuel supplier, electric utility or large industrial level. Farmers and ranchers will feel the impact of this regulation by paying higher input costs.

Instead, mechanisms should be put in place allowing agriculture to generate offset credits that can be sold to regulated entities by implementing practices that will help the nation more quickly reduce GHGs. For example, current estimates from the Environmental Protection Agency suggest that current carbon sequestration on agricultural lands offset one percent of all U.S. GHG emissions, but has the potential to capture the equivalent of 20 percent of all U.S. GHG emissions.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

The distribution of emission allowances will be extremely important to the ultimate viability of a national cap-and-trade program. The majority of emission allowances should be auctioned by the federal government with the revenue generated used to mitigate the cost of a cap-and-trade program on impacted parties and foster the development of renewable, low-carbon energy sources.

A portion of the allowances should be given away for free to critical sectors of the economy to reduce overall transition costs as well as to provide economic incentives to drive further carbon reductions.

For example, providing a percentage of overall allowances to the agricultural sector as proposed in the 2008 Lieberman-Warner climate change bill provides important tools and flexibility for agriculture producers to implement activities that provide GHG benefits but may not technically fall within the scope of an offset program. A program that provides for both offset credits and set-aside allowances will give farmers and ranchers the flexibility to participate in different levels of documentation which will maximize participation and environmental benefits given that agricultural offsets provide the easiest and most readily available means of reducing GHG emissions on a meaningful scale. Allowances can also be used to address early actors who were sequestering carbon before the program was enacted.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

NFU is the largest aggregator of agriculture carbon credits on the Chicago Climate Exchange (CCX) and has learned valuable lessons on how to properly construct a cap-and-trade program. The CCX program has developed standardized trading instruments and workable protocols for aggregation, registration, and sale of agricultural and forestry offsets.

All existing rules-based and independently verified projects implemented under existing programs, such as CCX, should be integrated into the federal program to serve several important policy objects. Specifically, incorporating existing projects will prevent potential backsliding as well as continue to encourage agriculture offset projects while a federal program is being debated, enacted, and implemented.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

Expertise for various components of a cap-and-trade program lies within different administrative and independent agencies. Legislation should build upon this expertise and provide independent authority to USDA, CFTC and EPA for specific portions of the program.

NFU believes it is vital for USDA to promulgate the rules and administer the agricultural offset program. USDA has the statutory authority in the 2008 Farm Bill, the technical expertise and institutional resources necessary to create and administer any offset program. USDA can leverage its experience working with farmers in addition to its technical expertise modeling and measuring farming practices ability to sequester carbon and promote appropriate manure management practices, to ensure maximum participation in the agricultural community.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

CFTC currently has authority to regulate the derivative carbon market. Under a cap-and-trade program, trading of carbon offsets will most closely mirror the trading of other agricultural commodities that CFTC currently regulates. Given this and to ensure regulatory consistency of commodity trading, it is appropriate for CFTC to continue its role as regulator of the carbon market.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

Given the creation of a whole new marketable commodity in carbon offsets, transparency must be the overarching goal to ensure confidence among market participants, agricultural producers and the general public. Because of this fact, the majority of carbon should be traded through a transparent market accessible to everyone.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Enactment of any policy regulating GHG emissions (whether a carbon tax or cap-and-trade) will raise the price of using fossil fuels such as coal and oil, and of consuming goods and services that directly or indirectly produce GHG emissions. These higher prices will be felt throughout the economy, but will eventually be passed on to end users.

That said, failing to reduce GHG emissions also poses significant economic impacts on agriculture and populations whose welfare is of special interest to the agricultural community. Studies of climate change scenarios show increased frequency of heat stress, droughts and flooding events that will reduce crop yield and livestock productivity. Studies indicate a global increase of 5.5 degrees Celsius could lead to food price increases of 30 percent.

The use of revenues from the auction of emission allowances and providing a percentage of emission allowance to impacted sectors can mitigate increased costs of a cap-and-trade program.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenue generated from the sale of emission allowances should be used on several strategic fronts to minimize impacts of regulation, help with adaption to potential impacts of a warming climate, and foster the development of renewable, low-carbon alternative energy sources in the United States.

Funds should be used to promote renewable energy development, create green jobs, assist low-income consumers, help industries impacted by warming climates adapt, reward early actors and research new ways to better capture carbon emissions.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

In the short term, transitional assistance can be a valuable tool in helping smooth the path toward a carbon constrained economy while minimizing the impacts felt throughout the economy.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

As with private agricultural lands, there is significant potential for carbon sequestration and emission reductions on public lands. Federally-owned grazing and forest lands have the potential to sequester millions of tons of carbon annually. Any program should

provide economic incentives for United States Forest Service and Bureau of Land Management lessees to adopt carbon practices on these public lands.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

In order to drive innovation necessary to reduce GHG emissions in the long-term, the price of carbon credits must be properly valued in the marketplace to foster the research, development and implementation of new technologies. An artificial cap on the price of carbon potentially stifles this innovation. Therefore, we believe that there should not be an artificial legislative cap on the value of carbon credits.

Instead, legislation could include provisions allowing the federal government, under tightly crafted conditions, to adjust yearly reduction targets or allow for the use of additional offset projects as a means to control significant adverse impacts on the economy.

That said, it is important that any safety-valve provided to moderate costs not undermine the financing of long-term carbon reduction projects that require price certainty. Depending upon the scope of safety-valve authority, Congress should also evaluate the establishment of a floor price for carbon prices to ensure continued investment.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

While the European system has shown it is possible to develop a functional carbon trading program, its exclusion of agricultural offsets illustrates a significant weakness in the European system. Agricultural offsets provide the easiest and most readily available means of reducing GHG emissions on a meaningful scale in the United States. Inclusion of a robust agricultural offset program will ensure that the growing pains in the European system are not replicated here.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Because agriculture and forestry lands have the potential to sequester nearly one-quarter of all annual greenhouse gas emissions in the United States, it is critical that a flexible program is developed that ensures maximum voluntary participation by the agricultural community.

Any program should include a voluntary offset program that allows farmers and ranchers to generate offset credits by implementing practices that sequester or reduce GHG emissions. These offset credits are in addition to emission allowances provided under the cap-and-trade program. Farmers and ranchers, who are willing to work through the requirements to demonstrate GHG sequestration and/or reduction under the legislation, should be able to sell these credits to regulated entities at a fair market price.

As a complement to this program, cap-and-trade legislation could set aside a portion of the total emission allowances created in the bill to be used to provide economic incentives for agricultural practices that have proven GHG benefits. Unlike offset credits, which are credits generated in addition to the overall cap on GHG emissions allowing regulated entities to use credits to exceed their yearly limits, emission allowances would be set aside under the overall cap which would result in overall emissions staying below the yearly cap. This allows for more flexible rules for demonstrating emission reductions. This would allow farmers and ranchers who are not comfortable participating in the full offset program to still receive some economic incentive to implement GHG sequestration and emission reduction practices.

Given the importance of maximizing agricultural offset reductions to overall climate change goals, this policy would ensure maximum farmer participation.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

No, our goal should be to remove as much GHG from the atmosphere as possible. Artificial caps are market distorting and will prevent legitimate carbon sequestration, livestock manure capture and gasification projects from occurring.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Assuming there is no artificial cap on offsets, there is no need to provide distribution lists of who can generate offset credits. With regard to those who wish to purchase offset

credits, they should have to purchase credits for prevailing market prices as sold on exchanges.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Congress should look to protocols at existing voluntary carbon reduction programs in developing measurement and accounting protocols for a federal cap-and-trade program. Protocols exist to ensure that offset are measurable and verifiable.

For example, the Chicago Climate Exchange requires independent verification of projects to ensure the integrity of its system. A protocol exists to become an independent verifier, who then evaluate project information and provide on-site inspection to ensure the project adheres to the CCX project protocols, as well as determine the annual GHG mitigation levels.

In addition, USDA and several land grant universities have done extensive work on measurement, monitoring and verification. USDA should draw from these resources in crafting rules for measuring and verifying offset projects.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

All projects that are certified as meeting the criteria established above should be deemed qualified offset projects under a cap-and-trade program.

Legislation should include a non-exhaustive list of project types that are automatically allowed under a cap-and-trade program as well as authority for USDA to include additional offset projects as technology and understanding develop.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Offset projects should be verified through a private, independent, third-party verification system. Third-party verifies would use information provided by the project owner or aggregator to accurately assess a project's actual, annual GHG sequestration or destruction. This approach was adopted by Congress in the 2008 Farm Bill Environmental Services Markets provisions.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

Legislation should include both options. Pre-calculated values for projects meeting certain requirements will reduce bureaucracy that would add time and expense to offset projects and potentially stifle agricultural participation.

That said, farmers and ranchers who are willing to undertake additional monitoring and verification testing to establish more refined measurements should be rewarded in the value of their credit. Additionally, as new technologies develop, project based valuation may initially be necessary to accurately value the offset projects.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Assuming that legislation is crafted that includes an offset program in addition to setting aside a certain percentage of allowances to incent carbon reduction practices, farmers and ranchers should be required to choose between the benefits of the offset program or the emission allowance program. In short, the legislation should not allow the same practice to benefit under both programs. However, allowance revenue should also be used to mitigate any potential input increases.

Regulated entities should be allowed to meet their emission cap through a combination of emission allowances and offset credits. There should not be an artificial cap on the number of offset credits that a regulated entity can use on a yearly basis to meet its obligation.

Additionally, the government needs to continually monitor the overall GHG cap to ensure that it is keeping pace with technological development. As technology improves to help regulated entities actually reduce their emissions, the number of emission allowances issued by the government on a yearly basis may need to be further reduced.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

How the issue of permanence is addressed will have a profound impact on the amount of farmer and rancher participation in a offset program. Requiring agreements assigning a permanent obligation on the behalf of farmers and ranchers will significantly reduce interest in participating in the program.

The issue of permanence of GHG emission reductions can be addressed by establishing contract lengths for offset projects. For example, CCX's current offset protocols require a five-year agreement to the sequestering practice. Purchasers of the credit will have to replace it after that time frame. Legislation could include varying valuation rates based on a farmer or ranchers willingness to agree to longer contract terms.

Requiring offset aggregators to establish reserve pool of 20% of offsets registered annually to be used to cover any loss of soil or biomass carbon that may occur during the life of the contract will further ensure compliance of offset projects.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing offset projects and credits established through voluntary markets like the CCX should be grandfathered in to any federal cap-and-trade program at full value.

For example, CCX registered offsets rely on a fully transparent set of protocols, extensive third party verification, and crediting rates based on sound science. In addition, all the financial transaction resulting from the registration of these offsets are cleared by the Financial Industry Regulatory Authority. Any offset credit registered on an exchange that meets this level of verification should receive similar treatment.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

The basic concept of additionality is that a project or activity should receive credit under a cap-and-trade program to the extent that it generates benefits that are in addition to what would have occurred absent the project. Under this construct, it is possible to establish existing baseline activities and measure a project against that baseline.

That said, some would like to take the concept of additionality further to significantly limit what projects would be eligible under a cap-and-trade program. Under the concept of regulatory additionality, practices that would have occurred due to a pre-existing law or regulation would not qualify. It has also been suggested that if a practice is common practice in a given geographical area that adoption of these practices by someone who has not yet adopted them be excluded. Further, it has been suggested that those who have implemented similar practices in the past or on part of their operation should be excluded from generating offset credit for new projects.

Implementing additionality requirements in this manner create serious policy pitfalls that will limit participation. If the goal is to maximize the number of agricultural practices that capture or reduce GHG emissions, adopting such a perverse definition of additionality will exclude real projects that offer real reductions.

Farmers and ranchers who are early adopters of technology should be eligible to receive benefits through an emission allowance program as well as be able to generate offset credits for GHG sequestration activities and/or emission reductions on a moving forward basis. Additionality should be measured against a fixed baseline of what practices where

being used on a specific piece of land on a specific date. Any activity that results in GHG reductions measured against that baseline should be deemed eligible.

Some also argue that a project should not be considered additional if the rationale behind implementing the action includes additional justifications beyond a cap-and-trade program. They argue, therefore, offset projects should not be able to stack other benefits on top. Many practices undertaken to reduce GHG emissions provide additional public benefits to water quality, wildlife habitat, and reduction of soil erosions. Projects participating in the GHG offset market should not be excluded from also participating in other markets for environmental services.

Allowing farmers and ranchers to stack credits will maximize economic benefit to producers which will mean more projects are undertaken and more environmental good is accomplished.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Projects that are undertaken voluntarily and receive state or federal assistance (such as cost share or technical assistance) should not be arbitrarily excluded from qualifying as an offset project as long as they meet the requirements as offset projects established by USDA. Doing so only stifles participation and creates unnecessary conflicts between federal and state programs.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

If a producer intentionally violates the terms of an offset agreement, he/she should be held liable. Establishing a carbon reserve pool would allow for efficient means to address any intentional reversal of an offset project. Under NFU's Carbon Credit Program, per the standards/protocols of CCX, 20 percent of each producer's tons earned are placed in a carbon bank operated by CCX that is to be paid in a lump sum at the end of the contract. Additionally, penalties are assessed for early termination of the contractual obligations.

The possibility of natural disasters or other uncontrolled events are not within the hands of the agricultural producer and should be dealt with through the valuation of the credits. Anthropogenic and non-anthropogenic emissions should be decoupled ensuring participants are not penalized for natural or biological events such as droughts, fire and variable rainfall.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop

regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

USDA should be given sufficient instruction in legislation to ensure that the rules reflect congressional intent regarding the workings of an effective offset program. Legislation should include an initial non-exhaustive list of projects that are eligible under the program as well as clear definitions of what is meant by additionality, permanence, and leakage. If USDA is not given explicit authority to administer the agricultural offset program, Congress should provide very detailed guidance and directive to the administering agency to ensure broad participation.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

In large part, economics plays a significant role in implementing new practices and technologies. From an agricultural producer's perspective, investing in technologies and practices will be done if it is more economical than the alternative with regard to upfront costs and productivity output.

Given this, it is imperative that any legislation include strong, durable economic incentives that farmers can consistently rely on when making decisions to adopt new practices and technologies.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Existing conservation programs were not intended to provide incentives for carbon sequestration or emissions reductions. They have been implemented to reduce erosion, improve water quality, ensure wildlife habitat and preserve farmland. In addition to a properly crafted cap-and-trade program, conservation programs that pay farmers per ton of GHG sequestered or emissions reduced would help foster the adoption of new practices.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL GRAIN AND FEED ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Dr. Kendell W. Keith

Organization(s) you represent

National Grain and Feed Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President of the National Grain and Feed Association

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A key element to any carbon reduction program will be to minimize negative impacts on the stability and predictability of markets and the cost of doing business. As we have witnessed during last year's run up in commodity and energy prices, volatility in markets can have a severe limiting impact on the grain, feed and grain processing industry's ability to pursue new opportunities for growth and improvement in the competitiveness of U.S. agriculture. Whatever the makeup of the final program, it must not negate the competitive advantages in technology, transportation and infrastructure enjoyed by U.S. agriculture. The global marketplace is highly competitive and margins are small so any new costs incurred unilaterally within the U.S. have the potential to negatively impact market share for all U.S. crop exports. It also could make U.S. commodities less competitive even in domestic markets.

A primary concern is that legislation may create a program that – if not fully vetted and examined for all its consequences – could have the potential to increase costs, straining small business and providing few, if any, real net benefits in reducing carbon. Given the current fragile economic condition of the U.S. and global economies, it would be ill advised to implement a program that represents a fundamental change in the nation's economic foundation. A fundamental hallmark of the U.S. is to foster a free market economic system that rewards hard work and innovation. As federal policymakers embark upon a massive undertaking to re-engineer the economy, it is important to take a comprehensive approach that strives to enhance economic opportunity while promoting identifiable and measurable benefits of reducing carbon emissions.

A hybrid of approaches may allow for the greatest flexibility in meeting the challenges associated with reducing carbon emissions. But it is imperative that any approach be cost-effective, maintain the competitiveness of U.S. industry, be predictable, allow for sufficient transitioning, offer verifiable results and be conducted in concert with similar efforts by our key foreign competitors.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

While the NGFA believes most grain elevators and feed mill facilities are unlikely to reach the minimal thresholds that would trigger a requirement to reduce emissions or purchase credits, these particular sectors should not be covered under a carbon reduction program. These agricultural businesses on which U.S. farmers depend already confront increasing electricity and transportation costs that would be further exacerbated if they were subjected to carbon-emission

limits or a requirement to purchase credits, potentially increasing food costs or further depressing farmgate prices. Ensuring that these types of facilities are exempted, or could earn credits through carbon-reducing practices, would assist in limiting the overall impact of increased prices to consumers or reduced prices to agricultural producers.

In addition, the cost of handling grain already has increased dramatically, which can negatively affect the prices farmers receive for their products. Additional financing costs and increased market volatility also limit the availability of additional risk-management tools that producers use to maximize the value of their crops. Limiting the overall exposure of grain, feed and grain processing facilities will at least reduce some of the expected cost burden on the industry and those it services.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

   Please respond in 600 words or less.

The NGFA believes there will be a number of negative impacts on various sectors of U.S. agriculture, such as:

Transportation Costs: Grain and oilseed handlers are major users of all modes of transportation. Grain and oilseed production tends to be concentrated in lighter population density areas, requiring the transport of those bulk products considerable distances to various processing facilities and to export terminal elevators at the nation's ports. Agricultural shippers utilize rail and barge transportation when and where available and economically feasible, but trucking remains a critical component in getting these products to market. In many production areas, transportation choices are extremely limited and costs incurred by refiners will be passed back to the shipper and in the case of most agricultural products passed back to the farmer. Given U.S. agriculture's reliance upon efficient, cost-effective and timely transportation across all modes, any increases in these costs will directly and adversely affect the U.S. farmer's ability to compete with their global counterparts.

Power Costs: While relatively small compared to other users of electricity, power usage by grain handling facilities, feed mills and grain processing plants does represent a significant cost of operations. A study conducted by Oklahoma State University estimated that electricity costs for grain handlers has increased by 19 percent over the past five years, and is expected to continue to increase. These increases, coupled with dramatic increases in the overall cost of handling grain and oilseeds attributable to commodity prices and other factors, have made it more of a challenge than ever to effectively price grain and give the industry the confidence to offer a wide range of risk-management tools to assist producers. Policy decisions that offer the potential for even greater increases in the variable cost for elevators will push them to scale back on potential growth opportunities and at least in some cases force them into uneconomical operations – causing them to sell off to competitors or shutter their operations. That will

exacerbate concentration in agribusiness and potentially disrupt the livelihood of rural communities.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less

A measured and incremental approach to implementation is preferred to give businesses the opportunity to efficiently adjust to new programs and costs.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

The NGFA mission statement underscores our commitment to encouraging a free market approach. However, if implemented, the carbon reduction program will represent an artificial market created by the government which also would create an artificial shortage of available credits. Given the massive government interference in the marketplace by capping carbon emissions, we believe it would be necessary to cap prices at least through a transitional period and potentially for the long term to ensure that the costs of the credits, which will be passed back through the system, are limited to a reasonable level and are not allowed to spike so high as to contribute to further volatility for the grain and feed industry.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The NGFA believes that implications on the production of food and fuel crops must be included in the criteria for assessing offsets. While converting cropland to range or grassland may provide a limited benefit in the overall reduction of carbon emissions, far outweighing that benefit is the impact on local rural communities of less economic activity, as well as the impact on global supplies of fundamental food and fuel commodities. Offset projects must be assessed not just for carbon-reduction benefit, but for potential negative economic impacts. This will help project administrators understand which projects meet a balanced criteria that appropriately weighs economic and environmental factors.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

There are two additional issues the NGFA would like to bring to the attention of the Committee: 1) potential incentives to idle additional productive cropland acres; and 2) international implications of a potential carbon-reduction program.

We are concerned that potential legislation would provide an incentive for the conversion of cropland to rangeland or grassland in exchange for tradable carbon credits. The U.S. government already operates a large-scale land-idling program that idles more than 34 million acres through 10-15 year contracts. Potential incentives that further erode the available acreage base for food and fuel crops could have a significant negative impact on the availability of both. For these reasons, the NGFA will not support a program that undermines the assurance that there will be adequate acreage to continue to produce a safe and abundant food supply for world consumers and to capture opportunities presented by the growth in biofuels.

This type of provision could encourage producers or landowners to take productive land out of agricultural use and sell it as credits, rather than continue agricultural production using improved conservation techniques and ensuring sufficient food and biofuels availability. While U.S. stocks have rebounded, global supplies of major commodities are at or near record lows. Such a program could inadvertently turn into a lucrative retirement program for both landowners and fertile productive farmland that is needed to feed the world.

Further idling of productive resources, while harmful to U.S. agricultural competitiveness, also can be a particular burden on young farmers and ranchers trying to build an economically sized operation. These producers, in particular, can find it difficult to compete with government programs that provide economic incentives to idle land rather than rent or sell those acres. We want to make sure that the design of any program will not allow for nor encourage large coal-fired power generators and other carbon emitters to buy large tracts of farm acreage, taking it out of production, and then converting it to rangeland and using the credits so they can continue to emit greenhouse gases.

Importantly, significant portions of the most environmentally sensitive agricultural lands already are enrolled in USDA's Conservation Reserve Program. It is imperative that any carbon-reduction program avoid additional cropland acres being idled.

There are a number of implications globally if a carbon reduction program is implemented in the U.S. Most critical to the competitiveness of U.S. agricultural products is their ability to compete on a level playing field with competitors, particularly in the growing regions of South America and the Black Sea. Both have become increasingly competitive across a number of agricultural products and also are not currently governed by any type of carbon-reduction scheme. While a potential carbon tariff has been floated as a possible "stick" to administer against those without such as regime who export to the U.S., it will have no impact on those with whom we are

competing for global market share. Such a punitive tariff also would raise the specter of triggering retaliation by our trading partners.

There is no purely unilateral U.S. solution to a global problem. And making the U.S. agricultural industry less competitive is unlikely to lead to any long-term reductions in carbon emissions. In fact, the world could face the potential for increased greenhouse gas emissions as those without similar conservation-minded production practices ramp up production and increase market share against their potentially less competitive U.S. counterparts. We would encourage that the U.S. instead play a leadership role in a global effort on carbon-emissions reduction, rather than take a unilateral approach that may have a limited overall impact and innumerable damaging, unintended consequences.

National Grain and Feed Association

[Redacted]

Web Site: www.ngfa.org

April 10, 2009

The Honorable Collin Peterson, Chairman
House Committee on Agriculture
1301 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Peterson:

The National Grain and Feed Association (NGFA) appreciates the opportunity to respond to questions related to potential climate change legislation. We believe it is critical for U.S. agriculture and your committee to play a significant role in this wide ranging and potentially economy-changing debate on the regulation of carbon. As an industry involved in the handling, processing and exporting of the major grain and oilseed crops produced in the U.S., we have identified several major issue areas that we believe must be considered and appropriately addressed in any legislation considered by Congress.

- **Global Competitiveness of U.S. Agriculture:** The climate change issue is global and the NGFA is wary of any program that does not address it through an international cooperative process. Developing countries are among U.S. agriculture's fiercest competitors, and they stand to gain a significant economic advantage if the U.S. pursues a unilateral approach.
- **Incentives for Idling Productive Cropland:** Global commodity supplies have been challenged in recent years and the world witnessed a severe run up in commodity and food prices last year making it critical that any move to reduce carbon emissions does not inadvertently incentivize farmers to take land out of production or allow carbon emitters to purchase cropland and take it out of production to earn offsets. That would devastate U.S. agricultural competitiveness and undermine the economic foundation on which rural communities depend.
- **Increases in the Cost of Handling, Processing and Exporting Grain and Oilseeds:** The grain, feed and processing industry utilizes significant amounts of power to run its operations, and those costs already have increased dramatically in recent years. Given the geographic expanse between production and consumption, the industry is a major shipper of commodities by truck, barge, ocean vessel and rail. Major cost increases in those industries undoubtedly will hit grains and oilseeds shippers very hard – particularly since there are few alternatives in most cases to move these commodities. Those transportation cost increases inevitably would be passed back to producers through lower farmgate prices. These economic challenges must be considered and addressed through the legislative process.
- **International Implications:** Global competitiveness is a key issue for U.S. agriculture, but we must also be mindful of our World Trade Organization (WTO) obligations. Taxing imports in an

attempt to level the playing field if the U.S. acts unilaterally will raise the specter of like treatment by affected countries and invite retaliation by our trading partners. Likewise, improvements in food and energy security are critical to geopolitical stability. The reliable and cost-competitive export of U.S. agricultural products is an ever-more critical element of the global food, fiber, fuel and feed environment.

The NGFA's Mission Statement states our primary goal is to "foster an efficient free market environment that achieves an adequate, safe and high-quality food supply for domestic and world consumers" further our Statement of Purpose focuses our activities "on the growth and economic performance of U.S. agriculture." Those statements drive our commitment to ensure that any carbon-reduction program approved by Congress and implemented by the Administration will not impair our industry's ability to carry out those goals. Given the magnitude and complexity of the climate change issue, we support a deliberate and conscientious effort by Congress to carefully scrutinize a carbon reduction program's impact on both the domestic and global food-production industry as well as the resulting impacts on consumers and those in need of humanitarian food assistance.

Congress is embarking upon a fundamental change to the functioning of the nation's economy. While currently in the midst of a downswing, the U.S. economic engine has contributed significantly to America's economic success and international leadership. Thus, to avoid any reversal of this progress, it is imperative that Congress and the Administration proceed with due diligence before such a sweeping change is undertaken. The problems of climate change are global in nature and we believe U.S. support towards a global solution has the best chance to lead to a successful outcome to combat global warming while maintaining the competitiveness of U.S. agriculture – an industry that has consistently contributed a positive balance of trade for the U.S. economy.

Established in 1896, the NGFA consists of more than 935 grain, feed and feed ingredient, grain processing, exporting, biofuels and other grain-related companies that operate about 6,000 facilities and handle more than 70 percent of all U.S. grains and oilseeds. The NGFA's membership encompasses all sectors of the industry, including country, terminal and export elevators; feed manufacturers; cash grain and feed merchants; end users of grain and grain products, including processors, flour millers, and livestock and poultry integrators; commodity futures brokers and commission merchants; and allied industries. The NGFA also consists of 36 affiliated state and regional grain and feed associations.

Thank you for the opportunity to comment, and we look forward to working with you and the rest of the Committee to ensure the needs of U.S. agriculture are fully met in the process to reduce carbon emissions.

Sincerely,

Kendell Keith

Kendell Keith, President
National Grain and Feed Association

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL MEAT ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Barry Carpenter

Organization(s) you represent

National Meat Association

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

CEO

NATIONAL MEAT ASSOCIATION

[Redacted]

http://www.nmaonline.org

April 10, 2009

Chairman Collin Peterson
House Committee on Agriculture
Room 1301 Longworth House Office Building
Washington, DC 20515

Dear Chairman Peterson,

Thank you for contacting National Meat Association with this questionnaire on the important topic of options to reduce greenhouse gas emissions.

Organized in 1946, NMA represents the interests of meat packers and processors throughout the United States. With approximately 300 general member companies, many of whom would be directly impacted by any possible cap and trade program.

Answers to the questionnaire are attached. We appreciate this opportunity to comment.

Sincerely,

Barry L. Carpenter

Barry Carpenter
CEO

Part I: Carbon Reduction Program Design

1) Cap-and-trade programs are the preferred methods to manage climate change initiatives. These programs will allow the market to provide efficient vehicles to incorporate climate change initiatives throughout every sector of the economy whether the industry is part of the cap or part of the trade component of the structure. The cap-and-trade programs, if designed correctly, will allow for the efficient transfer of carbon values between industry sectors thereby reducing the overall costs of deploying the program. The entire U.S. Agricultural Sector can play a significant role in helping to reduce domestic greenhouse gas (GHG) emissions through a market-based cap and trade system by sequestration of carbon on agriculture lands, development of sequestration ponds, and reduction of emissions from livestock through dietary improvements and manure management. Every sector of the agriculture industry from production to processing can play a significant role in ensuring that a market-based cap and trade system will succeed in reducing GHG emissions.

2) Should any cap and trade legislation be passed in Congress, it must be structured correctly so that the value for the agricultural industry does not exceed the costs to them, their communities, and the U.S. economy, while achieving the desired benefits for the climate. It is important, however, to account for vertical integration in the industry. If processors are subject to a cap the associated costs would likely be passed back to producers, potentially nullifying benefits of carbon credits.

3) Emission allowances should be distributed through the USDA. USDA has the statutory authority provided in the 2008 Farm Bill, the institutional resources and the technical expertise necessary to create and administer an agricultural offset program that works for production agriculture. USDA has a track record of working with farmers as well as studying, modeling and measuring conservation and production practices that sequester carbon and that promote appropriate manure management and nutrient application on agricultural lands. USDA should be given adequate flexibility in implementing the offset program that allows them to account for new technologies and practices that emerge, which result in emission reductions from agricultural sources.

   There are strong arguments that providing offsets to the agricultural industry at no cost will provide liquidity to the entire carbon credit market while reducing the overall cost to society as a whole. Another option may be to provide the offsets as a form of a credit to those who are in the agriculture industry with a higher credit provided for those who initiate additional carbon management measures similar to Investment Tax Credits.

   Limits
   Current estimates predict that agricultural and forestry lands can help to reduce up to 20% of U.S. GHG emissions on an annual basis. Therefore, we believe it is unwise and market distorting to place an artificial cap on the amount of domestic offset

allowances a covered entity can use to meet its yearly obligations. Our goal should be to remove as much GHG from the atmosphere as possible. Artificial caps will prevent legitimate carbon sequestration, livestock methane capture, and manure gasification projects from occurring.

Many practices undertaken to reduce greenhouse gas emissions will provide additional public benefits, such as clean water, wildlife habitat, and reduced soil erosion. Projects participating in a greenhouse gas offset market should not be excluded from also participating in other markets for environmental services that currently exist or may arise in the future. Allowing producers to "stack" credits will maximize the economic viability of carbon sequestration and manure management projects, ensuring more projects are undertaken and synergies with other environmental priorities are developed. In addition, new climate programs should complement existing conservation programs within the Farm Bill. Providing as much incentive to the industry to meet social goals should be supported.

Agriculture is always evolving. As technologies and practices improve, farmers are converting to alternative tillage practices such as no-till or ridge-till. They are reducing fertilizer application rates and enhancing crop uptake of fertilizer nutrients. Some livestock producers are able to use methane digesters and invest in covers for manure storage or treatment facilities while others are able to reduce enteric emissions with dietary modifications. Producers that have taken these steps should not be disadvantaged by being excluded from compensation for future offsets that occur as a result of these ongoing efforts.

4) The national cap-and-trade program should not be linked to existing or emerging U.S. regional programs. It would only increase the cost of compliance, increase confusion in the marketplace, and reduce the incentives to participate. Carbon emissions know no borders.

5) USDA has the statutory authority provided in the 2008 Farm Bill, the institutional resources and the technical expertise necessary to create and administer an agricultural offset program that works for production agriculture. USDA has a track record of working with farmers as well as studying, modeling and measuring conservation and production practices that sequester carbon and that promote appropriate manure management and nutrient application on agricultural lands. USDA should be given adequate flexibility in implementing the offset program that allows them to account for new technologies and practices that emerge, which result in emission reductions from agricultural sources.

6) The most effective method of transferring credits is through the marketplace. The CFTC has established a track record of efficiently establishing a market for carbon derivatives (currently rather thin). CFTC also provides adequate price transparency in order to allow buyers and sellers to determine whether to enter into an exchange. Once Congress establishes the standards for the credits the private sector could

validate and audit the offsets and has proven to be very effective at developing resources to do so.

7) Allowing all forms of and methods of transfer should be open to allow the market to determine the most effective method of transfer will reduce transaction costs, regulatory burdens and allow more of the economic benefit to be transferred to the participants. All forms of transfer both regulated and unregulated should be allowed.

8) There is no question that there will be a negative impact to regions and populations as a result of the implementation of carbon initiatives. The fact that food is produced, harvested, and processed (any segment of the industry creating or delivering food products) leads to emissions that are a natural byproduct of creating food in various forms. There are very limited options in changing these processes to reduce carbon emissions without significantly increasing, production costs, the risk of food borne illnesses (boilers to heat water), changing the deliverable (breading, cutting, cooking, etc), or limiting the output (not completing the fabrication process), etc.

   In addition, it is important to recognize regional differences in operations which may increase or decrease the opportunity to create offsets and credits. For example, the Northwest derives a significant amount of energy from hydroelectric plants that have a very small carbon footprint while the Northeast derives a significant amount of energy from coal fired plants with a relatively large footprint. Therefore, there will be regional distortions in operations' ability to participate in credit creation or improvements depending to where they reside.

9) There may be cost impacts to United States economy that will never be offset.

10) Clearly there will be negative economic impacts to businesses throughout the economy. Most businesses compete directly or indirectly with other countries in which such costs will not exist therefore domestic businesses will be at a disadvantage both in the short-term and long-term. Transitional assistance will be necessary, and maybe need to be permanent, in order to retain certain sectors of our industrial base in the United States.

11) Clearly public lands play a large role in carbon sequestering and those ranchers and farms who have been given stewardship over those lands should share in the carbon benefits of proper management of those lands. This will encourage public land producers to invest in management that produces higher carbon credits. The government portion of the credits could be sold or provided to the market to offset overall compliance costs.

12) Carbon prices should be determined by market forces to promote competition and promote continued reductions of emissions through technological advances.

13) A key lesson to be learned from the European programs is that an early baseline date needs to be established (2000 or 2005) and allowing credit for effective carbon

reduction management practices irrespective of historical implementation date. In Europe many early adopters and leading environmentally focused companies where not given credit for technology that was deployed prior to the baseline date. In fact, the baseline date was moved forward by several years after the discussion began which penalized those companies who took the early initiative to address their carbon footprint. These companies then were required to expend additional resources, often at much higher costs, to meet the regulatory demands while the laggard businesses where able to pick the low hanging fruit because they waited until after the legislation was established. The baseline date for any cap-and-trade program should be established early in the debate and not changed so that it won't penalize those companies that have already invested in positive technology.

This is especially true for agriculture. Agriculture is always evolving and has been deploying carbon management technology for some time. These efforts should be rewarded irrespective of when they were initiated. As technologies and practices improve, farmers are converting to alternative tillage practices such as no-till or ridge-till. They are reducing fertilizer application rates and enhancing crop uptake of fertilizer nutrients. Some livestock producers are able to use methane digesters and invest in covers for manure storage or treatment facilities while others are able to reduce enteric emissions with dietary modifications. Producers that have taken these steps should not be disadvantaged by being excluded from compensation for future offsets that occur as a result of these ongoing efforts.

There are businesses that are waiting to implement carbon positive initiatives to see what Congress is going to do. Specifically, what is the baseline date going to be – date of legislative enactment (disaster), 2005 (good), 2000 (better, provided it is simple to prove) or any improvements and positive practices count (best). The first item of any legislation should be the date. It may be advisable to pass legislation to stipulate that any carbon legislation must use a stipulated date irrespective of the outcome or carbon program deployed.

Part II: Carbon Reduction Program Administration and Implementation

14) Using a combination of voluntary offset programs as well as bonus allowance for selected agricultural activities will provide a significant benefit to the overall environment and provide liquidity to carbon market. Both the regulated community and agricultural sector need assurances that agricultural offsets will be available to lower costs of a climate change program. The regulated community needs to know that a sufficient quantity of offsets will be available for purchase so that they can comply with a mandatory cap. The agricultural sector needs to know which project types Congress considers to be eligible as agricultural offsets in order to assess the full impact of cap and trade legislation on agriculture. An initial, non-exhaustive list of project types in the legislation itself is critical to addressing these concerns. Shifting the burden of making these decisions to an entity other than Congress generates uncertainty that should be avoided.

15) The offsets should not be artificially limited by the government. If the carbon sequestering or mitigation practices exist they should be recognized and valued. Current estimates predict that agricultural and forestry lands can help to reduce up to 20% of U.S. GHG emissions on an annual basis. Therefore, we believe it is unwise and market distorting to place an artificial cap on the amount of domestic offset allowances a covered entity can use to meet its yearly obligations. Our goal should be to remove as much GHG from the atmosphere as possible. Artificial caps will prevent legitimate carbon sequestration, livestock methane capture, and manure gasification projects from occurring.

16) Prioritization of offsets is necessary only if there are a limited number of offsets to be distributed. There should be no limits therefore no prioritization process is necessary. Per the answer above, limiting offsets limits the recognition of the true carbon minimization practices that are initiated.

17) It is scientifically proven that agricultural soils sequester carbon. In fact, technologies are available to effectively measure soil carbon content. Sound and accurate measurements exits as to the amount of methane captured and destroyed in anaerobic digesters. In addition, a recent study indicated that ponds on farms and ranches also have significant carbon sequestering value. There are many other broadly accepted agriculture carbon positive practices that can be defined immediately. USDA should quickly implement provisions of the recently enacted 2008 Farm Bill that directs them to develop guidelines and protocols related to farmer, rancher and forestland owner participation in greenhouse gas offsets markets. USDA has already developed a properly constructed science based model that includes statistically relevant random field measurements to help maximize agriculture's offset credits for carbon sequestration.

18) Same as above.

19) Same as above.

20) Currently the carbon credit market attracts only a limited number of participants as a result, to some degree, of the difficulty of "proving" the carbon offset value. Even in operations (for example – a ranch) where science clearly supports a positive carbon sequestration with a clear multiplier of that positive value (acres in pasture) it is relatively expensive to establish the carbon value of the operation. In order to maximize the participants in the program a simplified method of calculation must be implemented.

    In addition, a project based standard calculation would also be useful when projects are initiated to reduce the transaction costs. In most cases these projects have well established base values that are scientifically validated that can be easily applied similar to the asset tax depreciation schedules.

21) A direct relationship between offsets and allowances should be considered to simplify cap and trade in future policy. Such a relationship assumes that reductions in allowances will occur as emissions caps are tightened over the long term and thereby increase the value of credits promoting additional improvements over time.

22) The market will provide signals as to the length flexibility necessary for the offsets to have marketability. Equity and financial derivatives function efficiently by providing various lengths of commitment. Generally, markets like more flexibility to less. Generally markets like varying lengths to one. It is important to match the offsets to the regulatory demands of the caps.

23) Congress should recognize all offset projects and credits that have been created irrespective of its origin. As previously stated, agriculture has been implementing carbon management systems for quite some time and agriculture is always evolving. This value must be recognized irrespective of when they where implemented. As technologies and practices improve, farmers are converting to alternative tillage practices such as no-till or ridge-till. They are reducing fertilizer application rates and enhancing crop uptake of fertilizer nutrients. Some livestock producers are able to use methane digesters and invest in covers for manure storage or treatment facilities while others are able to reduce enteric emissions with dietary modifications. Producers that have taken these steps should not be disadvantaged by being excluded from compensation for future offsets that occur as a result of these ongoing efforts.

24) Many practices undertaken to reduce greenhouse gas emissions will provide additional public benefits, such as clean water, wildlife habitat, and reduced soil erosion. Projects participating in a greenhouse gas offset market should not be excluded from also participating in other markets for environmental services that currently exist or may arise in the future. Allowing producers to "stack" credits will maximize the economic viability of carbon sequestration and manure management projects, ensuring more projects are undertaken and synergies with other environmental priorities are developed. In addition, new climate programs should complement existing conservation programs within the Farm Bill.

25) Trying to determine the "intent" of any project is difficult and is fraught with problems. If any project, funded by whomever, reduces carbon emissions those emission reductions should be recognized for the benefit of the owner. This will only encourage more reduction projects which ultimately is the goal.

26) A producer should be required to return revenue and be held liable if an offset project is not completed or is terminated. However, a project which is implemented correctly should be presumed to deliver the calculated carbon offset value and producers should not have to prove the emissions where mitigated. Most contracts have a "force mojeure" clause which allows for a contract to be negated when there are events that are dramatic and are outside the control of the producer such as acts of God, strikes, wars, fires, civil commotion, etc. which makes it impossible to comply with the provisions of the contract. This concept should be provided in this program.

27) Same as previously described. Legislation will never address all the issues and details that will be required to make this program functional. USDA has the statutory authority provided in the 2008 Farm Bill, the institutional resources and the technical expertise necessary to create and administer an agricultural offset program that works for production agriculture. USDA has a track record of working with farmers as well as studying, modeling and measuring conservation and production practices that sequester carbon and that promote appropriate manure management and nutrient application on agricultural lands. USDA should be given adequate flexibility in implementing the offset program that allows them to account for new technologies and practices that emerge, which result in emission reductions from agricultural sources.

    USDA should quickly implement provisions of the recently enacted 2008 Farm Bill that directs them to develop guidelines and protocols related to farmer, rancher and forestland owner participation in greenhouse gas offsets markets. USDA has already developed a properly constructed science based model that includes statistically relevant random field measurements to help maximize agriculture's offset credits for carbon sequestration.

28) U.S. agriculture's primary obstacle will be cost and being placed at a competitive disadvantage to other producers around the world. These costs include not only direct project costs but also other regulatory program compliance costs. Agriculture today is burdened by an ever increasing cost of doing business on the United States imposed by government regulations and compliance costs. The reality is that if any segment of the agricultural community, from producers to the processors, bare additional costs these will be absorbed by the industry not the consumers.

29) More incentives should be considered to promote sustainable agriculture, specifically with regards to reforestation in the form of sequestration credits that will promote better practices and long term conservation.

Part III: Carbon Reduction Program Additional Thoughts

No additional thoughts.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL MILK PRODUCERS FEDERATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Jerry Kozak

Organization(s) you represent

National Milk Producers Federation

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President & CEO, National Milk Producers Federation

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why? *Please respond in 600 words or less.*

NMPF believes that when considering the pending climate change legislation, the best approach would be a cap-and-trade program where agriculture is not a capped sector. We feel this is the most effective way to reduce emissions of greenhouse gases (GHG), while minimizing the cost to taxpayers and the economy. This type of a cap-and-trade program would also provide an economic incentive for large and small producers to reduce their GHG emissions. NMPF also feels that there would be no potential benefit for the dairy industry in a carbon tax system.

The dairy industry has already taken significant steps to identify where emissions come from and what is the best way to reduce those emissions. NMPF and Dairy Management Inc. (the dairy checkoff program) along with other industry partners, are working with the

University of Arkansas to conduct the first comprehensive survey, and life cycle analysis, of the GHG emissions for the US fluid milk value chain. In June of 2008, the Dairy Sustainability Summit was held to identify opportunities to reduce emissions while creating business value for the industry.

Progress will continue to be made through the development and application of new and innovative research, and associated on-farm testing by dairy farmers. NMPF believes an offsets program under a cap and trade system would offer the best set of incentives for dairy farmers to continue to pursue these innovations and gain the market benefits as a result.

NMPF does not feel that a carbon tax is the best approach to reduce GHG emissions. While a carbon tax controls the price of emissions, the actual quantity of emissions that will occur under a tax is less certain. Unlike a cap, a tax does not guarantee that targeted emission reductions will be achieved. Setting a tax rate in order to reduce emissions by a certain amount would involve a lot of guesswork, which would need to be updated as economic conditions change. Also, a cap-and-trade program can readily be linked to a comparable global carbon market, where a carbon tax program cannot.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not? *Please respond in 300 words or less.*

No, agriculture must not be capped. According to EPA, only 6.4% of emissions come from agriculture with animal agriculture being directly responsible for about 2.5% of total US emissions in 2006. Also, agriculture should not be included in the capped sector because farms represent too many, small or minor sources of GHG emissions. There are more than 60,000 US dairy farms in the U.S. and it would be highly impractical and cost prohibitive to try to regulate all of these farms. The same is true for the rest of agriculture's nearly 2 million operations. The most effective way to address non-point source pollution is through a voluntary system.

Allowing the uncapped agriculture sector to participate would serve as valuable cost containment for the sectors that were required to reduce their emissions by providing lower cost options to reducing GHG.

Dairy farmers can achieve significant amounts of real, verifiable, additional and low cost or cost effective reductions or avoidance of GHG emissions through:

- Capture and destruction of the methane production by animal manure;
- Reductions in enteric emissions through changes in dietary strategies; and
- Substitution of manure for commercial fertilizers as the source of crop nutrients, avoiding the emissions associated with the production and transport of commercial fertilizers.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

NMPF feels that allowances should be allocated at no cost for the agriculture sector. Allowances will be an important piece of the cap-and-trade legislation for this sector. Allowances could go toward rewarding the leaders or early actors of the industry to reward those practices that have been reducing GHG emissions for years. It could also be used for new research of GHG reduction techniques that have not been developed or still need additional research to qualify for the offset market. These agricultural allowances should be distributed to USDA to support these efforts.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why? *Please respond in 600 words or less.*

The existing voluntary programs provide a valuable framework for the US system to learn from. However, they currently lack the environmental accountability that will be necessary in the US system. Current voluntary programs do not provide protocols that are strict enough to ensure real GHG reductions. NMPF feels the US climate change legislation must include a robust offset program which can provide a high value of environmental integrity. Offsets that are measurable, verifiable and additional should receive the full value for their GHG reduction. In the current voluntary market large discount rates are applied to account for uncertainty. NMPF feels a stricter offset program would result in a tiered offset system that rewards proven offset technologies.

NMPF does not believe that any current mandatory program has developed enough of a comprehensive offset program to model the US system after.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain. *Please respond in 300 words or less.*

NMPF feels that USDA should be running the climate change programs for agriculture. USDA can provide the technical oversight necessary for the agriculture offset program and they also have a high level of credibility with producers.

The 2008 Farm Bill gave USDA the authority to create technical standards for facilitating landowner participation in emerging markets for carbon sequestration, water quality and other ecosystem services. Section 2709 of the conservation title requires the Secretary of

Agriculture, in consultation with other agencies and interests, to "establish technical guidelines that measure the environmental services benefits from conservation and land management activities." USDA also has staff around the country that could help to verify and implement these programs.

USDA should be in consultation with the relevant Cabinet agencies, and should have responsibility for setting agricultural offset program objectives and standards.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain. *Please respond in 300 words or less.*

The CFTC currently has the authority to regulate the derivative carbon market and should continue. The carbon market will closely mirror the trading of other agriculture commodities that CFTC currently regulates.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?

Please respond in 600 words or less.

Yes, this system should provide the necessary flexibility and transparency to ensure confidence among market participants, agricultural producers and consumers. The system allow for verifiable carbon reductions and economic growth.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products. *Please respond in 600 words or less*

NMPF believes that energy costs will increase in the effort to reduce GHG emission as part of climate change legislation. As a result, transportation, electricity, petroleum etc. will increase. A major concern for the dairy industry is dealing with those increases, which will directly impact all producers bottom line because they do not have the ability to pass along any cost increases. NMPF believes that no one industry should be unduly harmed by climate change legislation. Some dairy farmers will see higher increases in energy costs relative to dairy farmers in other parts of the country. Also, not all dairy farmers will be able to benefit

to the same degree from carbon offset trading opportunities. NMPF feels that producers who are unable to take advantage of the offset market should be rewarded through the allowance market.

NMPF believes it is fair and appropriate for a substantial portion of the revenues created through the auction of GHG allocations to be used to reduce the level of increases from those less able to bear it. Large sectors or regional portions of agriculture itself may be found to be bearing their own disproportionate share needed to achieve national GHG reductions and these portions of agriculture should receive a share of the assistance provided from the revenues generated by the auctioning of allowances.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts? *Please respond in 300 words or less.*

The best way to reduce impacts of the climate change legislation is to have a robust carbon market. Revenue from that market should be provided to sectors and sources that can provide the lowest cost reductions of GHG emissions and/or have the highest potential to be negatively affected by increases and energy and input costs. This can be done through the provisions of revenue to the agricultural sectors from the sale of allowances and offsets.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance? *Please respond in 300 words or less.*

Yes, businesses that are affected by overall costs should receive transitional assistance. A robust and flexible carbon market is the most effective tool for keeping these potential costs low.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions? *Please respond in 300 words or less.*

All available GHG reduction opportunities should be utilized. As such, the vast amount of public land acres could be managed to increase carbon stocks through various practices that can sequester carbon as part of a balanced set of uses for that land. Such sequestration could be used to further help reduce compliance costs.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain. *Please respond in 600 words or less.*

NMPF believes that carbon prices should be set by market forces in the offset trading program. As is consistent with other commodity exchanges, it is appropriate to set daily price change limits to ensure orderly functioning.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry? Ask Clark Group

NMPF believes lessons can be learned from the EU system. The EU only allowed limited opportunities for low-cost GHG reductions from agriculture, they did not allow soil sequestration and required methane projects to go through tedious verification processes that left many valid offset projects unable to assist in the climate reduction goal. The US system should allow all types of agricultural projects to participate in the offset market.

Also, the EU system uses the Clean Development Mechanism (CDM) and approves projects on a case by case basis. This has created an inefficient system with tremendous backlogs in approving valuable GHG reduction projects. The US system should create standards for project types and stay away from the project-by-project system the EU is currently operating under in order to create a more comprehensive and expeditious process for appropriate offset projects.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors? *Please respond in 600 words or less.*

A voluntary market should provide as many real offsets as the market can bear. While bonus allowances for selected GHG emission reduction activities could be included as a companion and work in parallel to the offsets market, we believe that the first and most important need that should be addressed with any revenues generated by allowances allocated to USDA would be for research and development of further low cost GHG reducing or mitigating practices in agriculture.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

As long as the offsets program can establish that the offsets being purchased are real, verifiable and additional, there should not be a limit on the number of offsets. Modeling on

bills considered by the US Senate last year showed dramatically lower compliance costs as more offsets are allowed. NMPF also believes that a tiered system should be used to assign a higher price for those offsets with a lower degree of uncertainty as to the exact value of GHG reductions being achieved.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)? *Please respond in 600 words or less.*

The distribution of the offsets, assuming they are real, verifiable and additional will be determined by the market. However, methane reduction credits are a proven, measurable, verifiable and permanent credit that is ready for the market now. Reduction credits that are in the same place should be fast-tracked so those reductions can assist with cost containment as soon as the program is enacted.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program? *Please respond in 600 words or less.*

Offsets should be measurable, verifiable, additional and enforceable. Where measurement uncertainties exist, discount rates should be applied. Where immediate measurable, verifiable, permanent and additional offsets exist, fast-tracking of those offsets should occur.

Also, national standards should be established to determine measure rates for offset types. These standards should be consistently updated according to science, protocols should undergo peer review and they should be established by public notice and comment rulemaking. In addition they need to be real and achievable for the conditions at hand at the locations where the offsets are being generated. USDA should be in charge of setting these project type standards and include a combination of modeling along with actual testing of ongoing projects.

18) What should be the criteria for assessing offset projects? *Please respond in 300 words or less.*

NMPF believes a verification process must allow for third party audits. This would allow those offset providers to bear the higher audit costs in order to ensure a higher degree of certainty of the amount of GHG reductions being achieved. This would also allow these providers eligible to receive a higher price for these "higher quality credits" in the offset credit market.

19) How should Congress design a system for verifying offset projects? *Please respond in 300 words or less.*

Criteria should be established by USDA for agricultural project types, not on a project-by-project basis. A project-by project, CDM type of system would increase the transactions cost of the program without giving a sufficient degree of certainty across the system. Agencies within USDA have been working on measurement and verification processes for years. NMPF feels agencies with the technical expertise and the necessary staff across the country should have the responsibility to verify these offsets.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should establish a standards-based approach. Project specific data can be used to improve the standards. USDA can establish these standards and perform random audits of the program to ensure actual GHG reductions are being made.

21) What should be the relationship between offsets and allowances? *Please respond in 600 words or less.*

The offsets and allowances should be separate markets. And there should be an allowance market for the agriculture industry. The offset market is a proven GHG reduction program. The allowance market for the capped sector should allow for transitional assistance to prevent undo harm to industries and the allowance market for the agriculture or uncapped sector could assist early actors and develop new technology and research for unproven GHG reductions.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility? *Please respond in 300 words or less.*

For methane destruction, permanence is not a factor, methane will be destroyed through a digester or dietary change. However, NMPF feels that contracts should determine the permanence of an offset.

Insurance should also be utilized for offset projects in addition to a reserve pool to account for natural disasters.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)? *Please respond in 600 words or less.*

NMPF believes that any credits that are currently being sold on the Chicago Climate Exchange (CCX) must demonstrate that the credits are measurable, verifiable and additional

and as such should be eligible for the new offset market. We do believe that a new climate change standards should fall somewhere in between the current CCX market and the inconsistent CDM system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits? *Please respond in 600 words or less.*

The majority of early actors should be able to participate in the climate change legislation through the allowances market. However, in the case of the dairy industry, there are currently under 100 methane digesters in the country out of more than 60,000 farms. These producers will continue to make real, verifiable, measurable and additional GHG reductions. These producers must be able to participate in the offset market due to the valuable GHG reductions they can provide.

Also methane digesters provide other valuable environmental benefits, including water and air, and should not be excluded from also receiving those benefits. The same is true if there is an environmental credit market (as distinct from a federal financial assistance program) that trades in these other non-GHG benefits. More farmers will be able to generate more offset credits than would otherwise occur, helping the climate and other aspects of the environment.

It is clear that in the methane capture market, additional incentives are needed in order to expand this technology across the industry. Without stackable credits this may not be possible.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction? *Please respond in 300 words or less.*

NMPF believes that the goal of a climate change bill should be to reduce GHG emissions and any project that is reducing GHG emissions should be rewarded in order to meet that goal. Currently, in the case of methane digesters, industry incentives are needed to expand the current number of digesters being used today to provide a substantial GHG reduction. Producers who reduce GHG should be awarded payment for reducing those emissions regardless of the original intent of the activity.

Although some digester projects have received assistance from the government, the assistance has been meager when compared to the overall cost of the project. These

projects cost on an average of $3 million, the average USDA grant is around $500,000. The capital investment these producers are putting forth is substantial and it is necessary that producers are eligible for additional incentives to increase wide spread use of digesters.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner? *Please respond in 300 words or less.*

NMPF feels that there could be several ways to deal with natural disasters or other uncontrolled events, including but not limited to: establishing a reserve pool, creating an insurance system for GHG reductions, establishing a discount rate for risky offsets, establish a federal risk management tools such as currently exists with crop insurance.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures? *Please respond in 300 words or less.*

Rather than setting detailed protocols in the legislation, NMPF feels that the majority of those details should be left to proper notice and comment rulemaking, provided there is continual and effective oversight from the correct agencies of jurisdiction. USDA should develop these protocols.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies? *Please respond in 600 words or less.*

The primary obstacle at this point in time is that carbon credits are undervalued relative to the costs of many of these sound practices that reduce GHG and additional incentives do not currently exist in order to make these projects viable. The creation of hard caps for the emitting sectors to achieve the GHG objectives set should increase the carbon market. In addition, the cap-and-trade program will need to establish well-defined credit trading markets with all parties obligations clearly defined including the risks of failure to meet contractual obligations due to circumstances under and beyond the contracting parties' control. The transaction and verification costs must be kept to the lowest level possible while still providing for sound trades of real value. Also, further education and access to information are need by producers in order to fully participate in this market.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? *Please respond in 300 words or less.*

No, currently there are fewer than 100 methane digesters in the US. A tremendous amount of research, technology and incentives are needed to bring us the success that countries like Germany are currently experiencing with their digester program. There are digesters on small and large farms because the proper incentives have been established. Agriculture is filled with examples of programs that have the ability to significantly reduce GHG emissions at a low cost.

The California climate standard however, demonstrates a different problem in that they have created standards that prevent the utilization of digesters due to the NO_2 emissions that are released off of the digester motor. It is a shame that this technology that provides so many additional benefits to the environment have been regulated out of use because of some unintended consequences.

Fair levels of compensation for these practices are needed before producers will increase their adoption. Congress could increase the financial incentives in these programs to achieve these ends. Alternatively, allowing for the stacking credits onto the GHG offset market will also lead to more widespread adoption and greater long term certainty as to the size of offset being created. Furthermore, using this market-based system for GHG offset credit trading will do a better job of ensuring that the level of GHG reductions actually taking place match that level needed to achieve the program's objectives.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The National Milk Producers Federation together with Dairy Management Inc. and the International Dairy Foods Association in an effort to accelerate innovation, increase and protect sales, and build public trust in the industry's commitment to responsible practices created the Innovation Center in 2008. Part of the Innovation Center includes a sustainability initiative, where the entire dairy industry – from farm to retail – is working together to be leaders in sustainability and enhance the health and well-being of our planet, communities, consumers, and the industry.

The initiative helps ensure the continued viability of the U.S. dairy industry by providing opportunities— economic, environmental, and social—to:

- **Create business value** by developing new business practices that benefit the industry through operational efficiencies, reduced energy costs, new revenue opportunities, and the mitigation of adverse regulation.
- **Preserve our environment** for future generations by minimizing material waste and maximizing efficient use of energy, water and chemicals.

- **Tell our story** by highlighting the industry's commitment to nutrient-rich foods and responsible practices – past, present, and future.

The sustainability initiative is identifying practical and effective methods to reduce our carbon footprint *and* increase business value. Some of these opportunities are short-term in nature and take advantage of existing practices; others will require longer time frames for research and development.

We are pursuing a range of solutions for operations large and small across each segment of the industry—from farm to retail. Following are some real life solutions endorsed by the Innovation Center:

- Energy audit programs that give farmers and processors information and resources to help reduce energy consumption
- Research for methods to reduce enteric methane through nutrition, immunology and genetics
- A pilot project tackling barriers to widespread adoption of methane digesters, spurring innovations in technology, reliability and cost structures
- A pilot project working to demonstrate the commercial viability of non-thermal UV processing technology as an alternative method for producing high-quality, safe milk products with significantly reduced energy outputs
- Many organizations are exploring carbon reduction opportunities through crop production, packaging, refrigeration, and transportation

NMPF is also looking at various other solutions to make environmental practices make economic sense for producers to implement. The renewable electric standard would create a demand for the renewable energy digesters can produce. Currently there is a wide variation in the rate paid for energy production. If producers can get a fair rate for the energy produced, more producers may be encouraged to install this technology.

In addition, NMPF is supportive of a biogas tax credit that would create an incentive to create biogas. Currently this is a very costly activity and there are very few producers that can afford to make the investment even though it would displace a fossil fuel.

The industry is taking significant steps to reduce its carbon footprint but more work can be done. NMPF is certain that with proper incentives, the dairy industry can be a substantial source of renewable energy and assist in valuable GHG reductions.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Anaerobic digestion	Excellent	Excellent	High	High
Improved handling of manure	Good	Good	Medium	High
Improved feeding practices	Excellent	Good	Medium	High
Feed additives	Good	Excellent	Low	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till/Carbon soil sequestration	Excellent	Excellent	Medium	High
Precision agriculture	Good	Good	High	High
Pasture Management	Good	Good	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL OILSEED
PROCESSORS ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Thomas A. Hammer

Organization(s) you represent

National Oilseed Processors Association (NOPA) is a national trade association comprised of 15 companies engaged in the production of food, feed and renewable fuels from oilseeds, including soybeans. NOPA's 15 member companies process more than 1.7 billion bushels of oilseeds annually at 66 plants located throughout the country, including 61 plants which process soybeans.

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1)

Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Climate change is a global challenge requiring multilateral solutions that do not shift the economics of agricultural production, processing and manufacture of food and feed products, and renewable fuels. Rising energy costs commensurate with either a carbon tax or an emissions cap imposed on U.S. operations would threaten the viability of not only the energy-intensive, import/export-sensitive U.S. oilseed processing industry, but other sectors of manufacturing in the U.S., resulting in companies facing the decision to move operations out of the country. The result would be a transfer, not a reduction, of global GHG emissions and jobs. In fact, the climate change problem could be exacerbated to the degree that those operations are transferred to countries that use energy sources that are more carbon intensive.

Hence, both legislation and regulation must ensure that developed and developing nations alike share responsibility for addressing climate change. Additionally, any emission reductions from such legislation and regulation must be verifiable and enforceable, particularly with respect to impacts on international trade.

NOPA opposes any unilateral climate-related legislation that calls for either a carbon tax or a mandatory cap on GHG emissions. We do not believe sufficient effort has been put toward the development of voluntary initiatives that provide the framework for effective, voluntary, pro-growth, technology-driven approaches to reduce energy use, and thereby achieve GHG reductions in an economically sound manner. We believe that global GHG emissions are best addressed through voluntary initiatives, as well as through increased research, development and deployment of innovative breakthrough technologies.

In the event Congress acts to limit GHG emissions, NOPA believes that a full review of the benefits and costs of carbon tax and cap-and-trade programs should be undertaken. NOPA and its members are focused on solutions that will continue to promote U.S. agriculture and the food, feed and renewable fuels industry. In a high-volume, low-margin business environment, domestic production can quickly move to foreign competitors, at the expense of U.S. production and jobs. If implemented in an aggressive or reckless manner, either a carbon cap-and-trade or carbon tax program would have disastrous economic consequences to the U.S. oilseed processing industry. It would result in higher food prices and would make the oilseed processing industry much less competitive on exports to other countries. The net effect would be loss of jobs in the industry, reduced revenue for farmers and processors, as well as increased food prices for consumers.

Having outlined some of our industry's concerns, were Congress to move forward in designing a cap-and-trade program, NOPA would favor a program that:

(a) Provides for comprehensive legislation rather than EPA regulation under the Clean Air Act and preempts or, if necessary, harmonizes state, regional and federal climate initiatives;

(b) Provides maximum avenues to free allowances, a robust credit system and built-in flexibility;
(c) Is economy-wide in reach, rather than targeting a single sector for emissions reductions;
(d) Is inclusive of all six GHGs, not just CO2;
(e) Is global in scope, guarding against carbon and job "leakage," and compatible with WTO obligations/commitments;
(f) Is permissive of excess allowance carryover;
(g) Sets a ceiling and safety valve in the setting of the price for allowances;
(h) Recognizes voluntary actions taken to reduce GHG emissions prior to implementation of climate change policy;
(i) Ensures a level playing field with processors from countries with a less stringent or no GHG mitigation system; and
(j) Allows the granting of allowances for the implementation of Carbon Capture and Sequestration (CCS) projects and does not disqualify projects due to public/private participation.

3)

If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

Our industry is an energy-intensive one, but emits comparatively small amounts of GHGs. The food industry as a whole contributes roughly less than 1 percent of domestic GHG emissions, and emissions from our industry are only a small fraction of that total. Because our industry has a limited ability to pass costs on to consumers of our products, we are concerned with cost impacts, including energy price increases, to our industry.

NOPA believes that, in consideration of the comparatively small amounts of GHGs the food, feed and renewable fuels industry emits and the import/export-sensitive and energy-sensitive nature of the business, the industry should receive necessary consideration to mitigate economic harm. In the event Congress elects to include the industry in a cap-and-trade program, credits should be made available and free allowances should be allocated to it, in recognition of the threat that such a program would pose to the viability of the industry. Over time, free allowances could be phased out if climate change costs are harmonized globally on an industry-by-industry basis. We also support setting a ceiling and safety valve in the setting of the price for allowances.

Should Congress move down the path of including the agricultural sector in a cap-and-trade program, considerable thought should be given to program design. Of particular concern to NOPA would be the unintended and problematic consequences of such an inclusion, such as agricultural producers taking arable land out of production and selling it as offsets; or, large GHG emitters buying large tracts of arable land, taking it out of production, and converting it to rangeland or trees, towards using the converted land as offsets. Any program that would encourage the taking of more arable land out of production could severely strain the ability of the food, feed and renewable fuels industry to meet worldwide demand.

4)

Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

NOPA opposes any unilateral climate-related legislation that calls for either a carbon tax or a mandatory cap on GHG emissions. In the event Congress acts to limit GHG emissions, NOPA supports federal preemption of all regional, state and other carbon reduction programs or, if necessary, the harmonization of these climate initiatives. Any legislation that allows regions, states and other entities to pursue their own program/approach will only lead to confusion, multiple sets of recordkeeping and additional expense, all of which would serve to undermine regulatory effectiveness, create investment uncertainty, and negatively impact U.S. competitiveness. The objective should be to avoid unnecessarily driving up compliance costs and making environmental goals more difficult to reach. To the degree these other climate initiatives remain, it is paramount they be harmonized with the federal program to eliminate the cost and chaos multiple independent systems would impose on the regulated sectors.

5)

If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

Before creating a new agency to regulate any new program, Congress should first step back and look at which agencies have the history, experience and accountability in administering such programs. Addressing GHGs via a cap-and-trade program should not be about creating new government entities, but about maximizing use of existing departments and agencies to carry out and enforce the program. Any agency tasked with creating or regulating a cap-and-trade program must develop operating principles that are feasible, flexible, accountable, clear, and enforceable; provide for a transparent regulatory approach; allow entities impacted ample time to respond during a notice-and-comment period; and establish a methodology so that the program can be modified over time based on experience and to ensure that it is periodically updated to meet new objectives and environmental issues that may arise.

The U.S. Environmental Protection Agency, which has a demonstrated history in addressing many emissions issues and experience in implementing and administering programs, such as the Acid Rain Program, that included an allowance trading system, should be given serious consideration for regulating any new cap-and-trade program with full consultation from USDA, DOE, USTR, DOT and the Department of State. This program should not be regulated under the Clean Air Act because it would create a conundrum of regulatory impossibilities.

6)

If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

If a derivatives or futures market in carbon reduction does arise through the creation of a cap-and-trade program, it should have proper oversight and funding and an experienced enforcement authority. As discussed above in the answer to question no. 5, every effort should be made to utilize existing government entities. Considering the CFTC's demonstrated history and experience in overseeing such a market, it should be the regulator under any new cap-and-trade program.

7)

Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?

Please respond in 600 words or less.

Yes, derivatives markets should be permitted to develop.

8)

Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

The U.S. oilseed processing industry is very energy-intensive and subject to foreign competition. Rising energy costs commensurate with any carbon reduction program would threaten the viability of not only this industry, but other sectors of manufacturing in the U.S., resulting in companies moving more and more operations out of the country. The result would be a transfer, not a reduction, of global GHG emissions. GHG emissions would be exacerbated to the degree that those operations are transferred to countries that use energy sources that are more carbon intensive.

Enactment of a carbon reduction program could also have a significant impact on crop production, including operating costs and fixed costs. Production agriculture relies heavily

on fertilizer, diesel fuel, gasoline, natural gas and LP gas for on-farm use; for the heating/drying of commodities; and for transportation of product from farm to point of sale (whether by truck, rail, barge or ship). The cost of all of these could rise dramatically as a result of rising energy costs commensurate with any carbon reduction program. All of these price increases have the potential to increase the price of food and feed products accordingly.

9)

How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenue would be best used in funding necessary investment and development in new technologies such as carbon capture and storage; implementing cost-containment measures; strengthening transportation infrastructure; and ensuring that domestic businesses, farmers and ranchers are not put at an undue competitive disadvantage in the global marketplace as a result of climate change policy. A carbon reduction program should not be allowed to generate revenue for the administering entity or for international programs.

10)

Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes. To remain viable and competitive, affected businesses must have access to free allowances and auction revenue to offset the costs of any carbon reduction program, such as meeting new compliance benchmarks; installing new equipment to mitigate GHGs; utilizing new carbon capture and storage technologies; and higher energy costs.

11)

What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Use of public lands in helping to sequester carbon could serve to lessen the impact of any carbon reduction program on U.S. oilseed processing or other manufacturing operations. Additionally, there may be an opportunity for government and business to work together to identify opportunities for using such lands for renewable fuels production.

12)

Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Initially, it is critical that allowances be free or that a significant portion of allowances be distributed to capped entities and economically disadvantaged sectors for their use in

offsetting economic impacts and funding research and development on carbon reduction technologies. Eventually, these free allowances could be phased out if climate change costs are harmonized globally on an industry-by-industry basis. We support setting a ceiling and safety valve in the setting of the price for allowances.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

16)

How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Offsets should be available to businesses most heavily impacted by any carbon reduction program, including businesses most disadvantaged in the global marketplace as a result of the program. We support a transparent process vetted through the public comment process that defines the source of the offsets and the size of the offset pool.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Carbon leakage occurs when there is an increase of GHG emissions in one country as a result of an emissions reduction by a second country with a stricter climate policy. One of the ways carbon leakage can occur is if the emissions policy of a particular country raises local production costs. In that case, another country with a more relaxed policy might have a trading advantage. If demand for the goods being produced remains the same, production may move out of the country to the country with a more relaxed policy; global emissions may not be reduced, but could actually increase to the degree that production is transferred to a country that uses energy sources that are more carbon intensive.

Two of the largest U.S. customers of the U.S. oilseed processing industry are the domestic livestock and poultry industries. These industries consume over 45 percent of domestic soybean production in the form of soybean meal produced by the U.S. oilseed processing industry. A U.S. carbon reduction program would have a dramatic cost impact on food production from farm to fork, including the livestock and poultry industries, and would likely lead to carbon leakage to other countries with no carbon reduction programs.

A case in point is Brazil and Argentina, which are home to the principal competitors of both the U.S. oilseed processing industry and the U.S. livestock and poultry industries. Both of these countries have the capacity to expand not only crop production and processing, but livestock and poultry production; neither has a meaningful carbon reduction program. Should a U.S. carbon reduction program increase costs on U.S. oilseed processors and U.S. livestock and poultry producers/processors to the degree that they lose their competitive advantage relative to Brazil and Argentina, all three industries, which are import/export-sensitive, will be forced to seriously consider moving out of the U.S. Brazil and Argentina will be the likely beneficiaries. Any U.S. carbon reduction program must be structured in a manner to protect our competitive advantage, recognizing that our competitors likely do not have similar policies in place.

Structuring a program in this manner will be a huge challenge, considering our World Trade Organization (WTO) commitments. Any U.S. carbon reduction program could lead to allocation schemes and trade mechanisms that could face WTO challenges that are already very complex. Designing a program/scheme to address leakage without risking retaliation from our overseas customers will be a very difficult task.

In consideration of the above, NOPA, which represents a vital segment of the U.S. food, feed and renewable fuels industry, has adopted the following principles:

1) Climate change is a global challenge and requires a global solution; any U.S. action must require comparable action by developed and developing countries alike.
   (a) Our industry is an import/export-sensitive one; our customers are import/export-sensitive as well; everything that we and they produce can be produced across the border or overseas.
   (b) The global playing field must be level or the U.S. food, feed and renewable fuels industry will become non-competitive.
   (c) Climate change is a global challenge that cannot be solved by any one nation acting unilaterally.
   (d) Without multilateral action, jobs and emissions will simply shift across the border or overseas to countries that require few, if any, environmental protections, harming both the global environment (via "carbon leakage") and the U.S. economy.

2) Voluntary initiatives should serve as the framework for effective, voluntary, pro-growth, technology-driven approaches to reducing energy use and achieving greenhouse gas emission reductions in an economically sound manner.
   (a) The oilseed processing industry is an energy-intensive one, but emits comparatively small amounts of GHGs.
   (b) The food industry as a whole contributes roughly less than 1 percent of domestic GHG emissions, and emissions from our segment of the industry are only a small fraction of that total.

3) Global GHG emission reductions should not be addressed by mandates and bureaucracy, but rather by technology-driven initiatives where industry and government work together to provide funding for increased research, development and deployment of innovative breakthrough technologies.

4) Greenhouse gas emission reductions must be workable, verifiable, enforceable, flexible, transparent and global in scope.
   (a) The Clean Air Act is not a viable or reasonable vehicle to address a global challenge like climate change, because it was designed to address local, regional and national, not global, environmental quality.
   (b) Any federal program should preempt all regional, state or other carbon reduction initiatives or, if necessary, harmonize these initiatives.
   (c) Any program that encourages removing arable land from production could severely strain the ability of the food, feed and renewable fuel industry to meet worldwide demand.

5) Any legislation must be consistent with WTO obligations; to do otherwise is to face almost certain retaliation from our trading partners.

Were Congress to move forward and design a cap-and-trade climate change program, NOPA would favor a program that:
   (a) Provides for comprehensive legislation rather than EPA regulation under the Clean Air Act and preempts or, if necessary, harmonizes state, regional and federal climate initiatives;
   (b) Provides maximum avenues to free allowances, a robust credit system and built-in flexibility;
   (c) Is economy-wide in reach, rather than targeting a single sector for emissions reductions;
   (d) Is inclusive of all six GHGs, not just CO2;
   (e) Is global in scope, guarding against carbon and job "leakage," and compatible with WTO obligations/commitments;
   (f) Is permissive of excess allowance carryover;
   (g) Sets a ceiling and safety valve in the setting of the price for allowances;
   (h) Recognizes voluntary actions taken to reduce GHG emissions prior to implementation of climate change policy;
   (i) Ensures a level playing field with processors from countries with a less stringent or no GHG mitigation system; and
   (j) Allows the granting of allowances for the implementation of Carbon Capture and Sequestration (CCS) projects and does not disqualify projects due to public/private participation.

NOPA NATIONAL OILSEED PROCESSORS ASSOCIATION

[Redacted]

www.nopa.org

April 9, 2009

The Honorable Collin Peterson
Chairman, House Committee on Agriculture
1301 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Peterson:

The National Oilseed Processors Association (NOPA) appreciates being included as a stakeholder in the global climate change discussions being held by the House Committee on Agriculture. We hope the information included in our letter and our responses to the questions posed in your questionnaire will help the Committee better understand the related issues and concerns of the U.S. oilseed processing industry.

NOPA is a national trade association comprised of 15 companies engaged in the production of food, feed and renewable fuels from oilseeds, including soybeans. NOPA's 15 member companies process more than 1.7 billion bushels of oilseeds annually at 66 plants located throughout the country, including 61 plants which process soybeans.

Our industry is an energy-intensive one, but emits comparatively small amounts of greenhouse gases (GHGs); the food industry as a whole contributes roughly less than 1 percent of domestic GHG emissions, and emissions from our industry are only a small fraction of that total. Because our industry has a limited ability to pass costs on to consumers of our products, we are concerned with cost impacts, including energy price increases, to our industry.

Climate change is a global challenge requiring multilateral solutions that do not shift the economics of agricultural production, processing and manufacture of food and feed products and renewable fuels. Rising energy costs commensurate with either a carbon tax or an emissions cap imposed on U.S. operations would threaten the viability of not only the energy-intensive, import/export-sensitive U.S. oilseed processing industry, but other sectors of manufacturing in the U.S., resulting in companies facing the decision to move operations out of the country. The result would be a transfer, not a reduction, of global GHG emissions and jobs. In fact, the climate change problem could be exacerbated to the degree that those operations are transferred to countries that use energy sources that are more carbon intensive.

Hence, both legislation and regulation must ensure that developed and developing nations alike share responsibility for addressing climate change. Additionally, any emission reductions from such legislation and regulation must be verifiable and enforceable, particularly with respect to impacts on international trade.

NOPA opposes any unilateral climate-related legislation that calls for either a carbon tax or a mandatory cap on GHG emissions. We do not believe sufficient effort has been put toward the development of voluntary initiatives that provide the framework for effective, voluntary, pro-growth, technology-driven approaches to reduce energy use, and thereby achieve GHG reductions in an economically sound manner. We believe that global GHG emissions are best addressed through voluntary initiatives, as well as through increased research, development and deployment of innovative breakthrough technologies.

In the event Congress acts to limit GHG emissions, NOPA believes that a full review of the benefits and costs of carbon tax and cap-and-trade programs should be undertaken. NOPA and its members are focused on solutions that will continue to promote U.S. agriculture and the food, feed and renewable fuels industry. In a high-volume, low-margin business environment, domestic production can quickly move to foreign competitors, at the expense of U.S. production and jobs. If implemented in an aggressive or reckless manner, either a carbon cap-and-trade or carbon tax program would have disastrous economic consequences to the U.S. oilseed processing industry. It would result in higher food prices and would make the oilseed processing

industry much less competitive on exports to other countries. The net effect would be the loss of jobs in the industry, reduced revenue for farmers and processors, as well as increased food prices for consumers.

Thank you again for including NOPA as a stakeholder in the global climate change discussions being held by the Committee.

Respectfully,

Thomas A. Hammer
President

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL ORGANIC COALITION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Steven Etka

Organization(s) you represent

National Organic Coalition

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Washington Representative

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Carbon reduction is a critical international priority and must be addressed by Congress. Whichever carbon reduction mechanism is used to address the U.S. role in this global problem, the role of organic agriculture in both sequestering carbon, and reducing the use of energy-intensive inputs must be recognized as an important part of the solution.

Not only does organic agriculture severely restrict the use of synthetic pesticides, herbicides and fertilizers that require fossil fuels for manufacture, but the rich soils developed in organic cropping systems and the pastures required for organic livestock operations have been proven to be significant carbon sinks, as well.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

It is highly impractical to formally cover the entire agriculture sector under a carbon reduction program. The diversity and dispersion of agricultural operations across the country would make such an effort very difficult, inefficient, and therefore ineffective at reducing carbon. In circumstances where agricultural operations function like industrial operations, such as in some concentrated animal feeding operations (CAFOs), formal coverage under a carbon reduction program may be warranted and practical.

Climate change legislation should include incentives for a shift in agricultural production toward more sustainable practices, where such practices have been scientifically demonstrated to sequester carbon. In addition, such incentives should also encourage a shift toward agricultural systems that reduce the reliance on energy-intensive petro-chemical inputs. Organic agriculture and programs that encourage a shift toward organic and sustainable practices should be encouraged through this legislation.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

If a cap-and-trade program is chosen, it is critical that the program require a reduction in carbon emissions from major contributors. It is neither acceptable nor effective to merely allow major emitters to continue their operations in a status quo fashion, while paying other operations to make changes. Any cap-and-trade regime must require actual progress on the part of all covered industries, in addition to any offset mechanism. Without such a requirement, the progress toward our carbon reduction goals will be too slow and too late.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and

forest landowners, or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Because of the effects of climate change, such as drought and flooding, the agriculture sector is on the front line of the harms associated with climate change. Our food security requires that we not only take aggressive actions to reduce carbon emissions globally, but that we take actions to adapt and diversify our agricultural practices, our seeds varieties, and our animal breeds to respond to the extreme weather changes in each area of the country.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Any climate change legislation should include provisions to reward organic farms not only for sequestration of carbon but also for contributions to reduce production of greenhouse gases by non-use of petro-chemical inputs, such as synthetic fertilizers and pesticides. Many of the agricultural practices that are prohibited as part of USDA organic standards also contribute to greenhouse gas emissions.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Programs that encourage farmers to convert to organic, such as the Organic Conversion option within the Environmental Quality Incentive Program (EQIP), should be supported as should programs that help defray certification costs of organic farmers, such as the National Organic Certification Cost Share Program

Other areas where Congress and USDA could make improvements in existing conservation programs to encourage the adoption of organic farming systems include:

-Requiring NRCS to collaborate with ARS and CSREES to boost technical assistance capacity and delivery for organic transition;

- Requiring that business planning and marketing training be provided as part of technical assistance for transitioning producers participating in EQIP;

- Requiring NRCS to hire an organic specialist in each state, much in the same way that no-till specialists have been hired by NRCS in many states;

- Requiring a nationwide set-aside under EQIP for organic conversion, with a requirement that the organic conversion option be offered to farmers in every State;

- Requiring that all USDA conservation programs include a carbon reduction goal within them, and establish mechanisms to further that goal;

In addition, at the same time as Congress is taking action on a carbon reduction program, efforts must also be taken to help U.S. agriculture adapt to climate change, to address our food security needs. For example:

- additional investments should be made in organic research and extension to further the knowledge-base on how to maximize and quantify the carbon sequestration and reduction benefits of organic production.

- significant increases in funding for conventional/classical plant and animal breeding (as called for in section 7406 of the 2008 Farm Bill), should be made in all regions of the country to develop and diversify seed varieties and animal breeds that are adapted to the changing climates and micro-climates in that area of the country.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

A few good resources demonstrating the science of organic farming's role as part of the solution to global climate change are:

* Regenerative Organic Farming: A Solution to Global Warming, Tim J. LaSalle, Ph.D., CEO and Paul Heperly, Ph. D., Director of Research and Fulbright Scholar, Rodale Institute, Emmaus, Pennsylvania, 2008. http://www.rodaleinstitute.org/20080425/gw6

* Low Greenhouse Gas Agriculture. Mitigation and adaptation potential of sustainable farming systems. UN, Food and Agriculture Organization, March 2009, http://www.fao.org/organicag/en/

* Statement of Supachai Pantichpakdi, Secretary-General of UNCTAD on Organic Farming, October 2008, http://www.organic-center.org/science.latest.php?action=view&report_id=134

* Sustainable Development Law and Policy Journal, Fall 2008, SUSTAINABLE SOILS: REDUCING, MITIGATING, AND ADAPTING TO CLIMATE CHANGE WITH ORGANIC AGRICULTURE, by Meredith Niles, Center for Food Safety, http://www.wcl.american.edu/org/sustainabledevelopment/2008/08fall.pdf?rd=1 Article starts on page 19 of this link

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL PORK PRODUCERS COUNCIL
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name:

Michael C. Formica

Organization(s) you represent:

National Pork Producers Council.
And on behalf of the following State Pork Council's:

Arizona Pork Council
Colorado Pork Producers Council
Illinois Pork Producers Association
Indiana Pork Producers Association
Iowa Pork Producers Association
Kentucky Pork Producers Association
Louisiana Pork Producers
Michigan Pork Producers Association
Minnesota Pork Producers Association
North Carolina Pork Council
Nebraska Pork Producers Association
Ohio Pork Producers Council
Oklahoma Pork Council
Tennessee Pork Producers Association
Utah Pork Producers Association

Address:

[Redacted]

Email:

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Chief Environmental Counsel
National Pork Producers Council

NPPC is also submitting these responses on behalf of the listed State Pork Producer Councils.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Addressing the threat of climate change in any meaningful way, while ensuring the proposed solutions do not cause far greater economic harm or lead to catastrophic unintended consequences, is a complex, long term proposition. It will require great vigilance and harnessing the wisdom of the nation's greatest scientific, economic, legal, and agricultural minds.

There will be numerous legislative vehicles, as well as international agreements, over the coming years seeking to address the impact of greenhouse gas emissions on the environment. Each will have the ability to impose both great benefits to the industry and society as well as significant costs on the industry. As a general matter, policies that harm the agricultural sector will also have a negative impact on society as a whole by increasing food prices, risking food security, and disrupting food supplies. Conversely, adoption of policies that benefit the agricultural sector will have a general positive impact on society as a whole. They will strengthen our successful food and nutrition system and allow agricultural producers to provide carbon reduction in a sustainable and cost effective manner with minimal impacts on food prices or availability. Pork producers, and all of agriculture, have a tremendous stake in the nation's efforts to address climate change and are eager to engage in the conversation.

Livestock producers, as well as crop farmers, can and must play a significant role in ensuring that any solution to agriculture succeeds. The U.S. Pork Industry has a long record of progressively advancing its environmental performance and improving its efficiency while retaining its position as the global leader in supplying an affordable source of protein. Pork producers feel strongly that animal agriculture is a solution and not a problem.

When addressing agriculture, other factors beyond simply emissions must be factored in, including growing world population and increased global protein demands, as well as

changes in land use patterns and growing pressure on land and the ecosystem services provided by those lands. As a result, the IPCC and the world community have begun to recognize that the focus of climate policy for agriculture should be on efficiency of the production system and efficiency gains per unit of food output and the ability of the agricultural sector to efficiently feed a growing world rather than simply looking to emission reductions in aggregate. Senator Lugar and Dr Norman Borlaug authored an article in the Washington Post on April 5, 2009 and their comments are very relevant as a general, critical policy matter. Some key excerpts follow:

> "The world is not producing enough food, and many poor families cannot afford to buy the food that is available. As a result, nearly a billion people, a sixth of the Earth's population, do not have enough to eat....The long-term prospects for global food supplies are equally troubling. Based on expected population growth, rising incomes and wider meat consumption, it is estimated that the world's farmers will have to double their output by 2050... Attempting to double food production by increasing the acreage under cultivation would cause widespread deforestation and put significant stress on local ecologies. Farmers will have to get much higher yields from land already in production, requiring major investments in infrastructure and agricultural technology... It is both a moral and security imperative that we act."

We agree with their views on these challenges and think it is prudent to consider our prospective climate change policies in this context.

Still, Congress may decide, after looking closely at both the challenges facing the domestic and world economies and the challenges of controlling greenhouse gas emissions, to pass climate change legislation to aggressively reduce U.S. carbon emissions. If so, NPPC believes that a free market based cap-and-trade system is a preferable policy vehicle to either a simple command and control or carbon tax program.

A cap-and-trade system has the possibility of achieving greater – and more sustainable – emission reductions at a greatly reduced cost than a carbon tax on GHG emissions. This is because cap-and-trade provides covered entities the flexibility to choose the lowest-cost abatement method available, while guaranteeing the required emissions reductions are made. Cap-and-trade also turns these least-cost alternatives into financial opportunities, and will make all GHG capped emitters have a vested interest in finding further low cost and innovative ways to reduce and offset emissions. This combination of flexibility and positive

incentives means a cap-and-trade program meets the environmental goal at the lowest cost to the economy as a whole.

Furthermore, a cap-and-trade system need not be inherently more complex than a carbon tax and, indeed, has implementation advantages. Either program can be designed to be simple, but both programs will require strong measures to assure broad compliance. Cap-and-trade would permit market forces to work; serve to mitigate increases in carbon-related production costs; offer the potential for agricultural producers to offset some of the higher costs they will bear, by selling carbon credits; and provide a means of measuring and assessing the success of the nation's climate change policies.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

NPPC believes that greater environmental benefits can be achieved by not regulating agriculture under an emissions cap. A number of groups within the agricultural sector have adopted a set of 9 basic principles regarding climate change policies and this particular question is addressed specifically by one of those principles.

The agricultural sector must not be subject to an emissions cap. Attempts to cap agriculture's two million farms and ranches in climate legislation would be costly and burdensome and result in greater costs than GHG emissions reductions benefits. U.S. farms and ranches managed by crop, livestock and poultry producers can provide low-cost, real and verifiable carbon "offsets" that:

- Greatly lower the costs to society of a cap-and-trade system while achieving real greenhouse gas emission reductions;
- Provide the offsets needed to allow changes in energy production technologies and investments in capitol and infrastructure, while providing market liquidity and low-cost emissions reductions to help the market function properly; and
- Provide additional environmental benefits in the form of cleaner water, air and better wildlife habitat, while enhancing the fertility and productivity of the soil resource needed to provide food, feed, fuel and fiber.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances? *Please respond in 600 words or less.*

To ensure agriculture's participation, any mandated cap and trade system must be structured correctly, so that the costs it imposes on producers do not exceed the opportunities it creates for producer participation in offset markets. NPPC holds that any GHG emission reduction program that adopts aggressive emission reduction goals for the U.S. will result in substantial and sustained increases in electricity, diesel and gasoline costs, along with increases in input costs for hog production, pork processing and transport. These same price shocks will be felt throughout the U.S. economy, and, of course, will hit some income groups, communities, regions, and sectors harder than others. As such, we strongly encourage policy makers to adopt cap-and-trade policies that result in the lowest energy price shocks possible for the given GHG emission reduction goals. Accordingly, NPPC believes that allowances should be made available to capped emitters at little or no cost in the first several years of a cap-and-trade program.

Current estimates predict that agricultural and forestry lands can help to reduce up to 20% of U.S. greenhouse gas emissions. It would be both unwise and market distorting to place an artificial cap on the amount of domestic offsets a covered entity can use to meet its yearly obligation. Instead, the U.S. goal should be to reduce atmospheric greenhouse gas concentrations as much as possible. Artificial caps on offsets will prevent legitimate carbon sequestration, livestock methane capture, and manure gasification projects from occurring. As an uncapped sector, the agricultural community does not anticipate that it will be faced with the question of how many allowances agriculture would receive, or whether they should be auctioned or given to the sector – since this pertains only to capped sectors. However, if bonus allowances are granted to the agricultural sector to help cover the costs of a cap-and-trade policy on its input and energy costs, it is assumed that they would be provided at no cost. Still, the sector would have to evaluate how the income generated from the sale of these bonus allowances to the capped sector would be distributed to the agricultural sector, and by whom, in order to determine the value to the sector.

Electricity and other energy costs will go up under any cap-and-trade bill that sets allowances significantly lower than baseline levels. For example, auctioning all carbon allowances at $20 per ton (as was assumed by OMB in the President's 2010 budget request), would increase electricity costs approximately 40 percent in Indiana, 30 percent in Kentucky, 20-25 percent in Ohio, and 15 percent in the Carolinas. These increases will be far less dramatic if those allowances are distributed freely to emitters. Even if GHG emission allowances are distributed to emitters for free, electric rates still increase, but at far more reasonable levels. Carbon emissions will still decrease at the same pace as under a 100 percent auction system. To the extent that the decision to auction or give away allowances to the capped sector impacts the cost of the overall cap and trade system, the agricultural sector would recommend this be structured to keep the costs borne by capped sectors and society as low as possible.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A single national cap-and-trade program makes far greater policy sense than trying to integrate separate and disparate state or regional programs. Congress should integrate any existing programs into a new federal program.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Under the above referenced climate change principles embraced by many in agriculture, we believe it critical that USDA should promulgate the detailed rules and guidance pertaining to an agricultural offsets program, as well as administer the agricultural program. USDA has both the institutional resources as well as the technical expertise necessary to administer an agricultural offset program. Furthermore, USDA has a track record of working with farmers on verification of agricultural practices as well as studying, modeling and measuring carbon sequestration and other GHG emissions reductions by the agricultural sector.

EPA, in consultation with the relevant Cabinet agencies, can have responsibility for setting broad offset program objectives and standards, and tracking allowances and offsets in a GHG registry. USDA has the statutory authority provided in the 2008 Farm Bill, the institutional resources and the technical expertise necessary to create and administer an agricultural offset program that works for production agriculture. USDA has a track record of working with farmers as well as the scientific expertise responsible for studying, modeling and measuring conservation and production practices that sequester carbon and that promote appropriate manure management and nutrient application on agricultural lands. USDA should be given adequate flexibility in implementing the offset program to allow it to account for new technologies and practices that result in emission reductions from agricultural sources.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Futures or other derivatives based on offsets in the cap-and-trade market should be regulated by the Commodity Futures Trading Commission. The CFTC has the expertise and experience to regulate both on- and off-exchange derivatives, and has demonstrated this ability throughout a wide range of physical and non-physical instruments. Experience shows that splitting futures jurisdiction between two agencies is a sure-fire recipe for stifling the development of promising markets. Certainly, the CFTC can and should consult with the agency primarily responsible for the cap-and-trade program itself, just as CFTC consults with the U.S. Department of Agriculture about technical questions involving agricultural futures. However, the ability to regulate carbon futures and other derivatives (as opposed to the cash market) should reside with CFTC.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Carbon offset derivatives should be subject to the highest standard of regulation under the Commodity Exchange Act, and should generally trade on an organized exchange. In order to assure the integrity of these markets, render them transparent, assure the most efficient discovery of prices and protect the public interest, the on-exchange trading model makes the most sense. We note that in H.R. 977 as passed by the Committee on Agriculture, Congress is moving toward restoring greater regulation of derivatives markets generally, informed by the unfortunate experience of excessive speculation in 2007 and 2008. It would make little sense to permit the new and uncertain carbon offset futures market to grow up in an unregulated atmosphere.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

AND

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

AND

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

As noted above, NPPC believes that cap-and-trade legislation will raise U.S. energy costs with all the attendant effects on the economy, and that these effects will be

disproportionately borne by those regions and industries that are heavily dependent on coal for their electricity and those businesses that are energy intensive in general. Furthermore, not all of agriculture will be able to benefit to the same degree from carbon offset trading opportunities. Even where there are good value offset trading opportunities, there will be significant lead time for those to be realized in some farmers' cases relative to others, and in some areas of the sector relative to others. That lead time will result in its own uncertainties and economic hardships.

Therefore, as a general matter of principle, we believe that compliance costs for the capped emitters be kept to a minimum, lowering the size of the energy price increases that will result from cap and trade. In our view, the surest ways to achieve this are to distribute allowances free of charge to capped emitters for at least the first several years, and provide for unlimited use of offsets that are real and verifiable. But if allowances are auctioned, it is fair and appropriate for a substantial portion of the revenues be used to reduce the level of sacrifice that is being disproportionately borne by certain regions, sectors and communities.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

NPPC does not have a position on this issue.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should be set by the market forces in operation in the offsets trading program. Participation in the current voluntary program is low partly because carbon prices are too low. The expectation is that a mandatory system will result in higher market prices for carbon.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The most significant lessons to be learned from the European experience are that there are legitimate and significant diminishing returns to an overly aggressive offset verification program, and such an over aggressive effort adds little and in some circumstances almost certainly adds less assurances as to the size and durability of the credits being created. Such an overly aggressive program also increases offset trading transactions costs to the point that can make them uneconomic, adding costs to the overall cap-and-trade effort and raising the negative energy price consequences to a greater level than they otherwise need to be.

The Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC) did include the ability of Annex I (industrialized) countries to account for agricultural and forestry sinks in their domestic implementation programs to achieve emissions reductions obligations. Many countries, including Canada, do have carbon reduction and trading programs for agriculture and forestry.

Additionally, while the EU chose to not include agricultural and forestry emissions reductions offsets in its initial phases, it has already conclusively decided to include them in the future, and has already voted to include forestry sinks in the next ETS phase. The EU and the European Commission (EC) conducted an EU-wide Integrated National Sink Enhancement Assessment (INSEA) that analyzed the role of terrestrial sinks in the EU in helping to mitigate climate change and meet EU members' emissions reductions obligations. The EU has indicated that landscape management of carbon is desirable and under development. In the recent (29 March through 8 April 2009) UNFCCC negotiations session in Bonn, Germany, an agricultural workshop was held in which many member countries, including the EU and the U.S., indicated a strong desire to include agricultural mitigation and adaptation opportunities in the post-2012 framework. That framework is to be adopted in Copenhagen in December, 2009, for both developed and developing country parties. It, therefore, would be inconsistent for the U.S. domestic program to not include agricultural and forestry emissions reductions as part of a cap and trade system.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Allowances should be distributed to capped emitters, over the first several years or even longer, at little or no cost. As such, bonus allowances would have no or little value during that period. The focus for agriculture should be on the voluntary carbon offsets market. NPPC believes that the use of performance standards in the GHG program is not a viable policy option if the intended meaning of the phrase "performance standards" is that from Section 111 of the Clean Air Act (CAA). Where such standards are applied to existing stationary sources of emissions through federally mandated state permit requirements, these emitters are excluded from selling carbon offsets and instead are simply forced through permit requirements to reduce emissions. Such an approach must be rejected because much or all of the efficiency enhancing and cost reduction benefits of a cap-and-trade program are lost as a result. It will simply add to or dramatically expand another governmental bureaucracy to handle the very needs that the carbon offsets institutions are being created to handle. If a sector is not capped under the cap-and-trade program, then those uncapped entities in that sector should be permitted to generate offset credits for sale to the emitters seeking the least cost solution to meet their capped emissions targets.

If performance standards for segments of agriculture are warranted for the voluntary offsets market, and are not mutually exclusive from other, GHG-based offsets categories, then NPCC would support this, to the extent that the performance standards are science-based and create certainty and fungibility for any offset credits generated.

On the issue of bonus allowances being provided to the agricultural sector, they should be provided in addition to robust agricultural participation in a voluntary offset market, and not in lieu of that. Further, the bonus allowances should be provided for the following purposes (not mutually exclusive): (1) to reward early actors who might otherwise be prevented from

participating in offsets markets due to baseline and additionality issues; (2) to further the science-based development of standards, protocols, methodologies, and practices that enhance the certainty of measurement of GHG emissions reductions practices in the agricultural sector, for offset opportunities; and (3) to otherwise reward segments of the sector that are negatively impacted by the cap and trade policy and are not afforded income generation opportunities for technical or other reasons (i.e. Who may not be able to participate in offset markets).

15) Should the total number of offsets issued annually by the government be limited? If so, how much? *Please respond in 300 words or less.*

No. The more offsets that are allowed to be created and traded the lower the cost of the cap-and-trade program for the U.S. economy and its energy and manufacturing intensive sectors. As long as the offsets are real and verifiable, the legislative GHG reduction goals are still achieved.

Current estimates predict that agricultural and forestry lands can help to reduce up to 20% of U.S. annual greenhouse gas emissions. It would be both unwise and market distorting to place an artificial cap on the amount of domestic offset allowances a covered entity can use to meet its yearly obligation. Instead, the U.S. goal should be to reduce atmospheric greenhouse gas concentrations as much as possible. Artificial caps will prevent legitimate carbon sequestration, livestock methane capture, and manure gasification projects from occurring.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The distribution of the offsets, assuming they are real and verifiable, will be determined by the market facilitating the trades among willing sellers and buyers given the prevailing prices. What is important is that the policy be created to ensure that a credible, cost-effective offsets program is included in the cap and trade policy. The policy must strike a credible balance between costs and accuracy to ensure that real, verifiable, beneficial offsets are available to capped sectors, and that allow the agricultural sector to participate in a meaningful way that positively benefits the sector and society by creating GHG emissions reductions and increased sequestration with multiple benefits. The availability of real, verifiable offsets to capped sectors should not be artificially restricted.

Analyses of the Lieberman-Warner bill by the Environmental Protection Agency, for instance, showed that at the level of the cap established in that bill, unlimited offsets could be permitted without hampering the technological innovation necessary to create changes in energy production over the long term that are needed to ultimately slow, stop, and reverse U.S. GHG emissions. Additionally, that same analysis showed that the role of offsets in cost-containment is significant: if the use of domestic and international offset credits in that bill were unlimited, allowance prices would fall by 71 percent. Conversely, if domestic and international credits were not allowed, allowance prices would increase by 93 percent. The impact of offsets on the costs of the policy to capped sectors and society is thus incredibly significant.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

AND

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

AND

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

AND

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

We assume that the term "offsets projects" as it is used here means simply offsets that are offered for sale by individuals or businesses. The cap-and-trade legislation should require that any offsets offered for sale have to be shown, under peer-reviewed science utilized through standards established by public notice and comment rulemaking, to be real and achievable for the conditions at hand at the locations where the offsets are being generated. A solid and successful verification system to determine that real offsets are in fact being achieved should be based on an audit of a statistically rigorous sample of the population of offsets being offered, or perhaps of some subcategory of the offsets. Each and every offset being offered for sale does NOT need to be verified by through this statistical sample review. Auditing all of the offsets being offered for sale, as we understand was or is being done in the European system, increases the transactions cost of the program more than needed to give the sufficient degree of certainty that real and verifiable offsets are in fact being achieved.

It may be possible that the system designed includes both a standards-based approach for some categories of emissions reductions or sequestration, and a project-based approach that combines measurements and models in a scientifically valid format. Additionally, the system should allow for changes and enhancements to the system over time, as science and improvements and technology allow.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Generally speaking, assuming allowances refer to a set amount of emissions a facility is allowed to produce, the ability to generate offsets provide not only a method of achieving reductions in emissions but also work as a vital price containment to keep the cost – on capped sector and society at large – under control. In that regard offsets and allowances work cooperatively with each other and enable society to focus attention on reducing emission efficiently and cost effectively.

As we stated in response to Question 16, analyses of the Lieberman-Warner bill by the Environmental Protection Agency, for instance, showed that the role of offsets in cost-containment is significant: if the use of domestic and international offset credits in that bill were unlimited, allowance prices would fall by 71 percent. Conversely, if domestic and international credits were not allowed, allowance prices would increase by 93 percent. The impact of offsets on the costs of the policy to capped sectors and society is thus incredibly significant.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The most important factor in establishing the permanence and duration of offsets while still preserving sufficient flexibility in the contracts is simply making the selling party fully responsible under their contract for ensuring the integrity of the offset relative to circumstances that are under the control of the seller. If for some reason under the control of the seller the offset is no longer being provided, the seller should be legally obligated to secure the equivalent value of offsets at the seller's cost and give those to the purchasing party. If a failure to reduce GHG emissions or enhance sequestration, or the reversal of emissions reductions or sequestration is attributable to non-anthropogenic events or activities (e.g., weather, catastrophes such as wildfire or flooding that are beyond the control of the participants), provisions should be created and adopted to deal with these reversals or lack of emissions reductions or sequestration. For example, insurance mechanisms or "buffer

reserves" that create an insurance pool that does not penalize the parties involved can be created.

The length of the contracts should strike the right balance between transactions cost per trade while increasing the general sense of confidence in the permanence of the reductions to be achieved by the overall program. However, the length of contracts may vary according the type of offset. For instance, forestry sink offsets may have a longer contract length than that of soil sink offsets, and those may both differ from an offset created by the use of an anaerobic methane digester. Longer contracts can be allowed and encouraged between willing parties, again to lower further the transactions costs per trade, but that is a decision between the contracting parties. Longer contract periods imply more risk for the seller, and should result in a higher price received for the offsets.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

AND

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

AND

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Again, consistent with agriculture's climate principles referred to earlier, producers that have previously initiated projects and practices that have lead to GHG reduction in the past should not be disadvantaged by being excluded from compensation for future offsets that occur as a result of these efforts taken in the future. Such exclusion would perversely penalize early adopters who take on risks in the absence of compensation, those who acted

in good faith in anticipation of voluntary or mandatory carbon markets, as well as those whose progressive actions and natures result in the very practices that a GHG reduction policy seek to stimulate.

Agriculture is always evolving. As technologies and practices improve, farmers are adopting new and improved practices. They are substituting manure for commercial fertilizer, or using their manure in its role more efficiently. They are using methane digesters and investing in covers for manure storage or treatment facilities while others are able to reduce enteric emissions with dietary modifications. As long as these producers must continue to proactively make use of such practices and incur the associated costs, they must be allowed to offer the resulting carbon offsets for sale in the offsets market.

Furthermore, many practices undertaken to reduce greenhouse gas emissions will provide additional public benefits, such as clean water, wildlife habitat, and reduced soil erosion. As a nation, we have yet to quantify the multitude of benefits such activities provide. But, by allowing the reward or stacking of these credits, we can start to appropriately monetize and reward those behaviors and activities that are deemed as benefiting both the agricultural sector and society at large. Projects participating in a greenhouse gas offset market should not be excluded from also participating in other markets for environmental services that currently exist or may arise in the future. Allowing producers to "stack" credits will maximize the economic viability of carbon sequestration and manure management projects, ensuring more projects are undertaken and synergies with other environmental priorities are developed. In addition, new climate programs should complement existing conservation programs within the Farm Bill.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

The answer to this question is included in our response to question 22. If a failure to reduce GHG emissions or enhance sequestration, or the reversal of emissions reductions or sequestration is attributable to non-anthropogenic events or activities (e.g., weather, catastrophes such as wildfire or flooding that are beyond the control of the participants), provisions should be created and adopted to deal with these reversals or lack of emissions

reductions or sequestration. For example, insurance mechanisms or "buffer reserves" that create an insurance pool that does not penalize the parties involved, but that accounts for the losses or reversals, can be created. Alternatively, the federal government can develop a mechanism to "absorb" the difference by changing its annual reporting on GHG removals and sinks, to account for the losses. These mechanisms may not be mutually exclusive.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Fewer rather than more protocols and procedural details should be set in legislation, with the vast majority being left to the appropriate federal agencies to develop via rulemaking, to include proper notice and comment periods, provided there is continual and effective oversight from the Congressional committees of jurisdiction.

Regarding which agencies should manage the programs, see our answer to question 5.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

AND

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No, they do not. Higher levels of compensation for the costs of these practices are needed by producers to increase their adoption and ensure their long term maintenance and value. Congress could increase the financial incentives in these programs to achieve these ends, but the federal government would also need to incur significantly higher costs of overseeing these financial assistance agreements to provide the certainty needed that these GHG emission reductions are really taking place. GHG offset markets also offer a second category of incentivizing these practices and emissions reductions and enhanced sequestration.

Alternatively, allowing for the stacking of the value of environmental impacts created by these existing programs onto that provided by the GHG offsets trading market and other nutrient trading markets will also lead to more widespread adoption and greater long term certainty as to the size of offset being created. But under this combined alternate approach, the necessary costs to ensure the integrity of the commitments and trades will fall to the market, where there will be clearer and more effective incentives to drive the costs of verification and risk management to their lowest levels possible. For a given level of GHG reduction, these integrity and verification costs will be lower under the market-based trading system than under a federal financial assistance program. Furthermore, using this market-based system for GHG offset credit trading will do a better job of ensuring that the level of GHG reductions actually taking place matches that level needed to achieve the program's objectives. This assumes that the market value of the GHG credits will adjust automatically as the market functions to match supply with the regulatory-driven level of aggregate demand.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Substitution of manure for commercial fertilizer	Excellent	Excellent to Good	Low	High
Improvements in conservation measures associated with manure applications to reduce N2O emissions.	Excellent	Good	Low to medium	High
Continued operation of a methane digester	Excellent	Excellent	Medium to high	High
Install methane collection systems for existing manure storage and treatment facilities.	Excellent	Excellent	High to medium	High to low

RESPONSE TO QUESTIONNAIRE SUBMITTED BY NATIONAL RENDERERS ASSOCIATION

NATIONAL RENDERERS ASSOCIATION

April 10, 2009

The Honorable Collin C. Peterson, Chairman
House Committee on Agriculture
United States House of Representatives
Washington, DC 20510

Dear Mr. Chairman:

The National Renderers Association (NRA) appreciates being sent your questionnaire to various organizations to gather information and facilitate the discussion of the role of agriculture and forestry in the climate change debate sent on March 11, 2009. We do not have the expertise to answer most of the questions in detail, but have some very important input for your consideration—that rendering should be recognized as an important greenhouse gas avoidance technology.

NRA is the international trade association for the industry that safely and efficiently recycles animal agriculture by-products into valuable ingredients for the livestock, pet food, chemical and consumer product industries. NRA represents its members' interests to Congress, regulatory and other government agencies, promotes greater use of rendered products, and fosters the opening and expansion of trade between North American exporters and foreign buyers. NRA's membership represents more than 98% of the rendering capacity in both the U.S. and Canada.

We understand that various proposals would allow agriculture producers and forest landowners to receive emission allowances to generate carbon offsets which could be sold under a cap and trade program. Renderers would not fit into these categories, but the functions performed by rendering plants are a very important link in the animal agriculture chain and already performs a great service to the environment. It is important to us that any new legislation not hinder our ability to perform our current recycling activities as profitable businesses and that any incentives or opportunities to trade carbon offsets be made available to renderers as essential industries.

Rendering is the cooking and drying process used in converting animal byproducts into fats and proteins. Approximately 56 billion pounds of highly perishable organic materials is recycled annually by U.S. renderers. Through the rendering process, inedible wastes that are rich in carbon and nitrogen are recycled into useable materials. This process also averts the release of carbon dioxide and other greenhouse gas emissions that would otherwise be released into the air through the normal decomposition process. Rendering is the most efficient and environmentally sound disposal alternative.

The following table shows the amount of carbon removed from the environment in the form of rendered products.

	Production	% Carbon	Carbon, (metric ton)	CO_2 (metric ton)	CO_2 (US ton)
BFT (animal fat)	4,515,600	75.89%	3,426,889	12,566,516	13,852,070
Meat and bone meal	2,314,600	24.27%	561,661	2,059,629	2,270,329
Poultry by-product meal	1,153,500	28.68%	330,801	1,213,057	1,337,153
Feather meal	600,900	37.50%	225,350	826,364	910,901
Pork meal	720,711	25.59%	184,427	676,300	745,486
Blood products	102,512	37.50%	38,444	140,976	155,397
Total all products	9,407,823		4,767,571	17,482,842	19,271,337

If all carbon in these waste products were expressed as CO_2, using the EPA estimate of 5.46 metric ton per car, failure to remove these products from the waste stream would be **the same as adding 3,201,986 cars to the nation's roads.**

However, if 20% of the carbon in decaying organic material is expressed as methane and 10% of the nitrogen is expressed as nitrous oxide, then removing these products from the waste stream (because these greenhouse gasses have global warming potentials that are substantially greater than CO_2) would be **the same as removing 12,263,316 cars from the nation's roads.**

The following table shows the amount of nitrogen removed from the environment in the form of rendered products.

	Production	% protein	N (metric ton)	N (US ton)
Meat and bone meal	2,314,600	55%	203,685	224,522
Poultry by-product meal	1,153,500	65%	119,964	132,236
Feather meal	600,900	85%	81,722	90,083
Pork meal	720,711	58%	66,882	73,724
Blood products	102,512	85%	13,942	15,368
Total protein meals	4,892,223		486,195	535,933

Approximately 55 percent of the cattle that die each year in the U.S. are not rendered, the bulk of which are deposited in landfills or otherwise left to decompose. According to the U.S. Department of Agriculture, approximately 4.3 million cattle died in 2007. Based on GHG measurements taken from composting studies, adding one metric ton of cattle carcasses to the compost pile, results in 2 metric tons of CO2 equivalents produced over and above any gases produced by decomposition of manure, bedding or other organic material in the pile. If GHG production is similar when carcasses decompose naturally in

the environment, one adult dairy cow might be expected to add 1.2 metric tons of CO2 equivalents to the environment.

Accounting for the discrepancy in mature cattle deaths vs. calf deaths, the resulting release of CO_2 emissions from cattle not already rendered is approximately 492,000 tons per year. Using the Environmental Protection Agency's estimate for average emissions for vehicles, providing the incentives to render these additional animals would equate to taking an additional 82,000 cars off the road each year.

These estimates, however, assume that no methane or nitrous oxide gases are emitted during the decomposition process. If 20% of the carbon is released as methane rather than CO_2 and 10% of the nitrogen in a carcass is given off as nitrous oxide, the annual global warming potential for carcasses that are not rendered increases to 2.1 million tons (1.9 million metric tons) or the equivalent emissions of approximately **another 345,000 cars.**

As Congress continues to consider the implementation of a national cap and trade scheme, the rendering industry should be considered a viable source of emission offsets. Allowing the rendering industry to participate would create financial incentives for farmers and ranchers to properly dispose of dead animals while avoiding additional greenhouse gases, reducing concerns over the spread of disease and freeing up limited landfill space. Also, discriminating against products already recycled through rendering as "not new," but recognizing protocols for placing fallen animals in anaerobic digesters or in landfills to trap and burn off the methane produced as "new" would put rendering at a competitive disadvantage and drive these organic materials to a much less productive and environmentally advantageous end. The result would be awarding offsets for shifting carbon from recycling to disposal with no net reduction (and a probable increase) in greenhouse gas emissions.

Thank you for considering our role in the current and future work to decrease greenhouse gas emissions. Please feel free to contact us any time for more information about the rendering industry.

Sincerely,

David L. Meeker, Ph.D., MBA
Senior Vice President, Scientific Services
National Renderers Association

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL RURAL ELECTRIC
COOPERATIVE ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Glenn English

Organization(s) you represent

The National Rural Electric Cooperative Association (NRECA) is a not-for-profit national service organization representing 930 not-for-profit, electric cooperative utilities, owned by the consumers they serve. Electric cooperatives serve more than 42 million end-use electric consumers in 47 states. NRECA's membership includes both distribution cooperatives that deliver electricity to the consumer and generation and transmission cooperatives that generate and transmit electricity to distribution co-ops. Electric co-ops are small businesses that provide at-cost electric service. NRECA is an advocate for its members on energy and operational issues as well as rural community and economic development issues.

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Glenn English is the Chief Executive Officer of NRECA.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A successful mandatory climate change program should achieve real greenhouse gas reductions for the least cost with minimal economic disruption. A well-designed carbon tax or cap-and-trade program can meet these objectives, whereas a poor design of either a carbon tax or cap-and-trade program would be economically devastating and politically unsustainable. For example, a cap-and-trade program that reduces emissions too quickly in the early years without available cost-effective, commercial climate technologies and a method to adjust allowance prices will result in unsustainably high costs. But a cap-and-trade program that has emission reduction targets aligned with expected technology availability and a safety valve to limit the cost of allowances will yield a smooth, steady path of emission reductions over the long term.

Either approach will result in distributional effects based on income and geography. Policies that provide financial assistance to low- and mid-income consumers to increase efficiency and reduce energy costs, and recycle revenue back to them in a timely fashion—not once a year in the form of a tax credit—will be needed to keep consumers whole. Geographic regions more heavily dependent on coal for electric generation such as the South, Midwest, and Great Plains will experience greater price increases. Climate change policy must be structured to reduce these regional distributional effects.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

In general, a carbon tax or cap-and-trade program is most effective/workable when there are accurate estimates of greenhouse gas emissions and fewer sources to regulate. Agriculture's emissions come from thousands of small sources, making it unsuited to regulation. Likewise, the Forest Landowners Association counts over 10 million private forest landowners in the US with most of these lands sequestering carbon. Therefore, NRECA supports de minimis exclusion for small sources, such as agriculture and forestry producers, from covered sectors under a mandatory greenhouse gas reduction program.

The agriculture and forestry sectors offer significant opportunities to reduce greenhouse gas emissions through cultural practices that could be included in a domestic offset program.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the

distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

The introduction of a price on carbon emissions will be regressive, disproportionately affecting those least able to pay. The auction of allowances will favor those entities that can afford to pay more such as large, for-profit national and multi-national corporations. Businesses with small margins, faced with high auction prices, will soon be uncompetitive in the new economy.

As small, not-for-profit, consumer-owned utilities, electric cooperatives operate at cost. The cost of buying emission allowances at auction would be passed directly to our consumers, while the costs avoided through a free allocation would result in direct savings to our consumers. The additional costs of an auction would disadvantage electric cooperatives and the regions of the country that they serve. Therefore, NRECA recommends that allowances be freely allocated to rural electric cooperatives, so that the impacts of a cap-and-trade program are minimized to electric cooperative consumers. The free allocation of emission allowances will minimize the cost of the program and ease the transition of electric cooperative consumers, including agriculture and forestry producers, to a low-carbon economy.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

A single, comprehensive federal program to reduce emissions of greenhouse gases is the most cost-effective and efficient climate policy. A patchwork of state and regional programs, each with different reduction requirements, emission permits, and other compliance obligations, in addition to a federal program, would be overly burdensome without providing a clear environmental benefit. A federal cap-and-trade program or a carbon tax/fee program should preempt existing and emerging regional, state, and local carbon reduction programs. NRECA supports a single, integrated, comprehensive federal program.

Additionally, new climate change legislation must become the sole federal legislation governing CO_2 and greenhouse gas emissions. New federal legislation must not simply be layered on top of existing law that has the potential to affect greenhouse gas emissions. As such, new legislation should prevent the Clean Air Act, Endangered Species Act, and other existing legislation from being used to require any form of emission limitations for greenhouse gases.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

If a cap-and-trade program is established, it will require the cooperation and expertise of existing federal agencies including the U.S. Environmental Protection Agency and the Departments of Agriculture, Energy, and the Treasury. NRECA does not believe that it will be necessary to create a new agency.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

If a derivatives or futures market in carbon reduction arises, the Commodity Futures Trading Commission (CFTC) should be the regulator of this market. With over 30 years of experience in regulating futures and options, the CFTC has the experience and expertise to regulate a derivatives market for carbon allowances and offsets. Reinventing the wheel by creating a new agency appears to be unnecessary and counterproductive. Seeking to implement this new regulatory authority, that will need to be sensitive to the nature of derivatives, into the existing regulatory structures of either the Federal Energy Regulatory Commission or the Securities Exchange Commission seems to be an uncomfortable merger at best—physical markets and securities should not be regulated in similar fashion.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Under a cap-and-trade system, the nation's rural electric cooperatives will require a regulatory framework for the carbon allowance and offset spot and derivatives markets that prevents market manipulation, excessive speculation, and price bubbles, while providing adequate liquidity and the opportunity for our members to manage their carbon price risk through both futures markets and over-the-counter (OTC) bilateral markets. By having the flexibility to transact in both futures markets and OTC markets, cooperatives will have more options to execute at best possible prices, manage counterparty risk, manage cash requirements, and transact in both standard and non-standard products. Accordingly, NRECA recommends:

(1) CFTC should have jurisdiction over the carbon allowances derivatives markets; and

(2) In addition to the current regulatory structure for derivatives traded on exchanges, regulation of carbon derivatives traded on OTC markets should be developed that:

(a) Strongly encourage centralized clearing and reporting requirements sufficient to protect the integrity of these markets, while ensuring any clearing requirements (which will not work for non-standardized OTC transactions) do not prevent regulated entities, like rural electric cooperatives, from hedging their carbon allowance risks in OTC markets and do not adversely affect liquidity by preventing them from finding counterparties in these markets. By allowing both futures markets and OTC markets to develop, cooperatives will have better tools to manage carbon price risk. There will likely be instances when a rural electric cooperative needs to hedge a highly specific carbon price risk based on its particular carbon mitigation policy (for instance, when it can build a carbon capture and sequestration plant). For this reason, flexible OTC markets need to develop in exposure to energy commodity price volatility. It is expected that the need to use both futures markets and OTC derivatives markets to manage price risks under a climate bill would greatly expand. Furthermore, these new regulations should not impede the ability to transact cost-effectively.

(b) Increases regulation, such as position limits, when derivatives trades are found to be serving a price discovery function.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Yes. A carbon reduction program will increase the cost of electricity, with disproportionate impacts to lower-income households (Burtraw, et. al, 2008; Eisenberg, 2007). In 2005, low-income households spent about 15 percent of income on energy in contrast to just 3 percent for non-low-income households. A carbon fee will exacerbate this disparity, with a deepening impact on low-income consumers. Electricity may no longer be affordable for our low- and fixed-income consumers.

Rural areas that are more heavily dependent on coal for electric generation in the South, Midwest, and Great Plains will experience greater price increases. Preliminary analyses by NRECA show that monthly residential electricity bills for electric cooperative consumers in 25 states will rise from 15 to 28 percent for every $20 cost per metric tonne of CO_2, depending partly on how emission allowances are distributed. Various economic analyses have pegged the cost of emission allowances at between $20 and $60 per metric tonne in the initial years of the program, and rising after that.

Housing quality is also a concern, with energy inefficient, manufactured homes accounting for nearly 20 percent of rural housing. This adds considerably to the challenge of managing household electricity demand and costs.

Finally, agriculture is an energy-intensive industry with energy accounting for about 15 percent of production expenses. Increasing electricity prices will have a significant impact on the production costs of crops (Doane Advisory Services, 2008). Perhaps more importantly, under a climate regime in which the electric power sector is forced to switch generation from coal to natural gas because of a lack of alternative low-carbon generation technologies, Doane Advisory Services estimated that per acre production costs for corn and rice will rise $80 and $150, respectively. The impact on agriculture will be substantial, reverberating throughout the agricultural and food sectors.

As higher electricity and energy prices flow through the economy, they will increase the cost of necessities and burden those least able to afford it. This is why we believe it is critical that emission allowances be freely allocated and any revenue raised under the program gets returned to consumers to help them with the higher costs.

References:

Burtraw, D., R. Sweeney, and M. Walls. 2008. The incidence of U.S. climate policy: Where you stand depends on where you sit. Washington, DC: Resources for the Future.

Doane Advisory Services. 2008. An analysis of the relationship between energy prices and crop production costs. St. Louis, MO: Doane.

Eisenberg, J.F. 2007. Short and long-term perspectives: The impact on low-income consumers of forecasted energy price increases in 2008 and a cap-and-trade carbon policy in 2030. Oak Ridge, TN: Oak Ridge National Laboratory. Report No.: ORNL/CON-503. Contract No.: DE-AC05-00OR22725. Supported by the U.S. Department of Energy.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

NRECA believes that climate policy should not be used as a method of raising additional revenue for the federal government beyond what is needed for the climate policy. However, if the government uses a cap-and-trade or carbon tax program to raise revenue, NRECA believes that funds generated under a carbon reduction program must be used to reduce costs to consumers in such a way that mitigates the economic impacts of the carbon policy on individuals in regions commensurate with the impact the carbon policy has on the region. Such a policy must also not turn into a wealth transfer program that takes revenue from consumers and highly energy intensive industries (such as agriculture) and regions (such as the Plains, Midwest, and South) and transfer it to consumers in less energy-intensive regions.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Electric cooperatives face high costs for new low-carbon generation. Funding to accelerate the research, development, demonstration, and deployment of new technologies such as carbon capture and sequestration and smart grid will help to lower the cost of new generation, reduce demand, and more effectively manage existing resources. By keeping the cost of electricity low as cooperatives add low-carbon generation and consumers increase their energy efficiency, the transition to a low-carbon economy will cause less economic disruption.

Some believe that providing emission allowances for free for a limited period of time can be used as "transition assistance." NRECA believes that emission allowances should be allocated for free to electric cooperatives for the duration of any cap-and-trade plan as the best way to shield electric cooperative consumers from unnecessarily high costs. Consumers will pay the ever increasing cost of reducing emissions from our current projected emissions (the baseline) down to the level of whatever cap is enacted into law. However, consumers should not be required to pay for emissions that are legally authorized under the cap. An auction forces consumers to pay for those legal emissions, and yet does not provide any additional environmental benefit.

Energy intensive industries competing in international markets with those unaffected by the high costs of compliance with a carbon reduction program should receive transitional assistance.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Maintaining and restoring the health of our nation's forests and rangelands will sequester carbon and reduce greenhouse gas emissions. NRECA supports federal healthy forest initiatives that promptly salvage logs, restore land affected by catastrophic wildfires, and preserve the economic and aesthetic value of public lands. Projects on federal lands should qualify for the domestic offsets program.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

The best method of assuring cost certainty is the inclusion of an economic safety valve. A safety valve limits the potential impacts of a cap-and-trade program on energy prices through the sale of additional allowances at a "safety-valve" price. If the safety valve is triggered, the emissions cap is relaxed. The safety valve price increases each year by a fixed amount, providing cost certainty and emission reductions. A safety valve should be included in any cap-and-trade legislation, at least for the initial 10-15 years of the program.

A critical element of any carbon reduction program is the need to provide regulated entities with cost certainty—particularly in the case of capital-intensive industries like the electric utility sector. A U.S. cap-and-trade program is forecast to expand today's world carbon markets from about $118 billion in 2008 to $1-3 trillion by 2020. In a cap-and-trade program open to all players and expanding so rapidly, no one knows with certainty what the cost of compliance will be. The uncertainty in the market invites conflicts of interest, speculation and gaming, similar to what we have seen recently with oil prices and subprime mortgages. Introducing that kind of volatility to electricity prices—and ultimately all consumer goods and food prices—would soon undermine the political will needed to sustain a carbon reduction program over the long term. Given that we are talking about a regulatory compliance regime in which the costs and risks will be passed on to our consumers, electric cooperatives support cost certainty and limits on carbon prices.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The European Union's ETS is notorious in that it provided allowances to its utilities at no cost and then the utilities charged their consumers for the cost of the allowances. The European Union's utilities reaped the value of the CO_2 allowances twice. This gave rise to concerns in the U.S. with giving industry a "windfall profit" at the expense of consumers and calls for full auctions of allowances.

In the case of not-for-profit, consumer-owned electric cooperatives, we cannot reap any windfall or other profit by definition. Cooperatives operate at cost, and any additional costs (such as buying allowances at auction) get passed directly on to consumers, while any costs avoided result in direct savings to our consumers. These additional costs will accrue to regions of the country experiencing the most impacts from a carbon reduction program and most in need of help as they transition to a low-carbon economy. To reduce additional costs, NRECA recommends that allowances be allocated to electric cooperatives in such a manner that the impacts of any auctions are minimized on electric cooperative consumers.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

The most effective options for agriculture and forestry in a carbon reduction program are a voluntary offset program and bonus allowances for selected agriculture and forestry activities. Both options provide producers the flexibility needed to accommodate the wide range of ecological and economic circumstances found throughout the country.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

NRECA believes that it is not necessary for the government to limit the total number of offsets issued annually. The number of voluntary participants and the verification process itself will limit the size of the domestic offset program. Not every landowner will want to participate. However, for those that do, a robust offset program will provide a cost-effective compliance option for covered entities and revenue to landowners.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Domestic offsets from different sources that meet program requirements should be treated equally. As to the distribution of available offsets between domestic and international sources, NRECA supports the inclusion of both. Qualifying international offset credits should be awarded based on methods, protocols, and standards as stringent as the methods, protocols, and standards applicable to domestic offsets. Again, NRECA recommends that there be no limitation on the use of offsets in a carbon reduction program.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The common criteria for measuring and accounting for offsets are that they are real, additional, verified, registered, and permanent (or of contracted duration). Some protocols are so restricted, burdensome, or costly as to prevent an offset market from ever emerging. The trick is developing a practical, workable system that will result in real emission reductions and a robust offset market. Performance standards and technology benchmarks in place of high cost project-specific measurements may be a good compromise.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The criteria for measuring and accounting for offset projects should be that they are real, additional, verified, registered, and permanent (or of contracted duration).

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Congress should set a framework for verifying offset projects with the U.S. Department of Agriculture setting standards. USDA-certified, independent agents or USDA employees could perform verification services.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Both standards-based approaches and project-based approaches have roles in quantifying offset projects. For example, a manure digester project may have accurate sampling of the methane produced and combusted. In contrast, the high spatial variability of soil carbon would lend itself more to practice standards or multi-year measurement intervals.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

An offset is of most value to covered entities when an offset credit is equivalent to an allowance, that is, a buyer is fully protected from any project-specific offset risk. A well-designed offset program that manages any project-specific risk behind the registry so that buyers are fully protected is preferable.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

As stated in 21 above, an offset program that manages risks associated with the permanence and duration of the offset credit so that the buyer is fully protected is preferable. One way to do this is to create a risk pool. When offset credits are registered, the project owner will pay a modest fee to fund a risk pool. Replacement offset credits from new projects can be bought with pool proceeds in the event of a fire or other disaster. The offset registry is always backed up. Likewise, contract length and flexibility can be managed within the registry.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

NRECA supports credit for early action. Electric cooperatives that have voluntarily reduced their emissions should not be penalized in a future carbon reduction program. Offset projects or credits that can be verified should be recognized in a climate policy. Examples of eligible programs include the U.S. Department of Energy's Section 1605(b) Voluntary Reporting of Greenhouse Gases Program, the Environmental Protection

Agency's SF_6 Emission Reduction Partnership for Electric Power Systems, and the Chicago Climate Exchange, among others.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Producers and forest landowners who have been early actors and have already undertaken activities that sequester carbon or reduce greenhouse gas emissions should be recognized in a future climate policy provided the offsets can be verified.

In this instance stackability is justified. Activities undertaken to reduce carbon emissions should be allowed to count toward other environmental market activities. For example, the Environmental Quality Incentives Program and the Conservation Security Program can incorporate a carbon sequestration component as an additional ecosystem service payment. If the producer holds the right to the carbon, then payments under a program should not preclude his participation in a carbon offsets market.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

See 24.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

See 21 and 22.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Legislation should provide a strong framework for an offset program with fine details such as the development of regulations for protocols and procedures for domestic offsets delegated to the U.S. Department of Agriculture. USDA can then integrate the offset program into the U.S. Environmental Protection Agency's program.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

The largest obstacles to producers and landowners are: (1) the development of a workable offset program that balances quantification, verification, and monitoring needs of an offset program with feasible recordkeeping and minimal transaction costs for landowners; (2) the establishment of a net benefit to the landowner; and (3) a system that provides incentives for landowners to benefit from continuing to implement best management practices.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Existing conservation and forestry programs such as the Rural Energy for America Program, the Conservation Reserve Program, and the Forest Stewardship Program provide federal incentives for implementing practices that reduce greenhouse gas emissions. More can and should be done. A well-designed domestic offset program, as part of a mandatory carbon reduction program, will provide additional incentives for landowners to sequester carbon. Additional education, outreach, and demonstrations of agricultural and forestry emission reductions, avoidance, and sequestration, will accelerate adoption of low-carbon practices. USDA extension and education programs, workshops, conferences, and outreach efforts will accelerate implementation. NRECA will look for opportunities to work with USDA to disseminate information under its memoranda of understanding on climate change and energy efficiency. Also see 24.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL SORGHUM PRODUCERS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Toby Bostwick

Organization(s) you represent

National Sorghum Producers

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Chairman

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

While most economists indicate that a carbon tax is a more efficient means of establishing a carbon price signal, a carbon tax does not establish a greenhouse gas (GHG) target, and is a regressive tax. A cap-and-trade program, on the other hand, establishes a GHG target and is designed to be economically efficient by capping the largest emitters of GHG, and those that are most amenable to GHG reductions, and by allowing the trading of GHG 'credits' in order to achieve the lowest cost emissions reductions possible. A properly designed cap-and-trade program will incorporate GHG offsets as a cost-containment mechanism that provides a transitional strategy to allow capped sectors and entities to purchase lower-cost offset credits in order to meet their emissions reductions obligations cost-effectively. Offsets are particularly important at the start of a cap-and-trade policy, and in the early years when capped sectors must change investment decisions and strategies, and when capitol stock turnover and changes in infrastructure are occurring. Agriculture, as a sector that does not lend itself to being capped in a cap-and-trade system, can benefit more from a cap-and-trade policy than from a carbon tax by providing low-cost, high-benefit GHG emissions reductions and carbon sequestration offsets to aid the capped sectors in complying with their obligations at a lowest possible cost, thus benefitting the capped sectors, society, and the sector itself.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agriculture and forestry sectors should not be covered, or capped, under a carbon reduction program. Both sectors represent widely dispersed ecological systems under varied degrees of management which do not lend themselves to emissions reductions mandates, and which would be costly and inefficient to try to regulate for GHG emissions. In the case of the agricultural sector, in particular, efforts to regulate the more than 2 million farms in the US would be more costly than the potential benefits that could be achieved. Production agriculture is a highly complex, constantly evolving business that varies from one farm to another, one state or region to another, and involves a multitude of commodities, products, practices, and investment decisions that would make regulating for GHG emissions costly, burdensome, and of questionable impact. History has shown, however, that the agricultural sector is entrepreneurial and innovative, and can respond to market forces in ways that ultimately benefit the production of food, feed and fiber while delivering multiple additional services to society. In the case of GHG management, agriculture clearly has a role to play in the delivery of real, verifiable GHG offsets via

emissions reduction and increases in sequestration that will help mitigate climate change while also delivering valuable ecosystem services to society. The practices and changes in management necessary to provide such agricultural offsets, while largely known, are not one-size-fits-all, will not work in all cases and in all places, and thus should occur in a voluntary, flexible system that allows agricultural producers to adapt their particular systems when and as appropriate.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The allowance allocation system in a cap-and-trade policy should be structured so that it achieves the goal of reducing GHG emissions at the lowest possible costs to society. If allowances are provided to the agricultural and forestry sectors, as uncapped sectors, they should be provided at no cost, and the proceeds from the sale of the allowances should be utilized to mitigate increased costs borne by the sector, or members of the sector, such as increased costs or other burdens that cannot be recovered or that provide undue harm. For example, if all of or any segment of the agricultural sector finds that a cap-and-trade system results in net negative economic impacts that threaten the livelihoods or success of agricultural producers, the income from the sale of allowances should be used to protect those producers from harm or failure. It is highly likely that a cap-and-trade system, once enacted, will result in many unintended consequences, and the proceeds for the sale or auction of allowances should be utilized to protect those unduly harmed by such consequences, or in the case that no harm is caused, then the proceeds should be used to help achieve the goals of reducing GHG. Bonus allowances should be distributed to early actors who took steps to reduce or sequester carbon before a cap was enacted. Allowances should also be given to those producers of advanced biofuels that are using feedstocks from the agricultural and forest sectors.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A federal cap-and-trade system, once enacted, should become the sole carbon reduction program in order to avoid duplication of efforts, double-counting of emissions or emission reductions, multiple regulatory or program burdens, and overlapping or competing systems and requirements. However, the federal system should take advantage of the lessons learned and work achieved by existing regional, state, or voluntary programs, inasmuch as they help to inform a better federal product. In this way, it may be possible to transition these existing programs into the federal system, once established. The offset system must be robust, tiered and include reduction models for all greenhouse gases.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

A combination of existing agencies should be used to regulate a newly created cap-and-trade program. While EPA would be effective in regulating the system as a whole, USDA must be the lead agency that administers the development and implementation of agricultural and forestry offset policies. USDA has a developed understanding of the US agricultural and forestry sectors, as well as established relationships with farmers and producers. In addition, USDA has the best organizational ability through CSREES and NRCS to provide educational and technical information directly to the agricultural and forestry sectors.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The CFTC should continue as the regulator of the derivative carbon market, but should pair with the USDA to ensure the development of offset policies that are designed to maximize credits for carbon sequestration. Together these agencies could ensure derivatives and futures markets will perform a legitimate function for all entities involved in the trading market and the economy as a whole.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes, this system provides the flexibility needed to include all relevant participants in the trading of derivatives of energy-based commodities. The system should provide transparency, oversight, and structure that allows for verifiable carbon reductions and economic growth.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Depending on how the policy is established, negative impacts can be felt by the agricultural sector as well as society at large. The goal of any such policy should be to create the necessary reductions in GHG emissions or enhancement of carbon sinks in a manner that minimizes harmful impacts to all, but particularly for low-income populations and those least able to accommodate or absorb negative impacts. To this end, a Lieberman-Warner type of allowance revenue system must be implemented to protect potentially vulnerable populations. An offset market must be part of any program. The offset market will provide an opportunity for rural areas to participate in the program and protect fragile rural economies. Also, with the understanding that negative unintended consequences will result from the enactment of such a complex new system, the policy should be structured to detect and minimize such consequences as quickly as possible. Flexibility in implementation will be critical.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenue should be provided to sectors and sources that can provide the lowest cost, shortest term reductions of greenhouse gas emissions and/or that have the highest potential to be negatively affected by any increases in energy and input costs. This can be done through the provision of revenue to the agricultural and forestry sectors from the sale of allowances and offsets with allocation done using provisions similar to those included in the Lieberman Warner Bill (S2191). Early actors should be rewarded with revenue generated from the sale of bonus allowances. Broad-based technology incentives, such as the development of advanced biorefining techniques, should also be considered.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Transitional assistance should be targeted to those businesses most impacted by the policy and those for whom assistance is necessary to ensure their survival and continued success. Agricultural producers typically survive on notoriously marginal incomes, and in the event that a carbon reduction program would cause producers to fail or to not succeed, they should receive transitional assistance as appropriate. A robust and flexible offset market is the most effective way to control costs.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The federal government should consider changes in management policies of public lands in order to protect existing terrestrial carbon stocks and to further enhance terrestrial carbon stocks. It is largely the case that ecosystem management in such a manner is consistent with good public policy and with the delivery of multiple additional environmental benefits, such as improved air and water quality, improved soil fertility and productivity, reduced soil erosion, reduced flooding and impacts from flooding, and enhanced biodiversity and wildlife habitat. Since public lands account for a significant land mass in the US, management policies aimed at sequestering carbon and reducing GHG emissions could have dramatic impacts.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

There should be no limits on carbon prices. A well-designed cap-and-trade system will allow market forces to determine the price of carbon, and will keep this price as low as possible through development of an efficient, flexible system which provides ample offsets for cost-containment. Offsets are particularly important at the start of and in the early years of a cap-and-trade system, when changes in investments, capitol stock turnover, and infrastructure are occurring, and while new technologies and a carbon-free energy infrastructure are being developed and deployed.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU ETS had some fits and starts, such as the over allocation of allowances that caused a price collapse and the near-failure of the system. This lesson should be heeded in the design of a U.S. system. Also, while industrialized countries within the United Nations Framework Convention on Climate Change (UNFCCC), which is the context in which the EU ETS was developed and is operating, were allowed to account for terrestrial sinks (forest and agricultural sinks) in the design of their domestic programs, the EU did not include them in its early phases. However, after undertaking an EU-wide assessment of terrestrial sinks, called the Integrated National Sink Enhancement Assessment (a joint effort of the EU and European Commission (EC); see also http://eusoils.jrc.ec.europa.eu/projects/insea/index.htm for more information) -- the EU has decided to include terrestrial sinks in future phases of the ETS. Within the last month, the European Parliament voted to include forestry sinks in the next phase of the EU ETS. The Clean Development Mechanism (CDM) approves offset projects on a case-by-case basis. This creates a backlog within the system and drives up the cost of implementation.

Also significantly, the EU, the US, and many other countries participated in an agricultural workshop held during the negotiations of the UNFCCC in Bonn, Germany on Saturday, April 4, 2009, in favor of integration of agricultural mitigation options for both developed

and developing countries, to include agricultural sinks, in the post-2012 Framework to be negotiated in Copenhagen in December, 2009. Finally, some Canadian provinces have developed and implemented GHG emissions reduction and enhance sequestration methodologies for the agricultural sector to participate in its GHG mitigation efforts.

One critical lesson that has emerged from California's effort to regulate carbon is that calculation of lifecycle GHG profiles for biofuels or other products must be based on established scientific consensus. The inclusion of estimates of emissions from indirect land use change (ILUC) in lifecycle GHG calculations threatens to chill investment in the very technologies that can provide the greatest benefit, while simultaneously holding U.S. agricultural producers responsible for land use decisions around the world. ILUC penalties must not be applied unless or until there is established scientific consensus that adverse ILUC impacts exist.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

The most effective option for agricultural and forestry GHG emissions reductions and enhanced sequestration to occur within a cap-and-trade program would be to develop a fair, effective, and efficient voluntary offset program, developed in keeping with the Ecosystem Services provisions in the 2008 Farm Bill. The offsets program should be science-based, credible, and transparent, and should strive to maximize participation across the agricultural and forestry sectors in a cost-effective manner that is neither onerous nor burdensome to participants, and that takes advantage of USDA's expertise and infrastructure inasmuch as possible. Whether this system is or includes project-based or performance-based structures, or both, should be determined by the preceding principles in such a manner as to ensure the continued production of high-quality, safe, efficient food and fiber for the US and for the world. To the extent that bonus allowances are also made available to the agricultural and forestry sectors, they should be utilized to protect the sectors and members of the sector from economic harm and potential unintended consequences, including potential increases in food, feed and fiber costs that might pose harm to consumers or segments of society ill-equipped to bear the potential impacts.

While the agricultural sector has indicated a desire to constructively engagement in such a system, it is also aware that some segments of the sector do not lend themselves well to participating in offsets markets, and that the net impacts of a cap-and-trade system may incur costs that outweigh or outstrip any potential income generation opportunities from

offsets for some of these segments. Bonus allowances should provide transitional assistance as necessary to any portion of the sector that suffers unduly from these potential costs. Additionally, to the extent that the policy might penalize 'early actors' from participating in offset markets due to the establishment of baselines, additionality or other program definitions that would preclude their participation, bonus allowances should be provided to reward these producers for the GHG emissions reductions or increased sequestration that they provide on an ongoing basis, since their actions benefit and are enjoyed by society at large. Otherwise, these actors are unfairly and perversely penalized for their early adoption of the very practices the policy seeks to promote.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The design of the cap-and-trade system can and should guide whether limits on offsets are included. The EPA analysis of the Lieberman-Warner bill can provide clear guidance in this regard. EPA reported that the offsets sensitivities they ran as part of their 2008 modeling of that bill showed that offsets can provide cost-containment to a cap-and-trade program while not hampering technological innovation (see link to analysis at http://www.epa.gov/climatechange/downloads/s2191_EPA_Analysis.pdf). That analysis showed, for example, that if the use of domestic and international offsets was unlimited, allowance prices would fall by 71% compared to the bill as written. Conversely, if no domestic or international offsets were allowed, then allowance prices would increase by 93% compared to the bill as written. The price of allowances is borne by the capped sectors and society at large -- thus the role of offsets should not be artificially limited in such a way as to increase allowance costs. A bill with a low enough cap can enjoy unlimited offsets and still drive technological innovation, as evidenced by this analysis.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress need not decide on the distribution of available offsets. Offsets should be made available on the carbon market to capped emitters who need them or choose to buy them as a means to help them meet their emissions obligations. As indicated in the response to #15 above, a properly-constructed cap-and-trade program with a tight enough cap can allow for unlimited offsets and still drive the technological innovations sought by the development of the GHG policy.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Offsets should be accounted for by utilizing the best available science in a credible, transparent system that encourages practices and activities that reduce GHG emissions or

enhances sequestration to provide real, verifiable offsets. For some offsets, measurement protocols or systems will be more straightforward than others (e.g., the use anaerobic methane digesters). For others, such as for soil carbon sequestration, valid, scientifically-based means that combine the use of sophisticated models and on-site sampling can be and have been devised that provide robust estimates of soil carbon sequestration over time in a cost-effective manner that can be utilized for carbon markets. USDA's Natural Resources Conservation Service (NRCS) and Colorado State University (CSU) have developed and tested such a system already, based on circa 5,000 statistically chosen soil sampling sites over the U.S. land area, coupled with the CENTURY and DAYCENT models housed at CSU, as an example. Verification and monitoring costs must be weighed against the benefit from the practice or project. Verification and monitoring costs that are cost prohibitive will not encourage participation in the program. The cap will lead to increased costs for agricultural and forestry sectors without the revenue from the sale of offsets.

The most important concept is that, for the many and varied potential practices or activities that the agricultural sector can undertake to create offsets credits, the scientific certainty of the GHG emission reduction or increased sequestration can be quantified. All practices or activities that meet a determined level of certainty should be eligible to generate offset credits. The amount of offset credits awarded to any such activity or practice should be based on the associated level of certainty/uncertainty. For example, if project X sequesters 50 tons of carbon and the measurement system utilized has 10% uncertainty, the project should be awarded 45 tons of offset credits (calculated as 50 tons x .90 certainty = 45 tons). By discounting offsets up front, based on scientific certainty, this ensures the fungibility of offset credits on the market, and will avoid a different pricing structure for agricultural offsets.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Science. If science shows that a category of offset projects reduces greenhouse gas emissions or enhances sequestration and we can ascertain the certainty (or conversely, level of uncertainty) associated with that project category, we can develop policies and protocols to include and reward these projects as offset projects. The important point is that we get the system right; it is less imperative that we get every detail 100% correct -- but if we can establish a system that works and is credible and transparent and based on science, we can develop adequate criteria and protocols and methodologies for offset projects and categories of projects. An expert panel with appropriate agricultural, science and policy backgrounds (e.g., practitioners, agronomists, soil scientists, etc.) should be assembled to help develop the appropriate criteria, with USDA guidance and input. As projects are implemented, criteria and protocols should be updated to reflect the latest data and scientific discoveries.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

This will largely depending on the category of offset projects, but for many (if not most), USDA and associated bodies (e.g., NRCS, Extension Service, National Association of Conservation Districts, etc.), can either aid in verification activities as an extension of their existing activities, or USDA can certify 3rd party verifiers from within these same systems, as well as from the private sector. Satellite-based systems for verification of many projects are becoming more common, as well, and should be utilized as appropriate.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Given the multitude of potential offset activities and projects that the agricultural and forestry sectors might credibly be engaged, there is likely justification and opportunity for both approaches.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances within a cap-and-trade system represent currency, and as such, should be fungible and fully exchangeable. Offsets, however, represent the currency for emissions reductions, whereas allowances represent the currency for emissions (or the right to emit). Additionally, offsets provide cost-containment in a cap-and-trade policy, and the policy for the role of offsets can impact the resulting cost of allowances, and thus the cost of the overall system, as indicated by the 2008 EPA analysis of the Lieberman Warner Bill (S2191) debated in the U.S. Senate, (see link to analysis at http://www.epa.gov/climatechange/downloads/s2191_EPA_Analysis.pdf). That analysis showed, for example, that if the use of domestic and international offsets within the policy was unlimited, allowance prices would fall by 71% compared to the bill as written. Conversely, if no domestic or international offsets were allowed, then allowance prices would increase by 93% compared to the bill as written. Offsets, then, can impact the cost of allowances, as well as the cost impacts of the overall policy.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The permanence or duration of offsets, particularly as relates to terrestrial/biological sinks, is really a contractual issue to be established by the policy, since terrestrial sinks are, by their very nature, temporary. The objective of terrestrial sinks as offsets in a GHG policy is to increase the residence time of carbon in these sinks for as long as possible, as a means of slowing or bending the GHG emissions curve downward while we transition our economy to a lower-carbon emitting economy, and ultimately, to a non-carbon emitting policy. Offsets, and terrestrial offsets, in particular, are a transitional strategy. They are not a solution, but a temporary means to an end -- the end being a carbon-neutral economy. The

important concept, then, is to ensure their integrity and their accountability during that time period in which we are relying on terrestrial sinks as offsets, whether it be for 30 years or 50 years, and the way to do that is contractually. Conceivably, 50 years from the date of enactment of a policy, we will no longer have a need for offsets, since technologies should have been developed by that time that will ensure the scope of reductions needed to ensure stabilization of the climate. For non-biological offsets, as well as for the utilization of biochar as a soil amendment, permanence and duration are less of an issue, if they are an issue at all.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Projects enrolled in a system or market for which they have been or will be paid should not receive credits or payments again. However, the larger issue of whether and how to reward early actors is a difficult one, and care must be taken to avoid perverse incentives or penalties for early actors. Conceptually, the issue can be addressed by allowing early actors to participate in offsets provisions but provide rewards only for the incremental emissions reductions or increased sequestration achieved after a date certain as established by the legislation. This would allow producers engaged in certain practices to be rewarded for their emissions reductions going forward. To the extent that the policy might penalize 'early actors' from participating in offset markets due to the establishment of baselines, additionality or other program definitions that would preclude their participation, bonus allowances should be provided to reward these producers for the GHG emissions reductions or increased sequestration that they provide on an ongoing basis, since their actions benefit and are enjoyed by society at large. Otherwise, these actors are unfairly and perversely penalized for their early adoption of the very practices the policy seeks to promote.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

See the response to #23 in regards to bonus allowances. Also, relative to the stackability of credits for ecosystem services achieved in addition to GHG emission reductions or increased sequestration, the answer is yes. Society benefits from the many ecosystem services achieved by agricultural practices and changes in practices, and to incent better practices and innovative approaches that build synergies by creating multiple benefits, we need to better quantify these services and impacts, and reward them financially.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should

those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

There should be no parsing of rewards or impacts for programs or activities paid for wholly or in part from public funds. If that were the case, we would not consider giving credits for technologies such as energy efficiency, geologic carbon sequestration (which is already receiving billions of dollars in federal funds to demonstrate and deploy), renewable energy, etc. Agricultural activities and programs should be treated no differently, regardless of the justification or purpose of the program (i.e., whether it was implemented to address GHG emissions or not).

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Intentional reversals or intentional actions taken to not achieve the GHG emissions reductions or increased sequestration accounted for in a contract or program should mandate the return of revenue or the replacement of credits. Unintentional reversals or natural disasters should be accounted for via use of insurance (e.g. crop insurance or some type of federally-subsidized insurance) or buffer reserves (although, for terrestrial offsets, buffer reserves for forestry projects should be separate and distinct from buffer reserves for agricultural projects, since the sheer volume of forestry tons is so much larger than the volume for agricultural tons, and the likelihood of catastrophic reversals for forestry, such as due to forest fires, is greater than the relative likelihood of catastrophic reversals for soil sinks). Alternatively, the federal government could 'absorb' such losses from natural disasters by adjusting a future cap to account for these losses (for instance, in the year immediately succeeding a catastrophic loss).

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

USDA has a clearly defined role to play in this as established by the Ecosystem Services Market Program in the 2008 Farm Bill. To the extent that greater detail or authorities may be necessary, USDA should be clearly designated as the governing authority, given is knowledge, experience, expertise, and relationship to production agriculture.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Knowledge and information and access to such are potential obstacles, as well as the availability of sufficient protocols and methodologies to allow landowners and producers to begin to anticipate and plan for involvement in offsets programs. Considering that over one-third of agricultural land is rented, programs must be designed to benefit the renter as well as the landowner. The programs must be easy to utilize for all parties involved. Delays in developing the protocols and methodologies that will govern producer participation in these programs will exacerbate what is already a several-year lag-time in getting agricultural offsets into a cap-and-trade system. For instance, if a producer has to learn about what is needed to enroll a project, then undertake necessary changes in practices, document and apply for participation in a project, undertake the changes in practice, and verify emissions reductions or increased sequestration -- all before receiving credits -- then it will already be a few (or several) years before these projects are providing offsets for carbon markets. If the cap-and-trade policy anticipates those offsets before they are actually available, it could impact the overall costs of the system, creating price shocks until those offsets are actually available. To prevent such shocks, development of these protocols and access to them at the producer level must begin far in advance of enactment of the actual program.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? *Please respond in 300 words or less.*

Existing agricultural conservation and forestry programs were not established with the goal of mitigating climate change by reducing GHG or increasing sequestration. Nor do the existing programs offer a way to offset increased costs incurred by a cap. Some, however, do provide the ancillary benefits of achieving some of these impacts. One exception is the Conservation Reserve Program (CRP), which does have an explicit soil carbon sequestration sub-criteria within the Environmental Benefits Index (EBI), although soil carbon could conclusively be incorporated as a separate criteria within the EBI, rather than a sub-criteria within the air quality category (particularly since it achieves the goals of other criteria, such as improved water quality, reduced flooding impacts, etc.). A comprehensive assessment of how much GHG mitigation efforts can and should be achieved within the agricultural sector should analyze changes in focus or programs that would help to achieve these impacts, as well as the costs and incentives necessary to promote adoption of the practices and activities. Particularly for those categories of activities or projects that may not be incorporated into an offset program, it would be beneficial to provide farm program support provisions to encourage practices or activities that reduce GHG emissions and/or enhance sequestration.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or

biofuel incentives.

Life-cycle analysis: Implementing life-cycle analysis on a project-specific basis would be expensive and time-consuming. A greenhouse gas reduction program should be designed and implemented to reduce greenhouse gas emissions in the most effective and timely way possible. Sorghum has not had the benefits of life-cycle analysis research. To penalize growers of sorghum for research that has not been done would defeat the purpose of the program even when sorghum has lower water usage and fertilizer usage than competing biofuels feedstocks. See response to #13.

International deforestation is another important issue with implications for the US agriculture and forestry sectors. A cap and trade market would provide incentives through mechanisms such as REDD (Reduced Emissions from Deforestation and Degradation) that would slow deforestation in developing countries.

Leakage: Leakage is a more of an issue for the forestry sector than the agricultural sector. Regardless, implementing a nationwide cap-and-trade system would establish baselines and protocols, thus providing solutions to issues such as leakage.

Advanced and cellulosic biofuels: The production of advanced and cellulosic biofuels should be allowed extra allowances or exemptions to encourage their development and commercialization. If this does not happen, more mature industries can concentrate on cost containment and capping emissions, while new production facilities must overcome cap costs and the higher startup costs associated with new technology. The program must not discourage entrepreneurial investment into areas that can result in long-term reductions of greenhouse gases

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** *to verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners *to implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** *to verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners *to implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** *to verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners *to implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till	Excellent	Excellent	Low	High
Reduced irrigation	Excellent	Excellent	Low	High
Managed fertilizer application	Excellent	Excellent	Low	High
Precision agriculture	Good	Excellent	High	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL SUNFLOWER
ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Larry Kleingartner

Organization(s) you represent

National Sunflower Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

If Congress or the federal government is going to attempt to address climate change and limit greenhouse gas (ghg) emissions, a cap-and-trade approach would be the least harmful approach in terms of adverse impacts to agriculture. A cap-and-trade approach is more desirable than addressing emissions through a carbon tax or through EPA regulations. A cap-and-trade approach would provide some potential to limit the economic costs of of an emissions cap and potentially provide agricultural producers a market to recoup increased energy input costs that will likely be passed along to them.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agriculture sector should not be subject to a ghg emissions cap. Agricultural practices should be eligible for any ghg offsets market that is established under a cap-and-trade framework. Agriculture should be exempt from the emissions cap and eligible for the offsets program, because 1) U.S. farmers provide low-cost food and fiber for the world. Additional regulations or compliance costs will result in higher food and fiber costs at a time when increased productivity is needed to meet the demand of a growing world population; 2) due to the number, lack of uniformity, and dispersal of farms, the cost of administering and enforcing an emissions cap on agriculture could cost more than the ghg benefits it would provide; 3) ag offsets are a cost-effective way of reducing or sequestering ghg emissions. Low cost ag offsets will help limit the adverse impacts of the emissions cap on the economy.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

We do not have the expertise to comment on how emissions allowances should be distributed across all sectors. Allowances for the agriculture sector should be at no cost. As indicated above, agriculture should not be subject to caps or regulations that will further increase production costs for food and fiber. As energy consumers, farmers will likely be

subject to increased input costs due to the caps or regulations placed on energy providers and fertilizer manufacturers.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

We do not have a position on this issue at this time.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

If a cap-and-trade program is established, existing government agencies should administer the programs. Specifically, USDA should administer any agriculture offsets program. USDA has the experience and expertise on farming practices and programs as well as an established relationship with farmers that would enable them to most effectively administer any agriculture offsets program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

We would support the CFTC as regulator for carbon under a cap-and-trade program. The CFTC already has proven ability to regulate derivatives, and staff with expertise to do so.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

No position.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include:

residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

While we have seen very little analysis of the specific impact that a carbon reduction program will have on different sectors, we believe it is likely that as energy consumers, agriculture producers will experience increased input costs. The production of fertilizer is likely to be significantly impacted and the increased costs passed onto farmers. Rural areas whose primary source of electricity is produced from coal would also likely experience increased energy costs and have fewer alternative sources of energy production.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Any revenues derived from a carbon reduction program should be provided to those entities and consumers that incur increased input costs as a result of the carbon reduction program. Consideration should also be given to sectors, such as agriculture that produce goods essential to our economy and well-being. Additional funds not returned to consumers or essential sectors should be invested in research and development of renewable energy sources, including renewable biomass.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes, as indicated in the previous response, assistance should be provided to those entities and consumers that incur increased input costs as a result of the carbon reduction program.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

no position on this issue.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Carbon prices should be determined by market forces.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Do not have a particular insight.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

We believe that a voluntary offset program that compensates farmers for actions that reduce or sequester emissions and allowances that compensate farmers for increased input costs incurred as a result of a carbon reduction program would be most effective for agriculture.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The total number of offsets should not be limited.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offsets derived from agricultural practices should be a priority.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The U.S. Department of Agriculture should establish, through rulemaking and public comment process, the offset measurement criteria. We believe there should be uniform and consistent measurement accounting criteria. The methods for measuring offsets are still emerging and evolving and we believe that USDA is the appropriate entity to review the

practices and establish the criteria. Any legislation should delegate this responsibility to USDA and give them the flexibility to consider and incorporate new technologies.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

We do not have enough information at this time to specify the appropriate criteria for assessing offset projects. The criteria should be established by USDA through rulemaking and public comment process.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

USDA should be responsible for verifying agriculture offset projects. USDA could incorporate methods and processes similar to those used to administer and enforce existing crop and conservation programs.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A standards-based approach would likely be most efficient and effective.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances should be separate programs.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Existing conservation programs, such as CRP could be used as a model to address permanence and duration of offsets, including factors such as contract length and flexibility.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing projects and practices should be eligible for future offset markets established by the federal government, if those practices meet the criteria. Early actors should be rewarded, not excluded.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should be fully eligible for future government offsets markets. Early actors should be rewarded, not excluded. Farmers should be allowed to stack credits that have multiple benefits that apply to other environmental markets.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

No opinion at the present time

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Offset projects should be subject to contractual agreements with the issue of permanence determined according to the type of project. If a project ceases to reduce or sequester carbon, then the payments would end. Producers should not be liable for natural disasters. Insurance could potentially address the potential of natural disasters reversing carbon sequestration.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Legislation should provide adequate parameters, including a list of eligible offset projects. This list would not be all-inclusive and should allow for emerging projects and technologies. USDA should be responsible for devising the protocols and procedures for agriculture offsets. USDA should be given significant flexibility to devise the protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The obstacles faced by producers and landowners include cost, absence of a market or market uncertainty, uncertainty surrounding future government policy, and the technical uncertainty around issues such as measurement and verification.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Most analysis suggests that significant emissions reductions or sequestration can be provided through agriculture and forestry practices. Therefore, that would suggest that sufficient incentives do not currently exist to spur more widespread implementation of such practices. Additional financial incentives and technical assistance would result in greater participation and implementation of conservation practices.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till	TBD	medium	low	high
Cover crops	TBD	medium	low	high
Nitrogen Use Efficiency technologies	TBD	high	n/a	low

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL TURFGRASS
FEDERATION, INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Kevin Morris

Organization(s) you represent

National Turfgrass Federation, Inc.

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am President of the National Turfgrass Federation (NTF), a non-profit organization that represents several other national turfgrass organizations from the different segments of the turfgrass industry (golf, sports turf, lawn care, irrigation, sod production, equipment manufacturers). Turfgrass is a 50,000,000 acre, $40 billion industry in the U.S. With 80-100 million home lawns, approximately 750,000 athletic fields, 17,000 golf courses, numerous public and private parks, military bases, cemeteries, etc.; the turfgrass industry employs hundreds of thousands of Americans. Also, the turf industry provides recreation for 22 million youth soccer players, 26 million golfers, countless other athletes (professional and amateurs), healthy playgrounds and parks for millions of Americans, vision enhancement on roadsides, and enjoyment for countless others. In addition, turfgrass holds the soil, filters water through its millions of roots and leaves, reduces dust, provides cooling around homes and countless other benefits. NTF exists to promote turfgrass research, funding for turfgrass research and the turf industry in general.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We advocate a cap and trade system. We feel this is the best approach to reach the goals of carbon reduction while not adversely affecting any particular industry. The turfgrass industry, as a part of the broader lawn and landscape industry, is an important carbon sink to offset CO2 contributions from other industries. We know that turfgrass sequesters 1 ton of carbon per acre per year, which is equivalent to CRP lands. Maintained landscapes may perform similar to agricultural crops as well. With 50 million acres of turfgrass in the U.S., the carbon sequestration benefit is significant, therefore, we should be encouraging more greenscapes, parks, buffer strips, athletic fields, etc. for their carbon benefit, as well as their cooling effect, soil holding capacity and water filtering ability. Any carbon sequestration or greenhouse gas mitigation rates should be set based on sound science. In addition, a cap and trade system must first identify a list of projects that are eligible for offsets. Landscapes and turf should not be capped as they are very important for offset purposes. Also, existing turfgrass acreage, as well as new turfgrass acreage, should be available as offsets.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Maintained turf (turf that is maintained at any level - one mowing per year qualifies as maintained) and landscapes should not be subject to an emissions cap. We (the lawn and landscape industry) must be considered for this program because of our tremendous potential to offset carbon produced by other sectors. However, for this to work, this must make economic sense for the turf and landscape industry. Also, again, any legislation must be based on sound science.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

We need to look closely at lessons learned from state, regional and international programs that employ carbon taxes, cap and trade or a hybrid system. We believe a national program will be needed to administer the program, facilitate global trading, ensure consistent cap standards, etc.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

EPA should ultimately administer the program, working with USDA on the agriculture side. USDA should define the rules and administer the offset program. This will ensure consistency with offset valuation. EPA should place equal emphasis on caps, credits and offsets. USDA has the new Office of Ecosystem Services and Markets that could be the group that works with EPA to administer this aspect of the program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Revenues should be used to offset program costs. This will allow and encourage the greatest potential for contribution among the turf and landscape industry.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Initially, transitional assistance may be needed. However, over time, as markets for carbon develop, this help should be reduced or eliminated. For the turf and landscape industry, there will be a need for aggregation of acreage, to make cap and trade useful and economically viable. This will take some time, however, these types of mechanisms will help aggregation to develop faster.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Turf is located throughout the fifty states and particularly on public parks, highways, public golf courses, recreation areas (athletic fields, etc.), public institutional grounds (schools, hospitals, etc.), and military bases. Turf can contribute significantly to carbon reduction, therefore, it is critical that turf on public lands be included. The dollars coming back to public entities from offsets could be important to improve and upgrade facilities on public lands. Also, it may encourage the purchase and development of more public lands. This scenario is good for public health, well being and society in general.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Market forces should determine pricing, there must not be any limiting of offsets. Offset prices need to have real value for this program to work. If not, revenue may not offset costs of compliance. Also, artificial pricing of offsets may not encourage the type of participation that would be possible with market pricing.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

All of the above could be important, however, we feel that a voluntary offset program may be the most important. However, standards will be essential to ensure compliance with the program.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No, offsets should not be limited. The market will determine the need for reducing GHGs and the financial vehicles to create the methods to reduce GHGs. The proper relationship between offsets and allowances needs to be in place so proper balance is established and compliance is high. Any limits set by the government will negatively affect the market potential of this program.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Yes, this is very important. Turfgrass maintenance practices vary based on the use, therefore, carbon mitigation potential may vary. A general approach may underestimate the carbon sequestered by many turf areas.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Stackable credits should not be allowed, nor should participation in multiple programs. Early actors should be encouraged and rewarded.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

USDA should be responsible for the offsets program, in regards to agriculture and the turf/landscape industry. Sound science should be used to develop standards and protocols. Stakeholders should be involved in the process of developing the standards. In the field mechanisms, such as BMPs in the turf industry, should be considered when devising the standards.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

There are many obstacles to implementation, many of them related to the uncertainty and inexperience with this type of program. We do not know how to value offsets, how to develop standards for verification, monitoring, etc. Therefore, it is difficult to know who is complying. Also, the costs associated with implementing the practices are an unknown.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Active turfgrass management	Excellent	Excellent	Low	Medium
New turfgrass establishment	Excellent	Excellent	Medium	Medium
Turfgrass harvesting/replanting	Excellent	Medium	Medium	Medium
Turfgrass renovation	Excellent	Excellent	Medium	Medium

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL WILDLIFE
FEDERATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Julie M. Sibbing, Director - Global Warming, Agriculture and Wildlife

Organization(s) you represent

National Wildlife Federation

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director - Global Warming, Agriculture and Wildlife

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The National Wildlife Federation (NWF) supports the approach taken by the recently released American Clean Energy and Security Act discussion draft by Chairman Markey and Waxman that places a cap on carbon emissions and allows entities the flexibility of the market to reduce emissions at the lowest cost and drive clean technology to market. In order to avoid the worst effects of global warming, there is broad scientific agreement that we must limit additional warming to no more than 2 degrees Celsius over pre-industrial levels. A fixed cap provides for environmental certainty of emission reductions and must be based on an assessment of the level of reductions you need to get to in order to protect the climate.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The nature of agricultural and forestry emissions makes regulation of this sector difficult. There is every indication however, that there will be significant participation from the agricultural and forestry sectors in an offset market and in allowance-funded practices – which will greatly reduce greenhouse gas emissions and increase carbon sequestration, while also providing an important cost-containment opportunity for regulated sectors.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Policymakers have a variety of options when it comes to distributing allowance value, including (1) auctioning the allowances and dedicating the money earned to specific purposes (e.g., government-based research and development, protecting natural resources), or (2) allocating the allowances to particular sectors of the economy and requiring recipients to spend the allowance value on specific purposes (e.g., industry-based research and development of new technologies, rebates on electricity bills to low-income customers).

The National Wildlife Federation focuses primarily on the purposes to which the value should be invested, rather than the mechanism (i.e., auction vs. specific allocations). Different mechanisms for initially distributing the allowances can legitimately be used to invest in the same goals. NWF supports a hybrid approach whereby some allocations are auctioned and some are allocated directly to serve a purpose and would like to see the program move to 100% auction over time.

The agriculture and forestry sectors will play an important role in helping the U.S. meet it's obligation to reduce global warming pollution. In addition to providing offsets for activities that meet the strict standards of additionality, and measurability, a robust set of incentives are needed to reward early actors and to encourage farmers and forest owners to further reduce and prevent emissions, including activities that ensure that at-risk grasslands and forestlands are preserved. NWF believes that a portion of allowance proceeds should be dedicated to USDA to assist in accomplishing these additional reductions and avoided emissions.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

State innovation has been critical to our environmental progress over the last four decades and must be permitted to continue. States should be allowed to set standards for energy, transportation, and global warming emissions that go beyond what is required nationally, with the federal standard serving as a floor, not a ceiling.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

NWF believes that the U.S. Environmental Protection Agency (EPA) is best suited to ensure the environmental integrity of a cap-and-trade program as it is implemented. EPA's mission is to protect public health and the environment, and efforts to reduce global warming pollution should first and foremost have these goals in mind. EPA has a strong record implementing the highly successful cap-and-trade program for acid rain under the Clean Air Act, and is the only agency that has managed such a system. Many other federal agencies, including USDA, will also have important rolls to play in helping EPA implement the law.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

The agriculture and forestry sectors are anticipated to be hit hard by the impacts of global warming. Enactment of legislation with aggressive emissions reduction targets, in addition to helping farmers and forest owners avoid the most significant effects of global warming, would also create a significant new revenue stream by giving these sectors access to a market for their emissions reduction and carbon sequestration activities.

Research by Texas A&M Agricultural Economist Bruce McCarl shows a significant net benefit to farm income when offsets are included in a cap and trade system.1 The value of agricultural offsets are estimated to be as much as $24 billion annually.2 Similarly, the forestry sector is expected to benefit substantially from their access to a carbon market. Economic modeling based on the Department of Energy's forecasting model estimates that the cumulative value of all categories of offsets through 2030 is over $330 billion.3

While some have predicted steep price increases in fertilizer costs as a result of a cap on carbon emissions, recent modeling by Duke University's Nicholas Institute, indicates stability in the price of natural gas, an essential input in fertilizer production, under a cap and trade system.4

1 McCarl, Bruce, Analysis of the Impacts of a Carbon Cap on Net Farm Income, a modeling analysis prepared for the 21st Century Agriculture Policy Project, February 2007.

2Energy Information Administration. S.2191: America's Climate Security Act. National Energy Modeling System (NEMS).
3IBID
4 Nicholas Institute for Environmental Policy Solutions, "The Lieberman-Warner America's Climate Security Act: A Preliminary Assessment of Potential Economic Impacts,"
http://www.nicholas.duke.edu/institute/econsummary.pdf

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less

The choices we make about how allowance value is used will have a major impact on ensuring a low cost, productive, and sustainable transition to a clean energy economy. Allowance value should be invested to ensure that the benefits of our energy transformation are shared equitably and create jobs and opportunities for all Americans.

Allowance value should be invested not only to protect individuals and communities from potential short-term financial hardship that could result from these changes, but also to promote the technology, training, and other investments needed to ensure the transition brings new jobs and opportunities to every community.

Allowance value should be directed to ensure low-income Americans are protected from potential increases in energy costs that may occur when a cap and trade program is implemented. Beyond this immediate, direct financial assistance, allowance value must also be used to provide low-income communities with new employment and educational opportunities. Investments need to be made in urban and rural worker training programs that will create the work force needed to build new infrastructure and technologies that reduce global warming pollution.

Investment in energy efficiency can be one of the most effective means of protecting all consumers from rising energy prices by keeping money circulating in American households and communities rather than flowing out in fuel costs. Allowance value should be directed toward programs that promote energy efficiency, such as consumer rebate programs, tax incentives, and other efforts.

Investments need to be made to ensure that our critical natural resources, including wildlife habitats, are protected from global warming. Specifically, allowance value needs to be directed to protect and restore the land and water that people and fish and wildlife depend on, including freshwater ecosystems, grasslands, forest lands, and coastal ecosystems, so that they are more resilient to a warming climate.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

The National Wildlife Federation supports some investment in select energy intensive industries facing strong international competition so they can retool with new and more energy efficient technologies. If free allocations are used for such a purpose they must be limited in scope, avoid windfall profits, and phase out over time

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Restoration, protection, and improved management of grasslands, forests, wetlands, riparian areas and other ecosystems on public lands can, where carefully implemented, help to restore these lands to a more natural state, improve wildlife habitat, and increase the amount of carbon stored in soils and vegetation. Restoration of overgrazed rangelands and reforestation of deforested areas could be especially valuable tools in increasing carbon storage on public lands. In addition, some public lands can contribute to renewable energy production, when carefully balanced with other land use priorities and strict environmental protection standards that ensure protection for wildlife habitats and species.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

The National Wildlife Federation believes that measures should be taken to limit price volatility, especially in the early years of the program, but must not interfere with the market signal needed to drive investment in clean energy technology.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The European experience with a cap-and-trade system for addressing global warming provides valuable lessons-learned for the United States as we embark on a system to limit global warming pollution. [1]

First, accuracy of emissions data is key: In the first phase of the European Union's Emissions Trading System (ETS) the program lacked accurate baseline emissions data. In 2006, when the first accounting of emissions was reported, the price dropped as it was revealed that the initial cap was set above actual emissions. Given the European experience, the U.S. EPA's plan to compile an accurate and comprehensive inventory of

U.S. greenhouse gas emissions is essential to implementing an effective carbon reduction program.

Second, allowance allocation does matter: The ETS also demonstrated that the method of allowance allocation can have important effects in the cost of the program. In the first phase of the program, the ETS freely allocated emission allowances to industry, resulting in windfall profits for covered entities. According to the GAO:

"Free allocation to emitters, on the other hand, may reduce costs for sectors covered under the trading program but not for consumers. Although the ability of covered entities to pass costs to consumers in the form of higher product prices varies, available information reveals that free allocation does not prevent increases in consumer product prices resulting from the emissions program. The first phase shows that covered entities may still pass costs through to consumers."

The alternative would be to use the revenue from an auction to reduce the energy cost burden for low-income individuals and supporting research and development of clean-energy technologies and energy efficiency.

[1] A United States Government Accountability Office Report entitled "INTERNATIONAL CLIMATE CHANGE PROGRAMS - Lessons Learned from the European Union's Emissions Trading Scheme and the Kyoto Protocol's Clean Development Mechanism" (Nov. 2008) provides a comprehensive discussion of these issues.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

NWF supports the combination of a voluntary offset program for agricultural and forestry activities that can meet offset quality criteria and the use of a dedicated funding pool from the sale of allowances to reward early actors, and promote additional avoided and reduced emissions from these sectors.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

NWF believes that the appropriate quantity of offsets to allow into the carbon trading system depends upon how ambitious the cap is in any given climate bill. While more, high quality offsets could be allowed under a really ambitious cap, the quantity of offsets would need to be strictly limited if the cap is weaker. This is because, under a weaker cap with a large quantity of offsets, the price of carbon allowances will be relatively low. While this is the intended function of offsets, as a cost containment mechanism, if the carbon price falls too low, it could flood the market and fail to produce sufficient incentives to develop the clean energy technology needed to make the deep GHG reductions that science now tells us are needed. Conversely, if the legislation calls for a deeper reduction target, the capped allowances would be very scarce and expensive. In this case, offsets should be more widely allowed, so as to moderate the price of compliance.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

NWF believes that an independent scientific advisory panel, such as the approach taken by the recently released American Clean Energy and Security Act discussion draft by Chairman Markey and Waxman that would set up a "Offsets Integrity Advisory Board" to provide EPA with advice on quality, types of eligible offsets, effects on the environment, public health, etc., is sound. Given that quantification, verification and monitoring will be specific to the types of offsets projects undertaken, it will be critical to have expert scientific input to guide development of such criteria.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Offset projects should be judged based on whether they are real, additional, verifiable, measurable, enforceable and result in permanent (or for a contracted period) reductions in greenhouse gas emissions or sequestration of carbon and do not have harmful effects on human health or the environment. Where measurement uncertainties exist, discount rates should be use to account for this uncertainty. In addition, all greenhouse gas reductions counted as offsets should amount to overall net reductions, after taking into account any other emissions associated with the practice generating the offset. It is important that an offsets title offer incentives and opportunity for new offset project types to be certified when and if new research/data becomes available to justify the new project type. This

provision should allow petitioners to come before whatever body has been established to certify offsets at any time to propose acceptance.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The National Wildlife Federation believes that an expert scientific advisory board, such as the "Offsets Integrity Advisory Board" suggested by the recently released American Clean Energy and Security Act discussion draft by Chairman Markey and Waxman, should suggest verification procedures for offset projects.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

The National Wildlife Federation believes that implementation of offsets should rely on a standards based approach to measurement, however these standards need to be developed for each, very-specific offset type, with periodic sampling and regular review to verify the validity of the standards and a requirement for constant adjustment of standards based on this review.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

It is appropriate that offsets and allowances not be completely exchangeable. For example, the Waxman-Markey draft requires 5 offsets for every 4 allowances. The National Wildlife Federation supports this discounting of offsets to account for uncertainties and to drive additional reductions of emissions.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The National Wildlife Federation believes that if there is a potential for a reversal in an offset project, insurance must be held to protect against those scenarios, and/or a reserve pool should be established to compensate for leakage or unintentional reversals. NWF also supports the concept of carbon "leasing" in which an entity can contract for sequestering carbon for a given period of time. At the end of the contract period, the buyer would be required to make up for the leased carbon either through purchase of another equivalent offset, or through emissions reductions. For example a coal-fired utility might decides to lease soil carbon for 10 years. During that time, the company builds carbon capture and storage capability so at the end of the carbon lease, the utilities are emitting zero GHG's and can therefore account for the leased carbon that could be emitted once the contract is expired. In this way, a land-based offset has not been

marketed or priced as permanent when it is not, the cap is still maintained, and an opportunity has been provided for the capped sector to use offsets as carbon financing.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

All existing offsets or credits established through the voluntary market should be judged by the same criteria as newly developed offsets and should be eligible if they are also additional to the emissions baseline established in the law.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

It is important to maintain the integrity of the offsets program in order to maintain the integrity of the cap, thus all offsets must be truly additional in their emissions reductions or carbon sequestration. Yet it is also important to reward early actors who were going above and beyond routine and common practices and ensure that perverse incentives are not created to reverse earlier gains in order to qualify for offset credits. The National Wildlife Federation therefore supports using allowance proceeds to reward early actors who have already stored the maximum amount of carbon possible. Additionally, early actors can be encouraged and provided with technical assistance to expand their carbon sequestration activities going forward in order to qualify for offset credits. For example, a farmer who has been using no till farming for years could begin incorporating a winter cover crop to increase the carbon storage rate and qualify for offsets for that additional storage.

Many practices undertaken to reduce greenhouse gas emissions will provide additional public benefits, such as clean water, wildlife habitat, and reduced soil erosion. We believe that projects participating in a greenhouse gas offset market are not excluded from also participating in other markets for environmental services that currently exist or may arise in the future, with the exception of mitigation programs that rely on a full replacement of an ecosystem elsewhere, such as in wetland or endangered species mitigation, where carbon storage is not likely to be additional since it is replacing the carbon released through a development project elsewhere.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should

those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

NWF believes that those who participate in federally funded easement or land rental programs, should retain the rights to sell carbon credits from that land.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

NWF believes that there should be heavy penalties and mitigation requirements for projects that are not implemented as planned. However, we anticipate that for many offsets, it will be the aggregator who takes on the liability for offset performance and who will be subject to penalties for not following through, while aggregators will include penalty provisions in their contracts with those providing the offsets. In any case, it must be clear who is assigned responsibility and liability for completion of an offset project, with clear authority for enforcement and imposition of penalties and requirements for mitigation of offset losses.

NWF does not believe that penalties should apply for unintentional reversals, such as those caused by a natural disaster, but that the risk of such reversals should be accounted for up front by requiring insurance, such as a certain portion of the offset funding being used to create a reserve pool that can be tapped in the case of an unintentional reversal.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Protocols and procedures for an offset program should be developed by the U.S. EPA, in collaboration with other federal agencies, (including USDA), with the advise of an expert scientific panel and with ample opportunity for public review and comment.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Agricultural producers and forest landowners, especially smaller landowners, need more access to information and technical support to implement practices that reduce emissions or increase carbon sequestration on their land. The funding for farm bill programs, especially technical assistance, that could address that and provide other environment benefits should be increased. There should be special assistance targeted at small landowners to help them participate in the market.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing Farm Bill conservation programs provide incentives for a wide array of practices that can help mitigate climate change impacts, sequester carbon and reduce greenhouse gas emissions. In fact, all of the existing conservation programs can help with one or more of these goals. However, the programs currently contribute to baseline conditions from which much greater emissions reductions are needed. While the programs could be used in a somewhat more targeted fashion to better address climate change, funding for these programs would have to be greatly expanded in order to make the serious additional emissions reductions and carbon sequestration needed to account for the agriculture and forestry sector's share in addressing the escalating challenge of global warming. A particularly large area of need is to protect grasslands and forests from conversion. Yet the Grasslands Reserve Program and forestry programs are currently far too small to make significant contributions to maintaining sequestered carbon in grasslands and forests.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL RESOURCES
DEFENSE COUNCIL
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Organization(s) you represent

Natural Resources Defense Council

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

NRDC believes a cap-and-trade program coupled with complementary policies is preferable to a carbon tax for five principle reasons:

First, while a carbon tax attempts to change polluter's behavior by fixing the price of carbon emissions, it cannot guarantee that this will achieve desired emission reduction targets within a specified time frame. A cap, on the other hand, is designed to directly regulate the quantity of dangerous pollution emitted by the economy as a whole on an annual basis, while letting the market price of tradable carbon allowances vary. A pollution cap therefore creates more certainty that our environmental goals will be achieved.

Second, a well-designed cap offers companies and long-term capital investors (e.g. companies deciding whether to scale up new carbon-reducing industries such as carbon capture and storage) greater fundamental economic certainty than a tax by establishing clear, long-term emission reduction requirements and allows the private sector to reveal the allowance prices needed to get the job done. Importantly, careful market design in a cap-and-trade system will be critical to ensuring transparency and preventing any single market participant from gaining undue influence over allowance prices.

Third, a cap provides better protection from political intervention and thus greater environmental certainty than a tax. Although the regulation of a cap and invest market for carbon is likely to be reviewed every five years, the program itself will be designed to last 40 years and will not be subject to the intense political pressure that a rolling carbon tax would be subject to—especially during periods of economic stress. For example, political pressure might result in tax exemptions for certain sectors, which would allow higher emissions levels. Given the political advantages of underestimating the amount of tax needed to bring about a certain change in behavior, it is also likely that a carbon tax program would be persistently behind on its reduction targets and frequently confronted with calls either to reform or abandon the program. Furthermore, during periods of economic recovery, politicians will struggle to determine the level of carbon tax that best balances emissions reduction goals with sustaining economic growth.

Fourth, once carbon caps are in place, all energy consumers share an interest in promoting complementary policies that reduce emissions in economic sectors for which a price signal alone will not generally unleash an efficient response. For example, all energy consumers will benefit from lower carbon prices if policymakers enact and enforce minimum energy efficiency standards for buildings, appliances, and vehicles. Complementary policies offer similar benefits under a carbon tax, but there is no guarantee that the government would automatically reduce tax rates in response to lower emissions from these measures.

Finally, a cap provides a useful economic shock absorber, since allowance prices automatically soften whenever the economy slows down. In principal, carbon taxes could also be adjusted frequently to make them more countercyclical, but to do this effectively would require an unlikely level of sophistication, objectivity, and alacrity on the part of policymakers.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

In designing a carbon reduction program for the agriculture and forestry sectors, Congress should make use of a full suite of policy measures, including direct capping, mandatory policies like performance standards, performance-based incentives and high-quality offsets.

The cap should cover facilities in all sectors that contribute significantly to global warming pollution whose emissions can be monitored or estimated, and which have practicable methods for managing their emissions. The point of regulation should be large stationary emissions sources that emit 25,000 MtCO2e or more per year for existing facilities and 10,000 MtCO2e or more per year for new facilities. In the agricultural sector, we believe these characteristics are met by such sources as the manure management facilities associated with confined animal feeding operations (CAFOs) if their annual emissions meet the threshold for covered entities. For smaller stationary emissions sources in the uncapped sectors, Congress should set standards of performance—for example, with respect to capturing methane emissions in livestock feedlots or landfills.

Some agricultural sources of greenhouse gas emissions will be too small or dispersed to be included immediately under the cap (although this may become possible in the future). Instead, Congress should employ complementary policies such as performance-based incentives—for example, to encourage fertilization techniques that minimize nitrous oxide emissions. Performance based incentives should be structured so as to offer a variable incentive rate, with payments tied to actual performance (vs. fixed practices) i.e. higher levels of performance in the form of increasing reductions of GHG emissions or carbon storage resulting in increasing payments. In addition, carbon sequestration in the agriculture and forestry sectors cannot be easily accounted for under a cap but the protection and expansion of these carbon "sinks" should be encouraged. Congress can protect existing sinks by mandating the conservation of specified lands and create new sinks through performance-based incentives that encourage sequestration-enhancing practices.

Finally, a high-value offsets market should be put in place to finance further investment in sinks and other forms of additional uncapped sector abatement.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

Allowance value should be distributed over time so as to facilitate the transition to a low-carbon economy for consumers and businesses. Congress should use allowance value to fund three broad sets of priorities:

1. "Invest": including in renewables deployment, carbon capture deployment, energy research, energy-intensive industry transition, clean transportation deployment, abatement in the domestic and international agriculture and forestry sectors, international clean tech assistance and a clean energy finance facility;
2. "Dividend": including in the form of consumer rebates and efficiency through LDC's, the Super-efficient Buildings Incentive (SEBI), Super-efficient Equipment and Appliances Deployment (SEAD) and weatherization; and
3. "Adapt": including investments in both domestic and international adaptation.

Although a cap will drive investment in some of the more expensive technological solutions to climate change, it does eliminate the non-price market barriers to, commercializing new technologies. Additional policies and incentives are needed to drive innovation that lowers the long-term cost of deploying the full range of technologies we will need to meet our emission reduction goals. NRDC therefore recommends performance-based incentives for renewable power generation, carbon capture and storage, low carbon fuels, advanced vehicles and mass-transit-oriented development and other efforts to reduce vehicle miles traveled. We estimate the need to invest roughly 40% of allowance value through 2027 in these solutions in order to maximize value for consumers.

Generally, NRDC does not favor allocating allowances to sources that are not subject to the cap, nor do we favor allocation by grandfathering. Congress, however, could set aside and invest a portion of allowance value in reducing emissions from and increasing carbon "sinks" in both the domestic and international forestry and agricultural sectors, in order to meet economy-wide reduction targets.

Energy efficiency (for buildings, industry and transportation) already makes economic sense, but we have not invested in it due to split incentives and a host of other market barriers. While a carbon cap alone will make efficiency more cost effective, it will not overcome the barriers that prevent widespread investment. Congress should therefore prioritize performance-based incentives and standards to overcome market barriers to investment in energy efficiency.

Finally, the US must invest in domestic and international adaptation, since some global warming impacts are already inevitable. Some early funding is important, both domestically to help with agency planning and internationally to signal a U.S. commitment to helping developing countries adapt.

Congress should dividend the remaining value to consumers, including a reserve of at least 14% to help the lowest income Americans, as well as any additional funds generated if early carbon prices prove higher than expected. By 2027, once the transition to a clean economy is on track, Congress can dividend almost all of the allowance value directly back to consumers.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

If a cap-and-trade program is established, the authority to regulate and administer the physical carbon permits would most appropriately fall under the Environmental Protection Agency (EPA).

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The regulatory authority for the carbon markets could be housed either under the Federal Energy Regulatory Commission or the Commodities, Futures, and Trading Commission (CFTC), provided the necessary talent is brought in to either agency to supervise the large carbon derivatives market.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

No. Derivatives markets should be required to operate under stricter guidelines than used for existing commodities markets. One reason is that over time carbon allowances will become scarcer, a condition not characteristic of most commodities markets. Position limits should be established on exchange traded derivatives and over the counter derivative transactions above a participant's actual emission requirements (5% of the market value of the exchange above requirements is recommended for a position limit for any one participating entity). Over the counter transactions above a certain economic value ($10 million for example) should all be reportable to the exchange regulator as well, eliminating the "Enron loophole" and reducing counterparty risk. These OTC trades should also be included by the regulator under the participants 5% market risk exposure limit, reducing the ability of market players to manipulate the market through large unregulated OTC transactions.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less

There is a huge opportunity for the populations enumerated above to reduce energy bills by improving efficiency. These regions and populations are traditionally underserved with respect to energy efficiency. Further, rural populations are likely to enjoy the economic development benefits of increasing investment in home-grown sustainable biofuels, renewable energy, more efficient vehicles and farming equipment, as well as large-scale investments in the agriculture and forestry sectors in the form of incentives to encourage reductions in direct emissions and expansion of carbon sinks.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

A portion of allowance value in the early years of the program should be directed to assisting end-use energy consumers with the impacts of increased energy costs. In the case of electricity and natural gas consumers, this should be done through allocations to state-regulated local distribution companies (LDC's), conditional on their transmitting the full value of these allowances to electricity and natural gas consumers. After accounting for this, as well as other energy efficiency provisions, renewable energy investments and incentives for the agriculture and forestry sectors (as discussed above), if net costs to the populations in question remain, these should be mitigated through rebates or consumer dividends funded with a portion of allowance value.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Businesses such as cement, steel, chemicals, aluminum, and paper products are all expected to be impacted by climate policy due to their high energy intensity and should be provided with some limited transition assistance in order to avoid issues of carbon leakage, where production is simply off-shored to avoid having to pay for greenhouse gas emissions. Assistance to these industries should be in the form of energy efficiency grants that will lower their overall energy intensity and allow them to become more globally competitive until a global agreement on limiting greenhouse gas emissions is reached.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Federal lands are held in trust for the American public. Freed from immediate market pressures, their core purpose is a set of values and services largely unavailable from private lands. In the climate context, their highest functions are as carbon sinks, sources of U.S. credibility, and ecological refuges.

Old growth forests and native grasslands store vast amounts of carbon. Most private and many state lands are managed with an intensity that greatly reduces carbon sequestration.

U.S. national forests and Department of Interior lands are the exception. Their undisturbed areas can be kept intact; those damaged can be guided back to carbon-rich status. No other land use decision within Congress' direct control has so much potential to mitigate global warming.

Conservation of these public lands is also essential to American standing internationally. Climate change cannot be managed without halting native forest loss worldwide. To press that point credibly, we must practice what we preach. Putting our own house in order requires preserving intact federal forests and increasing the carbon storage of others.

These public lands are also vital to climate adaptation. Large undisturbed tracts, like national forest roadless areas, enjoy high ecological health. They are better positioned than altered systems to accommodate warming with their essential processes in place. As America's flora and fauna suffer the stress of climate change, these are the landscapes in which many can best survive. Intact public lands will preserve our natural heritage and biological diversity, and thereby help lessen pressure on private lands.

Some people speculatively promote federal lands for biomass harvesting. However, it has proven very difficult to create sourcing incentives for these lands that provide real greenhouse gas benefits but do not jeopardize their core functions and values. Fortunately non-federal U.S. forests and other sources can meet the projected demand several times over.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should ideally be determined by what a well-structured market determines to be the expected cost of meeting carbon emissions targets. Since allowances can be "banked" for use in future years, the market will take into account the expected trajectory of future carbon prices. This allows investments in low-cost solutions to be funded based on the collateral value of future carbon prices that can be hedged in the marketplace. The future trajectory of prices will be determined by a balance between the declining number of carbon allowances over time and the rate of energy technological innovation over time.

To address the possibility of carbon price volatility, some have suggested creating a reserve allowance pool, combined with a reasonable number of offsets, in order to reduce the demand-side pressure in the event of price spikes. In addition, in order to ensure that low carbon technologies are viable over time, a minimum reserve price has also been recommended for the auctioning of carbon emission permits. This minimum reserve price could begin at $10/ton and rise 5% annually, ensuring that large capital-intensive investments in low carbon solutions are given reasonable certainty that prices will not fall unexpectedly below the levels needed to justify those investments. If allowance prices remain lower than anticipated on a sustained basis—a measure of the success of the program—then this is also a mechanism to reduce carbon emissions more quickly to respond to the urgency of climate science.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

In the initial phase of the EU Emissions Trading System (ETS), participating countries set their national targets without having yet collected accurate emissions data. Once accurate data became available, the targets were revealed to be overly generous, causing allowance prices to fall. The EU corrected this flaw in subsequent phases of their program. In the U.S., Congress has already required the collection of the economy-wide emissions data required to support our future programs, through an amendment to the 2008 Consolidated Appropriations Act, and EPA recently proposed inventory and reporting regulations pursuant to this mandate. Thus, the U.S. program will not repeat the initial experience of the EU.

In their initial program the EU made another design error, by "grandfathering" allowances free of charge to EU electric power producers. Those companies then reaped billions of dollars in windfall profits by raising power prices to reflect the resale value of the allowances, even though the allowances had been acquired for nothing. As a result of the EU's experience, the U.S. debate has shifted away from grandfathering, towards using the allowance value for a mixture of public purposes: investments in least cost solutions like reducing energy costs for consumers through energy efficiency, and dividends to return allowance value to consumers through rebates, targeted low-income assistance or some combination of means.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Meeting our *economy-wide* emissions reduction target will require capturing substantial abatement in the uncapped sectors that is additional to the cap and therefore not driven by offsets. Furthermore, opportunities to reduce emissions and enhance carbon sequestration in agriculture and forestry are often heterogeneous and difficult to measure, making one-size-fits-all policy solutions difficult to apply. As described above, a carbon reduction program for the agricultural and forestry sectors should make use of the full suite of policy measures Congress has at its disposal, including direct capping, mandates, performance-based incentives and high-quality offsets.

Direct capping—First, Congress should cap direct emissions sources such as large manure management facilities in confined animal feeding operations (CAFO's) and landfills if their annual emissions meet the threshold for covered entities.

Mandatory policies—Second, where appropriate, Congress should employ mandates such as requiring that specified lands be conserved and that smaller emissions sources adhere to performance standards—for example, a mandate that livestock feedlots and landfills capture their methane emissions.

Performance-based incentives—Next, Congress should use a portion of allowance value to drive abatement in the agricultural and forestry sectors through performance-based incentives. Incentives should be used to encourage practices that go beyond "business-as-usual" in reducing emissions or increasing carbon sequestration. By directing the EPA to regularly revise baselines upward, Congress can ensure consistent improvements in practices.

High-quality offsets—Finally, offsets can be used to finance abatement projects in the agriculture and forestry sectors. Since offsets allow capped firms to increase their emissions, an offset must deliver environmental benefits equal to reducing a ton of pollution from a smokestack or a tailpipe. Although an offset market is a powerful tool for raising private capital to invest in uncapped sector emissions reductions, under a robust cap-and-trade program, only those projects that generate reductions that can be measured and monitored with a high degree of certainty at reasonable costs are suitable as offsets. Furthermore, offset credits should be discounted relative to emissions allowances to provide an additional environmental benefit per offset transaction.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Yes, the government should set annual, numerical limits on the number of offsets – both domestic and international - that can be used for compliance by capped entities in lieu of pollution permits. As long as offsets are the least-cost abatement option, capped entities will invest in offsets rather than reducing pollution at their own facilities or purchasing allowances. However, it is crucial to avoid relying too heavily on offsets since doing so will likely make it more difficult and costly to meet our long-term, economy-wide emissions reduction goals. There are thus three compelling reasons for numerical limits on the use of offsets:

First, limits will help ensure we make transformational investments in capped sectors rather than relying too heavily on uncapped sectors to hit our targets. To achieve our emission reduction targets within the necessary time frame, we must begin investing in long-term abatement in key capped sectors–especially power and transportation–as soon as possible. Similarly, it may be easier to purchase offsets than to scale up renewables, efficiency or launch transit-oriented development, even though these are likely to be cheaper in the long run and offer a continuous stream of benefits.

Second, given that all offsets—particularly carbon sinks—carry some degree of uncertainty, limits on the use of offsets serve as an environmental performance "insurance policy". This reduces the risk that low-quality offsets will "break the cap" and prevent us from hitting our environmental targets.

Finally, although limits are not a substitute for rigorous regulatory standards, they may encourage producers of high-quality offsets to help ensure strong regulatory standards

and thus a high-value offsets market, keeping junk offsets from flooding the market and driving down prices.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Congress should not distribute offsets but rather set annual, numerical, firm-level limits on the number of offsets – both domestic and international - that may be used for compliance with the cap in lieu of emission allowances. To ensure the integrity of the annual limit, Congress should provide for banking of purchased offset credits but no year-over-year rolling over of unused offset limit allocations.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

The criteria for measuring and accounting for the legitimacy of offsets should be:

1) Accurate and complete accounting of GHG impacts;
2) A verification system that provides strong assurance of compliance with program requirements;
3) Regular monitoring and reporting of impacts over the life of the project (up to 100 years).

All three require measurement of complex emissions sources and sinks and even more challenging counterfactual questions. These include (but are not limited to):

Additionality. Offsets must meet objective criteria specific to each project type to ensure they deliver environmental benefits above-and-beyond "business as usual" (BAU) – benefits that would not have occurred without the incentive created by an offset credit program.

Permanence. Sequestration projects can be reversed, resulting in the release of some or all of the sequestered carbon. Offset provisions must clearly assign liability for reversal, requiring either offset developers or users to compensate the environment on a ton-per-ton basis should the project fail or come to an end, returning the stored carbon to the atmosphere.

Leakage. Offset provisions must ensure that projects do not simply shift pollution or sink destruction to new locations. Offset value should be discounted based on rigorous, project type-specific risk assessments to account for potential leakage.

Co-impacts. Land management focused exclusively on carbon sequestration could result in short-term choices that degrade long-term ecosystem health and result in biodiversity loss. Moreover, uncertainty about long-term environmental health suggests uncertainty about full-cycle carbon implications. Beyond carbon benefits, offsets policy must address and safeguard the full spectrum of ecological factors at play in sectors like agriculture

and forestry. Offsets and incentive payments should be based on total tons of CO2 equivalent abated, and not on reductions of specific greenhouse gases without consideration of others. (For example, we know that some practices to sequester carbon in agricultural soils can increase emissions of N2O, providing reduced or negative net GHG reduction benefits.)

In addition, offsets criteria and performance-based incentive payments must take in account regional/climatic variability. The same practice implemented in different regions or soil types, for example, may result in very different reductions of GHG emissions.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The criteria for assessing offset projects should include:
1) Can this project type provide reliable, quantifiable, verifiable, emissions reductions (see above);
2) Is their sufficient aggregate potential emission reductions to justify development of protocols, etc.;
3) Can an unambiguous and fair baseline be determined to ensure additionality;
4) Are there alternative policies to achieve the emission reductions that are more efficient, more effective, or that lower total costs? (e.g. direct regulation, incentives, or information).

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should direct the EPA to design, develop and implement a verification system based on principles, standards, and objectives established by Congress. While EPA should consult with USDA, EPA should be responsible for the verification system because it is essential to have a cohesive, consistent program across all offset categories (both agricultural and industrial) rather than one that is fragmented by spreading responsibility across multiple agencies. Congress should require that the verification system build on and is consistent with existing state and regional programs to the extent practical, provide strong assurances that credited impacts of offset projects are accurate, that require continued verification over time where appropriate and that preclude double-counting..

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should direct the EPA to develop a list of offsets-eligible project types, to be reviewed and modified periodically as warranted by scientific and technical developments, and establish conservative, standardized certification protocols for each.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

If an offset project meets established criteria for offset crediting, that offset credit can be used for compliance by a capped firm in lieu of an emission allowance up to an explicit firm-level offset limit.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The issue of permanence is primarily a concern for those projects subject to possible reversal of emission reductions, e.g. biological sequestration. Reversals can occur through timber harvesting, forest fires, or plowing land subject to no-till agriculture, for example. For these project types it is essential that a mechanism be adopted that ensures compensation of the environment on a ton-per-ton basis in the event of reversal, through regulatory or contractual obligations imposed on the offset developer or user. This can be done by a Congressional requirement either to maintain an offsets or allowance reserve, the mandatory purchase of offset replacement insurance, or other means).

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Congress should direct the EPA to establish criteria and procedures for crediting real, additional and verifiable early actions that meet rigorous standards for projects undertaken as part of a regulatory or voluntary greenhouse gas emission offset program. Eligible projects should be limited to those begun before a specified date (so that no incentive to increase emissions in order to receive credit for subsequent reductions is created). A portion of allowance value should be set aside to help compensate early actors that can demonstrate emissions reductions that meet these criteria. Crediting regulations must ensure against double counting with any other mandatory emissions reduction program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

Landowners should be allowed to stack credits from other environmental benefits of carbon measures, but should not be allowed to claim carbon benefits from measures that are required by regulations or other legal obligations.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Carbon benefits should not be double-compensated. No offset credits should be issued for emissions reductions or enhanced carbon sequestration activities that are a result of alternative policies such as the Farm Bill or other subsidy programs.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

See answer to question 22 above on the issue of permanence.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress should direct the EPA to develop rigorous quality standards to ensure that offsets provide environmental benefits equal to reducing a ton of pollution from a smokestack or tailpipe. EPA should convene an independent advisory committee of experts to establish a list of offsets-eligible project types and recommend conservative, standardized certification protocols for each. EPA should also provide for periodic reviews of the offsets-eligible project list to provide the opportunity for new or initially ineligible project types to prove their merit over time and gain certification eligibility.

Congress should also designate an independent offsets auditor and require a performance audit for all offset project types. A random sample of live projects should be audited on a regular basis to determine if they are delivering their intended carbon benefits. EPA should manage the offsets-eligible list based on audit results and specify a mechanism to compensate the environment should a project (or entire project type) be found to have systematically failed in delivering some or all of its carbon benefits. This two-pronged "recourse" after a bad audit must be explicit:

a) Removal of project type from offsets-eligible list, with an option for project developers to petition for future reinstatement if there are material changes to practices, new science and/or improvements in measurement techniques.

b) An explicit mechanism for compensating the environment on a ton-per-ton basis for any forgone abatement, either via an offsets reserve or by reducing the cap in future years.

To meet permanence requirements, Congress should also require offset developers or users to compensate the environment on a ton-per-ton basis in case of project reversal. Congress should require the maintenance of offsets or allowance reserves or the purchase of offsets insurance.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Existing programs do not provide sufficient incentives to achieve adoption and implementation of emission mitigation and sequestration measures. Large amount of additional carbon benefits could be obtained through incentives to sectors like agriculture and forestry. NRDC supports the use of performance-based incentives and other complementary policies to encourage the voluntary adoption of practices. Policies should be targeted to appropriate measures, e.g. direct regulation for large stationary emissions sources, performance-based incentives for projects that are diffuse in nature or provide variable reductions and offsets where suitable for discrete, quantifiable and verifiable reductions.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Renewable fuels, processed efficiently and used in efficient vehicles, hold great promise as a tool for reducing global warming pollution, breaking our dangerous oil addiction, and revitalizing rural economies, as long as appropriate standards and incentives are used to shape the nascent bioenergy industry to provide these benefits in a sound and truly sustainable fashion. However, if pursued without adequate guidelines such as those that Congress wrote into the Renewable Fuel Standard (RFS), biofuels production carries grave risk to our lands, forests, water, wildlife, public health and climate. If we are to use policies such as the RFS to encourage biofuels, we must include analysis of lifecycle greenhouse gas (GHG) emissions from biofuels production, including emissions from indirect land-use - the impacts of indirect land use change on GHG emissions - as required by law. If we do not, by squeezing down on the pollution from transportation, we will cause an increase in pollution from land-use. In addition to minimum GHG standards, sourcing safeguards for wildlife, native grasslands, old-growth, natural forests, and federal forests must be preserved and extended to all policies that promote bioenergy.

Our biofuels policies should also shift to only supporting the best low-carbon biofuels. However, the best biofuels—ones that reduce global warming pollution and protect the environment—are not yet produced on a commercial scale. As a first step, policy makers should stop funding dirty biofuels and mature conventional biofuels and instead start paying for performance that is above and beyond existing safeguards and standards. Then, to jumpstart advanced biofuels, we need to take advantage of a number of programs that, if fully funded, can help meet our goals. The Biomass Crop Assistance Program, the Farm Bill conservation programs, the Biorefinery Assistance, the EISA Section 207 grants, the SunGrant Initiative, and the Biomass R&D Act programs should be fully funded to provide full system support including research and analysis. By coupling these programs with the Section 1705 loan guarantee program established as part of the stimulus bill, which specifically focuses on innovative biofuels systems, we will have funding available for every stage of an advanced biofuels system.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NEW ENGLAND FORESTRY
FOUNDATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Sidney E. Balch CF

Organization(s) you represent

New England Forestry Foundation

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director of Forest Stewardship of the New England Forestry Foundation

The New England Forestry Foundation is a non-profit forest conservation organization that has been conserving working forests since 1944. We work with private forest owners and encourage sustainable forestry. We own 23,000 acre of working forest ourselves and hold working forests conservation easements on 1,100,000 acres. We have holdings in Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Florida and Georgia. We are recognized experts in responsible forest management and private forest landowner issues. We are environmentally approved by the Forest Stewardship Council (FSC) and the American Tree Farm System.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

I think it should pass a hybrid of the two, because it can use the cap & trade to support the rapid development of carbon sequestration methods and encourage industries to develop new industrial technologies, while the carbon tax will affect everyone and prompt rapid carbon use reduction by individuals and everyone else.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

YES, YES, YES. Both of these sectors work with plants, which are the natural organisms that remove carbon dioxide from the air and produce material for making energy. Congress has the opportunity to encourage and support sustainable practices and resource conservation. There is no downside to using plants to reach the country's carbon and energy goals.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

It should be some of both. There is a base level of emissions for animal and agricultural operations that should be free. This same discussion has been had about electricity plants. Recognize a base level and then charge for amounts above that level. Most forestry operations are net positive or neutral in relation to carbon emissions.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Both RGGI and the California Exchange have some good experience and have developed some innovative ideas. These developments should be incorporated into a single national program. There should be regional variations, but allowing stand alone regional systems will result in a very difficult situation.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The EPA working with the USDA is capable of doing this.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

No opinion

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

YES, it should be structured to allow innovation and quality differentiation. Carbon sellers and buyers should be free to develop both products and prices. There have to be minimum quality standards similar to the FDA or USDA standards, but beyond that it should be a free market.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

If these are constructed properly, then it will have a positive effect on all populations.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Development and rapid distribution of carbon and energy saving technology. In extreme cases, a carbon stamp system could be developed similar to food stamps.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

NO, it will only slow their evolution to less carbon emission processes

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

They are a very important part of the process. All those acres of plants have to be involved. The overall goal is to reduce carbon dioxide in the air to mitigate climate change. We cannot afford to leave out any acres that can help us.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Market

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Our focus at the New England Forestry Foundation is on sustainable management of naturally regenerated forests. None of the government systems developed so far recognize the carbon sequestration potential of these existing forests. CCX does have system. So, one lesson is that no one has taken the time to develop a system to deal with this situation and as a result millions of acres of trees and hundreds of thousands of voting landowners are left out of the solution to carbon. RGGI has been working with Alec Giffen, Maine State Forester, to develop workable systems. Learn about what they have done.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected

agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

They should be treated in same way as all other sectors of the economy.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No opinion

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

No Opinion

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

There should be fairly low minimum standards, but the market should be allowed to develop to recognize higher levels of standards and reward them with higher prices.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Dr. John Hugun at Manomet Center for Conservation in Manomet MA has developed a scorecard for this. Also ask Alec Giffen , Maine State Forester..

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The environmental audit systems set up by the Sustainable Forestry Initiative (SFI), the Forest Stewardship Council (FSC), American Tree Farm System (AFT) and the Land Trust Alliance (LTA) and the Chicago Climate Exchange (CCX) all have methodologies for this type of question.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Standards will be much less expensive to implement and administer. A project based approach has the potential to be so expensive to administer, that its costs eat up all the benefits to the participants. The problem is that each project requires individual management by the overseeing agency, and this adds costs.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

I do not know enough about this yet to express and opinion

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The most important factor is flexibility and ease of use. You want people to participate. Forest based contracts should be 10 years, with a renewal option. This time period matches the state based current use taxation program that are so successful in conserving forests. Landowners and foresters are used to this time period and many of the pieces are already in place.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Let the market decide. These systems are well thought out and functioning. Do not punish their innovation. Recognize their systems and incorporate them as one of the allowed methods of addressing carbon. Some

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Yes, the public may choose to value these separate environmental services and reward landowners. They are not always simultaneous and should be recognized as separate. Fore instance, there could well be good carbon sequestration practices that yield poor wildlife habitat and vice versa.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The analogy should be wood. Now the government offers landowners some assistance in forest management, but does not later claim any reconciliation when wood is sold from that land. The same situation should apply to carbon offsets. Remember the goal is to remove carbon. If the government thinks it is a worthy goal, just like growing wood or producing wildlife habitat or keeping water clean, then its landowner assistance programs should help achieve these goals without a payback clause.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

The CCX and other systems already deal with this. There is basically a two step process of withholding a part of the payment as insurance and a monitoring process to confirm performance. If the monitoring reveals problems there is a payback provision.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

It should NOT be in legislation. I do not have a recommendation about which agency should be responsible.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

1. Low price of carbon dioxide units (metric tons).
2. Exclusion of naturally regenerated managed forests from most of the systems.
3. Complexity of evolving systems and confusion about the entire question.
4. The proposed definitions of eligible biomass should include material from naturally regenerated forests of all ages, both young and mature

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Yes and No. Most programs result on carbon sequestration or carbon neutral management practices, BUT there is no reward for this. Many many landowners do not participate in any

of these government programs because they do not want the bureaucratic hassle, and the financial reward is not big enough. A real government cap & trade system would probably entice more owners. The congress has the opportunity to create a new valuable commodity, a carbon dioxide unit, that will allow landowners to choose to manage their land differently for the benefit of society. What a great idea!

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The New England Forestry Foundation is a non-profit forest conservation organization that has been conserving working forests since 1944. We work with private forest owners and encourage sustainable forestry. We own 23,000 acre of working forest ourselves and hold working forests conservation easements on 1,100,000 acres. We have holdings in Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Florida and Georgia. We are recognized experts in responsible forest management and private forest landowner issues. We are environmentally approved by the Forest Stewardship Council (FSC) and the American Tree Farm System.

This is a very important opportunity to address climate change, conserve forests and support sustainable management. The definition of Biomass in "SEC. 610. FEDERAL RENEWABLE ELECTRICITY STANDARD on page 7 and 8 of the draft bill needs to be modified to include biomass from naturally regenerated stands. Forests stands can only be improved to grow quality trees if there is a market for the trees from thinnings and other improvement cutting. This applies to both young forests and mature forests. The emerging biomass markets can provide a needed market in areas that lack outlets for this material. Biomass from these naturally regenerated forests are an important renewable resource. Forests and forest landowners will be better off if the biomass definition is changed. The definitions should be inclusive not exclusive, we want to encourage and reward the use of this renewable carbon neutral energy source. We make the following points.

We should promote rather than discourage the use of renewable forest biomass. Limiting renewable forest biomass harms conservation, consumers, and the climate. Foresters have the expertise to help landowners sustainably manage forests for wood products and biomass energy while still conserving the environment.

1. Definitions of eligible biomass feedstock should put working forests on an even playing field with every other renewable energy sources.

2. Definitions of eligible biomass should include material from naturally regenerated forests of all ages, both young and mature

3. Wood is necessary to meet a renewable energy standard: If as a nation we are to truly meet renewable energy goals—whether electricity or biofuels—wood must be allowed to make its full contribution. Renewable forest biomass will account for up to 1/3 of the energy needed to meet the RES

4. Green jobs – Biomass energy plants create 4.9 jobs for each MW of installed capacity. One plant can inject $150 million in upfront construction investment with $20 million spent in the local economy each year.

5. Sustainable forest biomass reduces greenhouse gases (GHG) because it is carbon neutral.

We would be happy to answer any questions or offer any assistance you need.
Thank you for taking the time to read this.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	**Cost** for agricultural producers and private forestland owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)
Increasing standing volume of wood, by cutting less than grows	Excellent	excellent	Medium	High
Conserving forests from conversion to non-forest	Good	excellent	high	high
Biomass production from wood, because it is not ancient carbon, but just current recycled carbon.	Excellent	excellent	low	high
Planting trees in fields Planting particular species or improved stock with increased sequestration capacity.	Excellent	excellent	high	Depends on region, low in New England
Wildfire control and threat reduction	Excellent	excellent	medium	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	**Cost** for agricultural producers and private forestland owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	**Cost** for agricultural producers and private forestland owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NEW FORESTS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Brian Shillinglaw
Manager, Policy & Regulatory Affairs

Organization(s) you represent

New Forests, an international forestry investment management and advisory services business. New Forests specializes in institutional and private equity investments that generate returns from sustainably managed plantation forests and from environmental assets, such as carbon, biodiversity and water.

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Manager, Policy and Regulatory Affairs

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

New Forests supports a cap and trade policy. If the level and trajectory of the cap is supported by science, a cap and trade system can deliver lowest-cost emissions reductions while ensuring that total emissions remain within levels that are estimated to be safe by the scientific community.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No position on agriculture.

Regarding the forestry sector, many countries have excluded it from mandated emissions reductions; some have allowed the sector to produce offsets for regulated sectors. New Zealand has taken a unique approach that might be of interest to the Committee. New Zealand passed cap and trade legislation in late 2008 (currently under review following an election and delayed in implementation) that issues emission allowances to many industrial forest owners based on carbon stocks. Older forests must be enrolled in the system; forests planted after 1989 may be voluntarily enrolled. Forest owners may sell or hold their allowances, but they face compliance obligations when converting forests to non-forest land use (an emission). For older forests in the system, there is no emissions liability for harvesting and replanting. Small harvests and small landowners are exempted from the system. Because most forests are incorporated into the system and New Zealand must account for emissions from non-enrolled forests at the national level as a Kyoto signatory, there is no concern about additionality. Similarly, there is no concern about permanence due to compliance obligations for emissions. For more information on forests in the New Zealand ETS, see http://www.maf.govt.nz/sustainable-forestry/ets/guide/.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

No position

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

If a federal cap and trade scheme preempts state and regional cap and trade schemes, allowances already issued under regional and state schemes should be "grandfathered" into the federal scheme and offset projects registered and accredited under such schemes should be issued offset credits by the federal scheme for a defined period of time, as in the Waxman-Markey discussion draft.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

No position.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

No position.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

No position.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

If agricultural producers and forest landowners are included in an offsets program, enactment of a carbon reduction program should have a positive impact on the financial well-being of agricultural producers and forest landowners.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

No position.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

No position.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

No position.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Given the mitigation goals of a cap and trade scheme, however, it may make sense for policy makers to ensure a carbon price floor.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU ETS has excluded forestry credits generated through the CDM from the compliance market there for the time being. The CDM issues tCERs and lCERs for afforestation/reforestation projects; the problems with that protocol are well known. Australia is developing a Carbon Pollution Reduction Scheme that includes reforestation on Kyoto-compliant lands. Regarding New Zealand's scheme, see question #2 above and http://www.maf.govt.nz/sustainable-forestry/ets/guide/.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

New Forests is supportive of a range of programs that create incentives for landowners to increase provision of ecosystem services such as carbon sequestration. Of the options discussed in this question, we believe that a voluntary offset program would be most effective in incentivizing a range of forest landowners to increase carbon sequestration on their lands.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No position.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Apart from broad discrimination between sources of offsets (e.g. between domestic and international offsets as in Waxman-Markey), Congress should not prioritize the distribution of available offsets; rather, the supply of and demand for different offset types and quantities of offset tons should be left to market actors.

An exception to this principle would include Reduced Emissions from Deforestation and Degradation in tropical countries; because there is broad scientific agreement that avoiding dangerous climate change will be difficult without rapid action on REDD to reduce tropical deforestation in the next ten years, Congress should consider mechanisms for prioritizing REDD offsets (either from national REDD activities against a national baseline or, in the early years of a system before forest nations have developed national deforestation baselines and accounting systems, subnational REDD projects established by community, non-profit or private actors).

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

In general, details regarding carbon measurement and accounting are more appropriate for the regulatory than the legislative process.

Regarding carbon accounting in forestry, measurement and monitoring of the standing live biomass carbon pool should be required, while all others should be optional so long as the project developer can demonstrate that there will be no net emission from an omitted pool. New Forests is moderately supportive of the inclusion of the harvested wood products pool; if the pool is included it should be included both in the baseline and project scenarios where applicable (e.g. in 'improved forest management' projects). Project non-biological emissions should be optional if no net increase in emissions is likely. Non CO2 greenhouse gases should be required to be measured and accounted for in projects where their inclusion creates a more conservative assessment of GHG emission reductions.

Regarding verification, see question #19 below.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

There is widespread agreement that offsets should be additional, permanent, verifiable, measurable with a reasonable degree of accuracy, and account for leakage.

Regarding additionality, both performance standards and project-specific (modeled) baselines should be available to project developers. Any performance standards for baselines should be sufficiently stringent to be additional to business as usual and capable of occasional revision as necessary. Legal and regulatory surplus should be required, and a project should exceed common practice in the baseline assessment area, so long as that common practice is not the product of other carbon projects. Improved Forest Management projects should exceed historical common practice on the project area. Financial additionality and implementation barriers should *not* be required.

New Forests supports legislation that requires the agency administering the program to promulgate regulations for a set of offset categories for forestry, including afforestation/reforestation, improved forest management, and avoided deforestation.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Accredited third-party verifiers should be allowed to participate in the system. A system for verifying offset projects should ensure that third-party verification of emissions reductions or sequestration should be completed before offset credits are issued.

Periodic verification should be required. Provisions should be made to maintain the independence of verifiers (e.g. a project developer can use a verifier for validation and verification or for two verification events in a row, but periodically a random verifier is assigned to the project who cannot thereafter be employed to assess the project for a period of years).

Any verification scheme should include an accreditation agency that is adequately resourced to oversee verifiers, conduct audits and suspend accreditation of verifiers when necessary.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

New Forests supports a system that would enable project developers to use either a standards-based approach with precalculated values or project-based measurement and modeling at their election. Precalculated standards would reduce costs for smaller landowners and marginal projects, while project-based measurement would enable project developers to prove that their projects are sequestering more carbon than standards might suggest if that is in fact the case.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets should be fully fungible with allowances up to any limit established by Congress regarding a percentage of compliance obligations that may be met with offsets. Offset project standards should be sufficiently conservative such that no additional discount (as in Waxman-Markey) of the value of offsets compared to allowances is necessary.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

There is widespread agreement that the term "permanent" for forest carbon offsets should mean removal and/or storage of the carbon out of the atmosphere for at least 100 years. Permanence of at least this duration is necessary for the market to treat forest carbon tons as equivalent and fully fungible with all other offset tons and allowances. The challenge is to reconcile the market demand for 100-year permanence with the reasonable desire of landowners to maintain some flexibility in land use. Many forest landowners are reluctant to irrevocably constrain the land use options of their grandchildren.

Congress and the agency administering the offset program have two options for addressing permanence in forest carbon projects: (1) assigning 100-year

permanence to the forest landowner (carbon seller), or (2) allowing short-term forest carbon contracts where the forest landowner commits to maintain carbon permanence for a shorter period of time, but the buyer must renew or replace the contract at the end of its term with another short-term carbon offset, a permanent carbon offset or an allowance. A third-option, ton-year accounting approaches, is too complex for markets to implement effectively.

We recommend that liability for 100-year permanence should be assigned by default to the forest landowner, with the ability to exit such liability by (a) buying an amount of forest carbon tons from the market equivalent to the total sold by that project and retiring those tons, or (b) by assigning permanence obligations to a different, non-protected forest area with equivalent carbon stocks. This would reconcile market demand for permanent, fully-fungible forest carbon credits with the reasonable forest landowner demand for land use flexibility – without compromising the environmental integrity of the offset.

Congress should avoid establishing a system of short-term contracts for forest carbon (such as tCER and lCERs in the CDM), where the buyer must replace the contracts at the end of their term for the following reasons:

1) Carbon brokers and future compliance buyers have stated that there will be very little demand for temporary forest carbon credits;
2) If there is demand for temporary forest carbon credits the price will be heavily discounted, likely to the point where such projects are not economically viable;
3) Some compliance purchasers will go bankrupt. Bankrupt companies, particularly those that go through liquidation, will likely shed liabilities to replace carbon credits. A temporary crediting scheme would require re-writing the bankruptcy code to ensure some entity takes on temporary credit replacement liability – probably the federal or state governments.
4) Tracking which buyers have obligations to replace credits and enforcing those obligations would require a large and costly administrative apparatus.

Permanence will likely require a deed restriction to ensure that permanence obligations run with the land; any such deed restriction should provide for a buy-out option as detailed above.

23) How should Congress address <u>existing</u> offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

If a voluntary offset standard meets or exceeds the standards promulgated under a federal compliance regime, there should be a procedure for issuing credits to projects registered under that offset standard for emissions reductions achieved after a certain date (e.g. Jan. 1, 2009). Some have suggested setting aside a percentage of allowances for existing offset

projects under voluntary offset standards that meet federal guidelines; this would give credit for real, verifiable, measurable, additional, permanent early action without threatening the integrity of the cap if the implementation of the voluntary offset standards was not adequate.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

New Forests supports the approach taken to early action in Waxman-Markey.

Activities undertaken for other purposes (and compensated through other mechanisms) that generate emissions reductions or increased sequestration should not be eligible for carbon credits, as additionality would be vitiated. Activities undertaken for carbon credits that generate co-benefits such as water quality or wildlife habitat creation should be eligible for compensation through other mechanisms for those co-benefits so long as additionality is not a concern in the other mechanisms. The key is the timing of the carbon project versus the other environmental market activities.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

No position.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes, a producer should be held liable for reversals. (If a project does not sequester carbon or reduce greenhouse gas emissions, the verification process and ex post accounting should prevent it from receiving carbon credits in the first place.)

It is important to distinguish between intentional reversals and unintentional reversals. Intentional reversals should trigger liability for all of the carbon reversed/emitted (and should terminate the offset project – this is essentially the "buy-out" flexibility mechanism described in question #22). In no circumstance, however, should a producer be liable for more than the carbon credits awarded to the project from the compliance system – the only requirement should be to make the offset system "whole". Unintentional reversals should be managed through a reserve buffer system and/or financial insurance. The approach

sketched in Waxman-Markey to unintentional reversals (where liability would be limited to replacing the credits previously reserved from the project for the buffer) is a sound one.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

In general legislation should establish broad requirements and guidelines for an offset program, but the details should be established through the regulatory process. New Forests supports legislation that would require the administering agency to establish certain eligible offset project categories (as in Dingell-Boucher), such as improved forest management, afforestation/reforestation, and avoided deforestation in the forestry sector.

New Forests takes no position on which agency should be responsible for promulgating offset protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Forest carbon offset markets should be structured to minimize transaction and compliance costs where possible, particularly for smaller landowners. It would be useful to include performance standards, rules facilitating the use of "carbon pooling vehicles" to aggregate multiple small landowners under one carbon project, and modified verification protocols that reduce costs (while maintaining environmental integrity of the offsets) for aggregated small landowners.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No, existing conservation and forestry programs do not provide sufficient incentives to encourage the adoption and implementation of practices that would mitigate climate change. Particularly in the current economic and fiscal climate, we encourage Congress to consider turning to carbon markets to create private-sector incentives for funding land-based climate mitigation efforts.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or

biofuel incentives.

Leakage. Entity-level accounting and reporting should be required to reduce internal leakage, while external leakage should be addressed by discounting the volume of issued credits where appropriate.

Sustainability and environmental integrity of forest carbon projects. New Forests supports legislation and carbon offset regulations that would require native species and widely-accepted sustainable forest management practices to be used in forest carbon projects.

REDD. Congress should ensure that adequate incentives are included in any cap and trade legislation for REDD. There is widespread scientific agreement that rapid action to reduce tropical deforestation is necessary to avoid dangerous climate disruption. Congress should consider providing for REDD offsets and allowance allocations to project-level REDD activities in the period before the development of national-level baselines and accounting systems for national-level REDD activities, as it will take at least three years for many countries to develop the capacity to create national deforestation baselines, forest carbon inventories and monitoring systems. It will be important to reduce deforestation in those three years. Any offset credit system or allowance allocation to subnational/project-level REDD activities should: (1) *bar* infringement of the rights (land tenure and otherwise) of Indigenous Peoples, local communities and vulnerable social groups; (2) *require* free prior informed consent; and (3) *require* sharing of profits with local communities and Indigenous Peoples.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	Medium	High
Reforestation	Excellent	Excellent	Medium	High
Improved Forest Management	Excellent	Excellent	Medium	High
Avoided Deforestation	Excellent	Excellent	Medium	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NORTH AMERICAN EXPORT
GRAIN ASSOCIATION, INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name:	**Gary C. Martin**
Organization:	**The North American Export Grain Association**
Address:	[Redacted]
Email:	[Redacted]
Capacity:	**President and CEO**

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

A key element to any carbon reduction program will be to minimize negative impacts on the stability and predictability of markets and the cost of doing business. As we have witnessed during last year's run up in commodity and energy prices, volatility in markets can have a severe limiting impact on the grain and feed industry's ability to pursue new opportunities for growth and improving the competitiveness of U.S. agriculture. Whatever the makeup of the final program, it must not negate the competitive advantages in technology, transportation and infrastructure enjoyed by U.S. agriculture. The global marketplace is highly competitive and margins are small so any new costs incurred unilaterally within the U.S. have the potential to negatively impact market share for all U.S. crop exports.

A primary concern is that legislation may create a program that if not fully vetted for all consequences and has the potential to increase costs to such an extent as to strain small business and threaten to put some out of business without recognizing any real benefits to reducing carbon. Given the current economic condition it would be ill advised to implement a program that represents a fundamental change to the economic foundation of the country. A fundamental hallmark of the U.S. is to foster a free market economic system that rewards hard work and innovation. As we impart on a massive undertaking to remake the economy we must be mindful of a holistic approach that strives to enhance economic opportunity while promoting identifiable and measurable benefits of reducing carbon emissions.

A hybrid of approaches may allow for the greatest flexibility in meeting the challenges associated with reducing carbon emissions, but it is imperative that any approach be cost effective, maintain the competitiveness of U.S. industry, be predictable, allow for sufficient transitioning, offer verifiable results and be conducted in concert with similar efforts by our key competitors.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

While we believe many grain elevators are not likely to reach the minimal thresholds to be required to reduce emissions or purchase credits, hence to insure scale efficiency in energy consumption as well as economic activity are allowed to continue, grain export sector should not be covered under a carbon reduction program. Already faced with increasing electricity and transportation costs there is an expectation that in turn the cost of food will increase – ensuring that these types of facilities are exempted, or could earn credits through carbon reducing practices, would assist in limiting the overall impact of increased prices downstream to consumers.

In addition, the cost of handling grain has already increased dramatically, which can negatively impact the prices farmers receive for their products. Additional cost and volatility also limit the availability of additional risk management tools that producers use to maximize the value of their crops. Limiting the overall exposure of grain facilities will at least reduce some of the expected cost burden on the industry and those it services.

3) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

There could be a number of negative impacts on various sectors of U.S. agriculture among them are:

***Transportation Costs**: Grain and oilseed handlers are major users of all modes of transportation. Grain and oilseed production tends to be concentrated in lighter population density areas requiring the transportation of those bulk products to various processing facilities around the country and to export terminal elevators at the nation's ports. Agricultural shippers utilize rail and barge transportation when and where available and economically feasible, but trucking remains a critical component in getting these products to market. In many production areas transportation choices are extremely limited and costs incurred by refiners will undoubtedly by pushed back to the shipper and in the case of most agricultural products passed back to the farmer. Given U.S. agriculture's reliance on efficient, cost effective and timely transportation across all modes any increases in these costs will directly impact the U.S. farmer's ability to compete with their global counterparts.*

***Power Costs:** While relatively small compared to other users of electricity, power usage by grain handling facilities and feed mills does represent a significant cost of operations. A study conducted by Oklahoma St. University estimated that electricity costs for grain handlers has increased by 19 percent over the past five years and is expected to continue to increase. These increases, coupled with dramatic increases in the overall cost of handling grain and oilseeds due to commodity prices and other factors, have made it more of a challenge than ever to effectively price grain and give the industry the confidence to offer a wide range of risk management tools to assist producers. Policy decisions that offer the potential for even greater increases to the variable cost for elevators will push them to scale back on potential growth opportunities and at least in some cases push them into uneconomical operations – forcing them to sell off to competitors or shutter their operations.*

4) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

A measured and incremental approach to implementation is preferred to give businesses the opportunity to efficiently adjust to new programs and costs.

5) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Our industry is convinced that commercial and free market solutions are the best approach to effective markets. However, if implemented, the carbon reduction program will represent an artificial market created by the government which also would create an artificial shortage of available credits. Given the massive government interference in the marketplace by capping carbon emissions, we believe it would be necessary to cap prices at least through a transitional period and potential for the long term to ensure that the costs of the credits, which will be passed back through the system, are limited to a reasonable level are not allowed to spike so high as to contribute to further volatility for the grain and feed industry.

Part II: Carbon Reduction Program Administration and Implementation

18) What should be the criteria for assessing offset projects?

Implications on the production of food and fuel crops must be included in the criteria for assessing offsets. While converting cropland to range or grassland may provide a limited benefit in the overall reduction of carbon emissions, far outweighing that benefit is the impact on local rural communities of less economic activity as well as the impact on global supplies of fundamental food and fuel commodities. Offset projects must be assessed not just for its carbon reduction benefit, but for potential negative economic impacts. This will help project administrators understand which projects meet a balanced criteria that appropriately weighs economic and environmental factors.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

There are two additional issues we would like to bring to the attention of the Committee: 1) potential incentives to idle additional cropland acres; and 2) international implications of a potential carbon reduction program.

We are concerned that potential legislation would provide an incentive for the conversion of cropland to rangeland or grassland in exchange for tradable carbon credits. The U.S. government already operates a large-scale land-idling program that idles more than 34 million acres through 10-15 year contracts. Potential incentives that further erode acreage for food and fuel crops could have a significant negative impact on the availability of both. We recognize the importance of implementing programs to decrease emissions of greenhouse gases, but could only support a program that does not do so at the expense of ensuring enough acreage is available to continue to produce the safest, most abundant food supply in the world and to take advantage of opportunities in the growth of biofuels.

This type of provision could encourage producers or landowners to take land out of agricultural production and sell it as credits rather than continue agricultural production using improved

conservation techniques and ensuring sufficient food and biofuels availability. While U.S. stocks have rebounded, global supplies of major commodities are at or near record lows.

Further idling of productive resources, while harmful to U.S. agricultural competitiveness, can also be a particular burden on young farmers and ranchers trying to build an economically sized operation. These producers in particular can find it difficult to compete with government programs that provide economic incentives to idle land rather than rent or sell those acres. We want to make sure that any program design will not allow for or encourage large coal-fired power generators and other carbon emitters to buy large amounts of farm acreage at above-market prices, taking it out of production, and then converting it to rangeland and using the credits so they can continue to emit greenhouse gases.

Importantly, significant portions of the most environmentally sensitive agricultural lands are already enrolled in USDA's Conservation Reserve Program. It is imperative that any carbon reduction program avoid additional cropland acres being idled.

There are a number of implications globally if a carbon reduction program is implemented in the U.S. Most critical to the competitiveness of U.S. agricultural products is their ability to compete on an even playing field with competitors, particularly in the growing regions of South America and the Black Sea. Both have become increasingly competitive across a number of agricultural products and also are not currently governed by any type of carbon reduction scheme. While a potential carbon tariff has been floated as a possible "stick" to impart on those without such as regime who import into the U.S. it will have no impact on those which we are competing with for global market share. Such a punitive tariff also has the potential to engender similar actions by our trading partners on a wide range of issues they may put in place as tariffs on U.S. products.

There is no U.S. solution to a global problem and making the U.S. agricultural industry less competitive is unlikely to lead to any long term reductions in carbon emissions. In fact we face the potential for increases as those without similar conservation minded production practices pick up market share from their potentially less competitive U.S. counterparts. We would encourage that the U.S. lead in a global effort on carbon emissions reduction rather than a unilateral approach that may have a limited overall impact.

Thank you for your consideration. Please feel free to call on us.

Gary C. Martin
President and CEO

North American Export Grain Association, Inc.

NAEGA

[Redacted]

Friday, April 10, 2009

The Honorable Collin Peterson, Chairman
House Committee on Agriculture
1301 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Peterson,

Thank you for your request for comment related to potential climate change legislation. The North American Export Grain Association (NAEGA) appreciates and encourages your personal initiative as well as the involvement of the Committee in these very important deliberations. We thank you for this opportunity to comment.

NAEGA, a not for profit trade association established in 1912, consists of private and publicly owned companies and farmer-owned cooperatives that are involved in and provide services to the bulk grain and oilseed exporting industry. NAEGA's mission is to promote and sustain the development of commercial export of grain and oilseed and their primary products. Through a reliance on member action and support, NAEGA acts to accomplish this mission from its office in Washington D.C., and in markets throughout the world. We are most concerned that any carbon reduction program approved by Congress and implemented by the Administration does not unduly restrict the ability of US agriculture to continue to thrive in the global marketplace.

As you consider legislation intended to dramatically increase carbon productivity, we encourage an effective mix of policies, investments and new technologies be considered. US agriculture and in turn global food security could be adversely affected by such legislation. Given the magnitude and complexity of the climate change issue we support a deliberate and conscientious effort by Congress which carefully scrutinizes a carbon reduction programs impact on both the domestic and global food production industry and resulting impacts on consumers and those in need of humanitarian food assistance.

We have identified several major concerns which must be considered and appropriately addressed through this legislative process.

- **Global Competitiveness of U.S. Agriculture:** Climate change is global as are the potential impacts of legislation. Any policy that does not approach the issue with an international perspective and a global assessment of risk and competition could harm the interest of the United States. For example, developing countries are the most significant market competitors of U.S. agriculture and they stand to gain a significant economic advantage if the U.S. pursues a unilateral approach.

- **Incentives for Idling Productive Cropland:** Global commodity supplies have been challenged in recent years and the world witnessed a severe run up in commodity and food prices last year making it critical that any move to reduce carbon emissions does not inadvertently incent farmers to take land out of production or allow carbon emitters to purchase cropland and take it out of production to earn offsets.

- **Increases in the Cost of Handling, Processing and Exporting Grain and Oilseeds:** The US grain export pipeline industry utilizes significant amounts of power to run its operations and those costs have already increased dramatically in recent years. Given the geography between production and international consumption, the industry is a major shipper of commodities by truck, barge, ocean vessel and railroad. In each transport and handling mode, energy use efficiency is a major element of successful business operation. Major cost increases in those industries will undoubtedly hit shippers and handlers very hard.

- **International Implications:** Continuing to advance US interest through expanded trade liberalization, obligation compliance and enforcement of World Trade Organization (WTO) and other trade agreements is critical. Taxing imports will raise the specter of like treatment by affected countries and invite retaliatory efforts by our trading partners.

  Likewise improvements in food and energy security are critical to geopolitical stability. The reliable and economic export of US agricultural products is an ever more critical element of global food, fiber, fuel and feed provision.

Congress is developing legislation that would lead to a fundamental change in the U.S. economy. An economy, sometimes experiencing less than ideal circumstances, that has contributed significantly to the strength, resilience and undeniable successes of the U.S. It is imperative due diligence be undertaken before such a change is undertaken. The phenomenon of climate change is global. U.S. engagement in and incorporation of a comprehensive global response has the best chance to lead to a successful outcome while maintaining the competitiveness of U.S. agriculture – an industry that has consistently contributed a positive balance of trade and citizen well being while anchoring the nation's economy and ability to respond to opportunity as well as challenge.

Thank you for the opportunity to comment and we look forward to working with you and the rest of the Committee to ensure the needs of U.S. agriculture are fully met in the process to reduce carbon emissions.

Sincerely,

Gary C. Martin
President and CEO

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NORTH DAKOTA FARMERS UNION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name
Robert Carlson

Organization(s) you represent

North Dakota Farmers Union

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President – ND Farmers Union

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We believe an economy-wide cap and trade system would provide the most benefits in terms of actually making reductions of greenhouse gas emissions as well as rewarding those entities that can make these reductions. A cap and trade system provides flexibility in how much reduction can be obtained by setting appropriate caps on emissions, and the distribution of allowances and/or offsets under the cap level can be used to help certain industries adapt to constrained emission requirements in the early years, as well as reward practices and developing technologies that will sequester greenhouse gases or avoid emissions.

Income derived by the government from the sale of allowances and/or collection of taxes should be used to encourage conservation, and support research, and assist consumers and industries with the transition to a low carbon economy.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

In terms of current emissions, agriculture and forestry are minor emitters, and the process of capping emissions from these sectors would not result in much reduction in greenhouse gas levels. While most farms and ranches emit quantities of greenhouse gases below a 25,000 ton level, there are large animal feeding operations with associated processing that may exceed that, and they could be regulated and capped as a specific emission threat.

Agriculture and forestry are much more valuable as a source of quality offsets to be supplied to the greenhouse gas reduction system.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The majority of emission allowances should be auctioned, and the revenue generated should be available to encourage or facilitate adaptation by certain sectors of the economy least likely to succeed under a carbon-constrained economy. Certain industries may have

higher priorities in terms of their value to the overall economy for job creation, production of critical products, risk of moving offshore, and the most potential for lower emissions.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Valuable lessons have been learned as a result of the various regional reduction programs, and the best parts of the regional programs should be incorporated into a federal compliance system.

The success of the RGGI shows that real reductions in emissions from energy producing industries can be achieved with an auctioned system of emission allowances, and that proceeds from those auctions are available for various states to use for greenhouse gas reduction programs or other needs or adaptation.

Likewise, the developing Midwest Governors system carves out a much more prominent role for offsets, since the Midwestern region of the country is both a major emitter and a major potential source for offsets. The rules and standards they are developing for offsets may provide guidance for federal program offset protocols and standards.

The success of the voluntary market of the Chicago Climate Exchange has shown how many diverse interests can be brought together in one standardized market that determines the value of emission reductions. This system has developed standardized trading instruments, and related financial products. This market is accessible to large and small stakeholders. The CCX has also been successful in developing workable protocols for the aggregation, registration and sale of large pools of agricultural and forestry offsets.

We are suggesting that all existing rules-based and independently verified program should be smoothly transitioned into the federal system through a process of recognizing verified emission cuts and projects from those programs into the federal system. We suggest that CCX emission cuts and projects be integrated into the federal program so as to avoid backsliding and encourage action between now and when final regulations are done.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

Since this is such a crucial issue for our economy and will affect the day-to-day lifestyle of many citizens, perhaps a Cabinet-level "Czar" is needed to coordinate the many parts of a federally mandated system of greenhouse gas reduction, and the czar would preside over a "Cap and Trade" Board made up of heads of agencies responsible for the system.

Within the various sectors of the economy however, it would seem that existing government agencies could be charged with regulating sectors of the economy that they already work with. For instance the Department of Energy would deal with energy generation, transmission, distribution, and energy efficiency issues. The Department of Transportation could deal with greenhouse gas reduction efforts from highway, rail, air travel and technology developments making transportation less carbon dependent. The Department of Agriculture would deal with emission allowances for those sectors of agriculture that may be capped, i.e. ethanol and biodiesel plants, but also could be the agency charged with the rules, protocols, and standards regarding all agricultural and forestry offsets. The Treasury Department would supervise the tax issues, including tax credits for incentivizing renewable or low-carbon standard fuels, as well as assessing additional taxes on those practices not leading to greenhouse gas reductions. Existing authorities within the SEC and CFTC would be used to regulate the trading and insure the integrity of the financial transactions related to the cap and trade system.

The Environmental Protection Agency may be best suited to be responsible for the registry of all capped emissions, and they would be responsible for the levels of allowances and the measuring of the progress toward greenhouse gas reduction targets.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Essentially, trading in emissions reductions or offsets becomes very similar to trading other commodities of all types. It would seem that the CFTC would be the logical entity to regulate all forms of emissions trading including the financial derivatives and currency related issues.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Derivatives of products traded in a greenhouse gas reduction system should be permitted to develop similar options as energy-based commodities. If an active market of allowances and offsets is to be attractive to traders, a whole host of futures markets, options, and other

products serve to facilitate trading. These marketing tools will be available to stakeholders of all demographics.

For offset sellers, these tools of marketing could allow minimum price contracts, as an example, which allows longer-term investment in carbon reduction technologies than is available in only a cash market.

At the field level, an agricultural producer and/or his lenders investing in a whole new line of conservation tillage equipment as an example, would be more assured of success and adequate debt servicing if there were a floor under the price of offsets resulting from the use of that equipment.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Under a properly designed multi-sectoral carbon reduction system however, the sale of allowances should provide a revenue stream to the federal government that if managed appropriately, could be used to mitigate increased costs for affected groups and encourage participation by stakeholders. Higher energy prices through all phases of input, transportation, and processing sectors could be offset with either direct payments or tax credits or incentives to affected industries.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

The potential negative impacts of a carbon reduction system have been grossly exaggerated, and the potential benefits have been overlooked.

Revenues generated from the sale of allowances should be used to encourage investment in new technology, encourage energy efficiency, and provide assistance to financially stressed consumers and businesses.

However, a portion of the revenue should be directed at research and development of new technologies to either produce energy with less greenhouse gas emissions or to sequester carbon from existing energy producing industries.

While the capture of carbon dioxide from coal-fired power plants seems like a technology needed to allow the use of large coal reserves in our country, other technologies such as sequestration from algae or other plant life, development of other alternative low-carbon energy sources, and improved energy efficiency systems all need to be funded.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

One of the most attractive features of a cap and trade system is the revenue stream that should be available. Assuming the revenue is available and not just used for other purposes in the economy, it is the means of investing in low-carbon technologies.

In practical terms, energy credits are offered to users of electricity and other energy sources derived from renewable technologies at a higher rate, and energy credits for non-renewable sources of energy are provided initially but phase out rather quickly allowing for initial mitigation of higher energy costs, but direct that users switch to greener technologies as soon as technology catches up. A properly designed system with credits available will insure that businesses do not pass though all of their increased costs to consumers.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

There are vast acreages of public lands in the United States which if managed with either avoided emissions or carbon-sequestering objectives would be a significant step forward. Vast tracts of federally owned grazing lands and forested lands offer sequestration opportunities for millions of tons annually. The government should direct that resource management agencies (USFS and BLM) and lessees of public lands adopt carbon sequestering activities, and that lessees share in the income generated from these practices.

However, there are also huge regions of the west, especially that, due to terrain, offer limited soil sequestration opportunities. In those areas we need to look at geological sequestration, and clean energy development where possible without threatening especially environmentally sensitive areas.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

From a broad perspective of macroeconomics, the innovation that will be required to adapt new technologies requires that the price of carbon allowances or offsets be high enough to assure research, development, and implementation. An artificial cap on carbon signals to the market, that we are not really serious about the greenhouse gas issues.

That said, as a practical matter, until we develop the system and know how the amount of allowances and offsets will be needed, maybe some sort of "safely valve" would reassure investors and industries of a more predictable cost in the early years. The European Trading Scheme encountered market rallies and crashes initially due to incorrect data regarding amounts of emissions to be regulated.

If there were a temporary cap on carbon emission allowances and offsets prices to avoid worrying utilities and major energy consumers, then it would be reasonable to have a floor under carbon prices as well. Development of long-term carbon reduction systems and the financing of those projects require that some assurance that the market will not collapse, and if we have a market cap, we also have a market floor to protect investors.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The European system has provided valuable lessons in establishing a workable market. However, it has only part of a more comprehensive system that the US should adopt, that is it has not relied on a system of offsets from agriculture, forestry, or other industries capable of offsetting greenhouse gas emissions.

A combination of minimum performance requirements and financial rewards for additional environmental benefits will encourage wider participation in a successful offset program.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A combination of agreed upon performance standards and voluntary participation in offset programs would be the most effective methods for agricultural participation in carbon reduction programs.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Offsets are not issued by the government, so there would be no limit to offsets issued. The government's role in the offset market is to oversee the agencies that develop standards by which offsets are generated and the registries where offsets are recognized. When an offset-generating practice becomes adopted by a majority of stakeholders (and therefore becomes business as usual) it may become necessary for the government to direct the applicable agency refine the protocols that generate the offset.

Allowances are issued by the government, and absolutely be limited.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offsets are not issued by the government, so Congress will not need to prioritize the issuance of offsets. All types of recognized offset project types should have access to the market.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Any offsets must meet the following criteria- they must be real, surplus, verifiable, durable and enforceable. Each agency would be responsible for ensuring that offsets created within their jurisdiction meets this standard.

It might also be worthwhile to address the issue of offsets being "marketable." While it would seem that meeting the five basic criteria would be sufficient, the voluntary market has shown us that offsets must also be acceptable to public at large.
In the agricultural sector, lack of understanding has created a general impression that agricultural offsets are somehow less real and or less valuable and therefore less marketable. A campaign of some sort to promote the legitimacy of offsets, agricultural offsets in particular, is necessary to create public understanding, generate government support, correct mistruths, ensure marketability and reinforce the necessity of offsets in any GHG reduction scheme.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Any offsets must meet the following criteria- they must be real, surplus, verifiable, durable and enforceable. Each agency would be responsible for ensuring that offsets created within their jurisdiction meets the standard.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should charge the appropriate agency with responsibility for verifying offset projects. It is important that the actual verifier be an independent party not affiliated with the aggregator or protocol designer.

The Chicago Climate Exchange system of transparent protocols with independent third party verification provides a model which assures buyers that for each ton of carbon offset registered, a ton of sequestration has occurred.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A combination of pre-calculated and project-based approaches should be used in establishing the eligibility of offsets. Pre-calculated values for projects meeting certain pre-specified protocols will ensure widespread participation and eliminate much of the "red-tape" that would unnecessarily add time and expense to a GHG reduction scheme.

However, certain valuable activities, especially using new developing technology, may not fit this model. In those cases a project-based approach would be necessary. For example, currently, the conversion of cropland to grassland is a creditable practice under predetermined rates and protocols. In the future, switch grass grown under specific high-level management may warrant a higher crediting rate determined by a project specific assessment. Processes using a newly patented technology may require project level assessment.

Congress

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

To ensure widespread acceptance and participation the government must closely monitor the number of allowances issued. Offsets, on the other hand are unlike allowances in that true reductions are taking place, albeit not by the entity using the offset for their reduction. Because offsets and allowances are not the same thing, it is important that allowances be

very closely monitored so as not to oversupply the market and falsely lower the value of true reductions or allow emitters to cheaply meet their reduction requirement.

Allowances must also be very closely monitored and adjusted as new technology becomes available. We saw this happen in Europe in 2007 with a gross over issuance of 2007 allowances that expired worthless, as emitters were easily able to meet their 2007 targets through true reductions using new technology and other efficiencies.

We recommend that allowance be carefully issued to allow true reductions and offsets to be used to the fullest extent in reaching GHG reduction goals. Obviously the main revenue for the government comes from the sale or auction of allowances, and restrictions on allowances in the market would affect this income source adversely and limit the ability of the government to provide tax credits, energy credits and other incentives or mitigations for those who might be adversely affected by cap-and-trade.

We propose that the federal government consider a small fee for every offset traded in addition to sales or auction revenue for allowances. While this would increase the transaction costs for offset producers, it would provide a bit of revenue to offset regulation costs and might improve the outlook for considering offsets an important part of the system.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

While in some sectors permanence of offsets is easily established, this is much more difficult with agricultural soils and forestry offsets. We believe that we must start by not using the word "permanent" and instead use "durable." We also must separate soils offsets from biomass offsets (such as wood products) as each has its own concerns.
Current soils offsets protocols ask for a five-year commitment to the sequestering practice. To ensure widespread participation a contract of more than five years is probably not feasible.

A reserve pool of 20% of offsets registered annually must be maintained by the offset aggregator to cover any loss of soil or biomass carbon that may occur during the five-year contract period.

Furthermore, permanence is a function of an aggregator's large enrollment pool collectively using offset practices of avoided emissions and carbon sequestration, and as a group there is a "collective persistence" of carbon offsets. Larger pools of offset projects insure less risk of leakage over time.

Since soil carbon contracts are for a carbon-sequestering management practice it may be possible for that practice to be maintained by more than one party. As much land in agricultural production is rented out to active farmers, and not owned by them, it is possible

to transfer the carbon contract also. Of greater concern may be shifting from one sequestration protocol to another; contracts must be flexible enough to allow for this.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Any existing offset projects registered on voluntary exchanges, provided they that fit the protocols developed in the future for providing offsets to a federally recognized offset registry, should maintain their full value. Existing offsets should maintain their full value through a process of full recognition under the federal system for all verified cuts made prior to issuance of final regulations that define projects.

For example, Chicago Climate Exchange registered offsets rely on a fully transparent set of protocols, extensive third party verification, crediting rates based on sound science and all financial transactions resulting from the registration of these offsets are cleared independently by the Financial Industry Regulatory Authority. CCX offsets should maintain their full value under any future system, as should offsets registered on other voluntary markets with similarly rigorous protocols.

Offsets registered on a voluntary market under protocols that are not transparent or verified or have not been cleared independently would have to be analyzed to determine if the offset generated has value in a future market. Likely some offsets will be determined not to have any value or will have their valued reduced, and some these may not automatically convert to other registries or markets. There would be no penalty to the seller for offsets retired under a voluntary system if those offsets do not maintain their value under a compliance system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

The terms "additionality", "stackability", and "early action" are really three different terms and need to be discussed separately.

Additionality refers to the additional tons removed from the atmosphere or prevented from being emitted into the atmosphere over a predetermined baseline. For example, agricultural soil farmed under continuous no-till or strip-till will yield additional tons of organic matter and stored carbon year after year. The baseline is conventional tillage operations which shows no additional capture of greenhouse gases.

Stackablilty -projects which are voluntarily implemented that have value for other environmental services such as cleaner water, less erosion, cleaner air, less fuel use and which generate revenue from the same, may also generate revenue for the stored or sequestered carbon that the practice generates. For example, marginal cropland converted to grass for wildlife benefits may also sell the GHG reduction services that occur.

Early action (related to ag soils) - carbon sequestered prior to the established baseline year, in terms of net value to the atmosphere continues to have value. In the case of soil sequestration, since the long-term stored organic matter and related carbon are valuable, while early actors may not get paid for these previous years of storage, they should not be penalized, and in fact there are some ideas to pay for "avoided emissions or releases" at present, and for additional new sequestration in the future.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.
Practices implemented with state or federal assistance not specifically implemented to address carbon sequestration or greenhouse gas reduction, and voluntarily implemented, may be creditable under a federal carbon reduction program.

A methane digester project for a dairy farm as an example would be creditable if it was not required under any zoning requirement or other environmental regulations. The fact that the digester was built with government assistance through state agricultural funds or federal EQIP cost shares should not impede its value as a creditable reduction project

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

This question has huge scope and will vary greatly from offset type to offset type, and should be left to each agency. The CCX protocols address this with the carbon reserve pool for soil and biomass carbon.

Individual consequences may vary, but essentially producers or carbon project carbon have to be responsible for loss of stored carbon and or emissions of greenhouse gases. It is possible to insure for certain catastrophic losses in some projects, and the reserve or buffer accounts should be designed to cover those losses in other projects. The very nature of large aggregated pools of offsets lends itself to spreading losses of credits or non-compliance. Aggregators and contract holders are both responsible for offsetting project losses.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The role and scope of offsets in the cap-and-trade system should be defined by legislation but the details of the same should be left to the particular agency with the expertise. Regulations, definition, and protocols should be defined in legislation that would explicitly state which or what standards should be recognized for historic and interim verified projects (such as from 2003 through the point of issuance of final US rules).

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Economics is the overall concern of most producers. While by their very nature agricultural producers and landowners are concerned about the environment, the overriding factor in adopting new technologies and new practices to offset greenhouse gas emissions is whether it pays better than the alternative.

A combination of minimum performance requirements and financial rewards for additional environmental benefits will encourage participation in a successful offset program.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing programs of conservation and forestry incentivize clean water, clean air, reduced erosion, best management practices, but were not intended to incentivize carbon sequestration or emissions reductions. To date that has been encouraged by the voluntary carbon offset market. Congress should legitimize the value of GHG offsets under a cap and trade system, but not mandate practices solely for their carbon capture potential.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	High	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Prescribed Rotational Grazing	Excellent	Good	Low	High
Methane Capture from Digesters	Excellent	Excellent	High	Medium

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till, Strip Till	Excellent	Good	Low	High
Conversion to Long term grass	Excellent	Excellent	Medium	High
Avoided conversion out of grass	Moderate	Excellent	Low	High
Precision Nutrient Mgmt.	Excellent	Good	Medium	High
Cover Crops	Good	Excellent	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
SHEPHERD OGDEN
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Shepherd Ogden

Organization(s) you represent

None

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Realistically, I think the best approach involves a cap and trade approach for the short term, transitioning to carbon taxes once the "price" of carbon has been discovered both in terms of the "market" and in terms of what the unfunded costs of climate mitigation are better known. Instituting a tax up front (even a simple gas tax or mileage tax) does not seem feasible politically. Cap and trade starts us in that direction and gets market places used to having a price on carbon. I would especially like to see the ag component (i.e., tradable carbon credits) formalized more so that conservation practices are rewarded in the market, lessening the need for direct subsidies. This may require more research to determine actual carbon effects of different practices; if so, then fund that research, some of which is already underway on a small scale. Honestly, I don't believe any climate change mitigation program will have the intended long term effect unless it includes ag and forestry.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes, for the reasons just mentioned. I believe the scientific consensus that 350 ppm is a critical threshold (which we have already passed). Thus no amount of renewable energy and efficiency will be sufficient to mitigate the changes already in motion, only restrain accelerating emissions. If we are going minimize the cost of mitigation in the future, we need an active program for sequestering "historical" carbon already in the atmosphere. The ocean is already nearing its effective capacity (without widespread negative effects) so the only reasonable, natural method is via plants and the soil microbial community (glomalin, etc.) and that means agriculture and forestry (and wetland and wildlands management).

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

A large part of the problem we face with carbon emissions (and it is only one example of many problems of this type…just one of the most important) is a market structure where sinks, and other forms of ecosystem services have not been "priced" and so economic decisions have been distorted to their over use (they are externalities). As we have reached

the environment's capacity to deal with our "effluents" we have to develop some sort of pricing mechanism so that the economy as a whole responds sensibly to what we now know are finite (even if very large) quantities of these sinks and services. The culture of our country is oriented toward open markets rather than fiat markets; therefore (despite personally preferring to see a particular class of players subsidized) I don't think allowances can be distributed for free; while it might move us in a better direction, it does not fully solve the problem of externalities, which must, if economics is to "grow," or evolve as a system, of managing humanity's productive use of the Earth's resources, be internalized. Just as weather and climate models are constantly improved by increasing the number of variables included, so must economic modeling, if it wants to live up to its self image a rational science, continue to increase the range of sources and sinks that it can price. I think the above implies my answers to the latter parts of the question.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A national cap and trade or tax / fee program should "build upon" and provide a "floor beneath" any and all existing regional programs such as RRGI and WCI in the same way the National Organic Program provided consistency on a national level for organic programs and facilitated the growth of that sector of agricultural production. All domestic climate mitigation strategies must perforce reflect regional differences, but there is a need for a national baseline that creates or provides a larger national market whithin which these regional adjustments exist.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

I think that there should be a position(s) within USDA to track ag and forestry based carbon programs, but as for overall regulation / coordination, oversight should be established within the larger carbon / climate program structure established by Congress, as for example, the Waxman-Markey discussion draft currently out.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

HR 875 is about rationalization of food safety oversight. Many of the rationales behind this have to do with the fact that the legislation covering food safety is woefully out of date and needs to be brought up to date. Derivative and futures markets are regulated by CFTC, which is a much newer entity. I would place oversight of trading there until such time as it

seems inappropriate. Once we have experience of how the cap and trade system is functioning, we might find that a separate, special purpose agency is needed, but to establish one at this point is likely premature, and may well constrain development of the market.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

The details of this go beyond my expertise but it seems clear that there are only two choices: a highly regulated and constrained market (say like that for wetlands mitigation), and a more open (commodified, fungible) market that allows businesses (and traders) to hedge risk as well as offset emissions. As long as there is full transparency and sufficient oversight / regulation, the second is preferable, as it is more adaptable. Absent transparency and oversight, though, there is a danger of manipulation / corruption...but current technology should make it feasible to provide both.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

.A properly structured carbon reduction program has the potential to benefit the named groups (though the effects are different for each sub-group). Producers should benefit if the carbon offset aspects of the Waxman-Markey draft end up properly structured, and rural populations should also benefit if there is a "rebate" or "dividend" payment from the auctioning of allowances. Overall, agriculture has the potential to be a carbon-negative industry and thus be a net beneficiary of any well crafted legislation that uses market forces to drive climate mitigation.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

A system of carbon pricing will both help and hurt parts of the ag system differentially. Fuel costs will rise; if conservation and SCS positive production methods are monetized, revenue will be returned to those parts that use less fuel and / or sequester more carbon.

Targeted subsidies or broad "dividends" suffer slightly in comparison as the first is prone to manipulation, and the second, while useful for building broad support, slows down the incentive effect.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

To me this is a specialized case of question # 9.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands should be managed in a way, that within the limits of their status, maximizes their carbon storage. In the case of wilderness, that means the same as it does now; in the case of managed lands, it means using BPMs that increase carbon storage. Rangelands, wetlands and the turf of park lands all have considerably more carbon storage potential than is currently being realized. I myself worked on a project to test organic / sustainable turf management on the National Mall in cooperation with NPS and EPA. NASA has done studies of the differential turf management effects, as has Jennifer Jenkins of UVM.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

I am philosophically in favor of open markets, as long as they truly are open, and they are transparent. But no one knows better than a farmer (or an Ag Committee member) how wildly markets can swing. I am more concerned about a floor than a ceiling, because an unrealistically low price (as happened with EU ETS for a while) blunts the purpose of monetization, which is the restraint of emissions.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

I think the primary lesson of the ETS experience is simply that you have to get a stake in the ground, maintain some programmatic flexibility, and then adjust the system once it is apparent how and why (if) it works. Even if there are problems in the short term, there will be no journey without the first step; and we have their experience to learn from, and a better handle on what prices need to be for the system to function optimally. The voluntary offsets market has a number of projects and methodologies in place, and we could be ahead of the EU system if we study those to help develop our own.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

I am in favor of all three. I think you need a national baseline standard, but then also bonuses for known, proven BMPs that enhance SCS. Recent history seems to show that compliance markets increase volume in voluntary markets because they create familiarity (mind share) for the whole concept of environmental services. The voluntary markets serve the compliance markets by helping define those BMPs and market prices for them.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Not if they are additional, verifiable, and "permanent." After all we are trying incentivize sequestration, and the offsets are the currency (the wealth) of that effort. Restraint of that process would seem to be counter-productive.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

I would like to see priority for improving BMPs on existing intensively managed lands before bringing new land under management. That way you are decreasing negatives at the same time you are increasing positives. Once you have reached saturation at that, then start looking at land not currently under intensive management.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

A lot of work has already been done on this and a first step is to survey and assess the common successes and common failures to develop a credible but adaptable list of criteria. Then we can work from that to improve methodologies.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Essentially the same answer as # 17.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Essentially the same answer as # 17.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Start with the later, and as research and experience provide solid performance data it might be possible to move toward the former. To do it the other way both slows initial implementation and runs the risk of miscalculated rigidity that stifles innovation.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

My understanding of this question is that it is about fungibility and value (price). It is my feeling -- and only that -- that allowances will have more fungibility and thus higher value while offsets will be less valuable but will drive innovation at the margin.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

To me this is a science question. Contract length and flexibility should be tailored to what can be demonstrated and verified in terms of the sector or the project concerned.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

If they meet the promulgated standard they should be given full status for the terms existing.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also

be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Wetlands and bio-diversity already have compliance programs in place, and on the whole they have higher prices / values. Only if the carbon programs of the early adopters can be show to provide those additional benefits should they be stackable. Eventually we would want to be in a place like that with agricultural commodity grading, where each higher grade has to include all the characteristic of lower grades. Thus a project goes for the highest grade -- and value -- that it can.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

To my mind those people have already been paid, and should only be eligible, if at all, for the excess of their contribution beyond the government share. Otherwise it is not additional and constitutes a double dip.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes, and No (unless, perhaps there was insurance of some sort in which case some portion should be returned).

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

For ag programs I would like to see enabling legislation, with broad outlines, and then USDA in the role of determining specifics, but the Waxman-Markey draft and the Van Tollen bill (and maybe others) need to be considered in deciding this.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Capital: financial, human and informational.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

I consider offsets to be the major vehicle, and if they are monetized appropriately then other vehicles are unnecessary. Research and technical assistance are of vital importance.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
OKLAHOMA ASSOCIATION OF
CONSERVATION DISTRICTS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name: Clay Pope

Organization(s) you represent: Oklahoma Association of Conservation Districts (OACD)

Address: [Redacted]

Email : [Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

OACD Executive Director

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Due to its flexibility, a cap-and-trade program holds the most promise in making actual reductions in GHG emissions while minimizing the overall energy cost to the end user. A cap-and-trade program with a properly structured offset program provides agriculture producers a means and incentive to reduce GHG emissions with soil carbon sequestration and methane reduction projects. A cap-and-trade system was implemented as a result of the 1990 Clean Air Act and has proven to be very successful in reducing sulfur dioxide emissions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

If this question is asking if agriculture and forestry sectors should be allowed to provide offsets under a cap and trade system, then the answer is YES. US Agriculture has tremendous potential to help companies meet their cap-and-trade obligations in a measurable, cost effective manner. Agriculture offsets are real, proven, and readily available to be implemented now at a low-cost.

Through existing no-till practices and conversion of plowed farmland to no-till, agricultural has the potential to offset 10-15% of annual CO2 emissions. Early markets have shown that carbon offsets from conservation agriculture can be quantified, verified and traded. Carbon credit trading will provide an economic incentive for farmers to adopt ecologically based approaches to farming already encouraged by USDA. In addition to removing carbon dioxide from the atmosphere, these practices also increase soil fertility, improve water quality and retention, and create greater wildlife habitat. Implementation of conservation agriculture practices will help the nation more quickly reduce GHGs. For example, current estimates from the Environmental Protection Agency suggest that current carbon sequestration on agricultural lands offset one percent of all U.S. GHG emissions, but has the potential to capture the equivalent of 20 percent of all U.S. GHG emissions.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Distribute 100% of emission allowances annually at no cost. Unused allowances should be eligible to be traded. Allowances should be distributed proportionally across sectors based on annual emissions. Ag allowances should be distributed the same way. No industry should be exempt. If you don't limit allowances you undermine the whole function of a cap and trade system.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes, but only after an efficacy analysis on all existing voluntary and regulatory programs is done. Then the best from each program should be taken and consolidate into a streamlined national system that utilizes the infrastructures of the existing programs as applicable. In any case, as with current EPA programs implemented by states, the standards should be at least as restrictive as federal standards, and may exceed those standards.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Existing government agencies should regulate it. Expertise for various components of a cap-and-trade program already exists within currently established administrative and independent agencies. Legislation should build upon this expertise and provide independent authority to USDA, CFTC and EPA for specific portions of the program.

However, it is vital for USDA to promulgate the rules and administer the agricultural offset program. USDA has the statutory authority in the 2008 Farm Bill and the technical expertise and institutional resources necessary to create and administer an offset program. USDA-NRCS can leverage its experience working with farmers and state partners in addition to its technical expertise modeling, implementing, and measuring farming practices. Agriculture practices that have been shown to sequester carbon follow NRCS specifications. NRCS already has the confidence and trust of the agriculture community. This will help ensure maximum participation.

This model would work as follows: EPA and USDA-NRCS should set a minimum performance standard for practices and then the states do the work to assure the standard is met. Under this model, each state can choose to either appropriate money for a carbon verification program or the agency with primacy for carbon sequestration verification can charge fees to those who want offsets verified by the program. When a state uses the fee-based approach, there is little or no cost to the federal government. In Oklahoma, the Conservation Commission's authority to charge fees is written into the Conservation

District Act. Other programs run on this model have been successful. By having a state agency with the authority to verify, you basically have a system similar to how EPA implements water quality standards and CAFO regulations. This works by EPA setting the national policy, then state conservation agencies regulating and administering the program. In each state, the state conservation agency and conservation districts currently work with agriculture producers to help implement and monitor practices through state and/or federal programs, such as with EQIP. This work involves assisting producers with contracts, conducting verification of conservation practices to ensure monies are properly spent. It makes sense that this same federal, state and local system would be utilized in a cap-and-trade program that includes offsets on agriculture land.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

CFTC should continue its role as regulator of the derivative carbon market. Under a cap-and-trade program, trading of carbon offsets will most closely mirror the trading of other agricultural commodities that CFTC currently regulates. Given this and to ensure regulatory consistency of commodity trading, it is appropriate for CFTC to continue its role as regulator of the carbon market. They should work closely with USDA.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes. The system should provide the transparency, oversight and structure that allows for verifiable greenhouse gas reductions while allowing economic growth. Given the creation of a whole new marketable commodity in carbon offsets, transparency must be the overarching goal to ensure confidence among market participants, agricultural producers and the general public. Because of this, the majority of carbon should be traded through a transparent futures market that is accessible to everyone.

The magnitude and scope of a GHG cap-and-trade program in the U.S. is greater than any such system the U.S. has attempted thus far. Because of the implications of such a system, some flexibility needs to be built in to accommodate the transition America will be going through as the entire nation adapts to this new

way of dong business. However, it will also be important to have a regulated, transparent futures market accessible to anybody and anyone in order for the system to have true value in the worldwide marketplace.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Yes, enactment of any policy regulating GHG emissions (whether a carbon tax or cap-and-trade) will have impacts on multiple groups. It will raise the price of using fossil fuels such as coal and oil, and of consuming goods and services that directly or indirectly produce GHG emissions. These higher prices will be felt throughout the economy, but will eventually be passed on to end users.

However, failing to reduce GHG emissions also poses significant economic impacts on agriculture and populations whose welfare is of special interest to the agricultural community. Studies of climate change scenarios show increased frequency of heat stress, droughts and flooding events that will reduce crop yield and livestock productivity. Studies indicate a global increase of 5.5 degrees Celsius could lead to food price increases of 30 percent.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Each state should have the opportunity to keep carbon-generated-revenue in their state and reinvested in local communities. Oil refineries and energy companies stand to pay a great deal to either reduce emissions or purchase offsets. However, the process of adapting their infrastructure to reduce emissions has the potential to create green jobs, and support satellite industries. Offsets purchased on agricultural lands would have sustainable economic benefits in rural communities.

Revenue generated from the sale of emission allowances should be used on several strategic fronts to minimize impacts of regulation, help with adaption to potential impacts of a warming climate, and foster the development of renewable, low-carbon alternative energy sources in the United States. Funds should be used to promote renewable energy development, create green jobs, assist low-income consumers, help industries impacted by warming climates adapt, reward early actors and research new ways to better capture carbon emissions.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

No, because it takes away the incentives for change. Burdens of transition should be taken into consideration when structuring and phasing in the new program.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

As with private agricultural lands, there is significant potential for carbon sequestration and emission reductions on public lands. Federal and state-owned grazing and forest lands have the potential to sequester millions of tons of carbon annually. Public lands should be managed to maximize carbon sequestration. States should use these lands to mitigate emissions from state buildings or state transportation fleets. Offsets from federal lands should be used to mitigate emissions from federal buildings and federal transportation.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

An artificial cap on the price of carbon potentially stifles this innovation. Therefore, we believe that there should not be an artificial legislative cap on the value of carbon prices.

In order to drive innovation necessary to reduce GHG emissions in the long-term, the price of carbon credits must be valued by the marketplace to foster the research, development and implementation of new technologies.

Legislation should include provisions allowing the federal government, under extreme conditions, to adjust yearly reduction targets or allow for the use of additional offset projects as a means to control significant adverse impacts on the economy.

It is also important that any safety-valve provided to moderate costs not undermine the financing of long-term carbon reduction projects that require price certainty. Depending upon the scope of safety-valve authority, Congress should also evaluate the establishment of a floor price for carbon prices to ensure continued investment.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The ETS had many benefits and drawbacks. Closer monitoring was needed of projects and trades; more stringent project standards were needed; Conservation Development Mechanism (CDM) projects needed more scrutiny, screening, and monitoring. Forestry is included in international programs and agriculture typically means reductions of methane. The U.S. voluntary market includes agriculture offsets.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Any program should include a voluntary offset program that allows farmers and ranchers to generate offset credits by implementing practices that sequester or reduce GHG emissions. This creates an offset market in addition to the emission allowance trading that will occur under the cap and trade program. Most farmers and ranchers won't require emission allowances. Those producers will be eligible to work to meet requirements to demonstrate GHG sequestration and/or reduction under the legislation and should be able to sell these offsets to regulated entities at a fair market price.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Offsets should **not** be issued by the government. However the percentage of offsets used to mitigate emissions should be limited by the government. Each emitter within a sector should be allowed to mitigate up to 30% of their emission overage with carbon offsets that are available in a free market venue. Each regulated emitter should be held responsible for knowing how many offsets they can purchase and what their limit is.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Congress should **not** prioritize or distribute offsets. As above in #14-15 each emitter should be allowed to use any combination of offsets, purchased on the free market, to mitigate up to 30% of their emission overage.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

USDA-NRCS would set the technical specifications for agricultural offsets and USFS should set the technical specifications for forestry offsets and set standards for how the offsets are verified. Each agency should then "ride herd" over the program. The USDA would also conduct on-going research through the land-grant schools to determine sequestration rates of different agricultural and forestry practices, but farm out the actual operation of the verification system to the state governments, and through them to the local conservation districts.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Agricultural practices should be held to applicable Natural Resources Conservation Service (NRCS) specifications that currently exist for the respective agricultural practice. While the entire specification is not relevant to soil carbon sequestration, the applicable parts of the specification should be used to assess the offset. For example, under NRCS specifications, to qualify as a "no-till" field, a field must meet specifications for minimal soil disturbance and plant residue above the soil surface. These are quantifiable aspects of the practice that can be used to assess the project for carbon sequestration value.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Consider Oklahoma's model: The Conservation Commission (a state agency) has statutory authority to verify and certify carbon offsets. The Commission charges aggregators a fee for the verification service and works with local conservation districts and other state approved verifiers through a cooperative agreement to do the actual on the ground verification.

This is similar to how the Commission works through an agreement with the districts for farm bill delivery where NRCS actually contracts with the Conservation Commission on farm bill delivery and the Commission then sends the money to the districts to do the work. Oklahoma is accustomed to delivering conservation programs using a partnership model. In Oklahoma, the NRCS has an established relationship with state conservation agencies and local conservation districts through legislation going all the way back to the 1930's. This relationship is required by federal law.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Both. Standards are already used by USDA-NRCS to confirm agricultural practices meet their specifications prior to cost-share payments being distributed. This same approach and the standards currently in use should be the foundation for the program established by Congress. Meanwhile, project based approaches should be used on a limited basis conducted in partnership with landgrant schools to further strengthen the standards used in a standards based approach.

Projects should be used on a small scale as a tool to gather the data that allow standards to evolve over time. The research to measure carbon sequestration over the life of the project or beyond can be used to develop a broader data set specific to each agricultural practice. These data can then be used to refine the standards. These data would be used to quantify the offset value.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Once an emitter exhausts its allocated allowances the emitter should be able to mitigate up to 30% of their emissions overage with agriculture and forestry offsets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The most influential factor facing agricultural offsets is the influence of competing commodities prices. Depending on crop and fuel prices, offset contracts may face extreme competition from competing landuses. Too many long-term contracts could threaten public access to food, as we have seen with the competing effects of growing corn for ethanol and growing corn for food. Therefore, contract length should be reasonable with a minimum of five years to accommodate changing food supplies that could be affected by natural disasters or other unforeseen circumstances.

Offset contracts should be flexible to allow offset providers/producers to buyout their contracts in order to switch to a more profitable landuse if the need arises. Contracts should be allowed to renew indefinitely. Contracts should accompany all land sales with the buyer assuming full responsibility of the contract through its remaining life and should include a buyout option. There is no way to guarantee the perpetuity, permanence, or duration of an agricultural or other offset. However, flexible contract provisions can provide incentives.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

When standards will not be compromised by doing so, existing projects should be grandfathered into any new program. If standards will be compromised, offset contracts

should continue and expire outside of the federal system. Applicants can then enter into a contract outside of the federal system or apply and contract under new program rules.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Agriculture producers who took early steps to voluntarily implement conservation practices that sequester carbon should be rewarded. Stacking credits is one way of rewarding these producers and others. Too often we ignore those who have been early adopters and provide incentives for those who will only adopt when forced to. That amounts to rewarding the bad actors and is not a very responsible way of doing business.

Regarding stackability, the Oklahoma carbon program model provides an excellent example. It ties several natural resource initiatives together. For example, in Oklahoma, when the Conservation Commission (a state agency) implements an EPA 319 grant project, it uses the grant funds to cost-share with agricultural producers in a watershed. This cost-share encourages participants to protect water quality from nonpoint source pollution by installing practices such as riparian buffers or no-till crops. The practices also sequester carbon. The 319 program is run as a water quality cost-share program similar to the EQIP program by NRCS, but limited in scope to the priority watershed and to those BMP's designed to address water quality issues in that particular watershed. So, NRCS provides the technical assistance and does work above the watershed with additional land treatment through programs like EQIP, while FSA funds the CREP, and EPA funds the 319 project based on matching dollars from the private sector, such as from producer cost-share and carbon credit purchases by businesses. Meanwhile, the state appropriates dollars for CREP and 319, and staff from local conservation districts and the Conservation Commission provide information to producers. The staff also verify carbon sequestration and the practices installed for the water quality work. This model of overlapping conservation programs sequesters carbon, prevents soil erosion, improves wildlife habitat and cleans up the water. Stacking works.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

All greenhouse gas emission reduction efforts and carbon sequestration should be eligible to participate, regardless of whether or not the project received assistance from the federal or state government. Projects that are undertaken voluntarily and receive state or federal assistance (such as cost share or technical assistance) should qualify as an offset project as long as they meet the requirements established by USDA. Offering cost share payments in conjunction

with payments from carbon offsets is a good way to increase participation in multiple programs, which results in multiple benefits.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Each offset contract should contain a reserve provision whereby twenty percent of the acreage is held in reserve until the contract expires. The reserve should be used to cover losses/reversal of carbon sequestration resulting from a natural disaster or other event uncontrolled by the producer. Intentional destruction or disruption of the practice should result in penalties to the producer.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The authority should be delegated to the appropriate government agency to develop regulations. EPA should determine a basic structure, modeled after other successful programs such as the Underground Injection Control (UIC) program, or water quality standards programs. USDA-NRCS should set minimum standards for offsets and verifcation protocols and procedures. However, it should be left up to each state to determine whether the state or EPA will implement the carbon sequestration program in the state. Protocols should be handled by rulemaking process which closely follows a clearly stated intent in the enabling legislation. Protocols should be developed by the agency with the authority over that part of the program.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The primary obstacles are accurate, reliable information and availability of adequate technical assistance. The cost implementing conservation practices is also an obstacle.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

On the whole, there are not enough dollars from the federal or state level to maximize participation in existing conservation programs that protect soil and water quality and

sequester carbon. When producers can receive compensation from the sale of carbon offsets, it will add an additional incentive for them to participate in existing programs. However, the mission of existing programs is not to mitigate GHGs; therefore, this new legislation should be structured to provide the additional infrastructure necessary to encompass the new goal of carbon sequestration. This could be done by expanding funding to existing state and federal programs or by creating a new program specifically geared toward helping producers mitigate greenhouse gas emissions. This is encouraged in the 2008 Farm Bill.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Oklahoma has a unique voluntary carbon program that can serve as a model for carbon programs in other states. To date, Oklahoma is the only state in the nation with a statute that gives a state conservation agency the legal authority to verify and certify carbon offsets with the full faith and credit of the state government.

Who Verifies Carbon Offsets from Agriculture?
The Oklahoma Conservation Commission verifies offsets from no-till and converted grasslands. The Commission charges aggregators a fee for the verification service and works with local conservation districts and other state approved verifiers through a cooperative agreement to do the actual on the ground verification. This agreement is similar to the Commission's agreement with the districts for farm bill delivery where NRCS actually contracts with the Conservation Commission on farm bill delivery and the Commission then sends the money to the districts to do the work. Oklahoma is accustomed to delivering conservation programs using a partnership model. In Oklahoma, the NRCS has an established relationship with state conservation agencies and local conservation districts through legislation going all the way back to the 1930's. This relationship is required by federal law.

How are Conservation Districts Trained to Verify Offsets?
Participating Conservation District staff are trained by Oklahoma NRCS to recognize NRCS specifications for no-till and grasslands. The training is similar to farm bill delivery training, so it also helps strengthen the technical capacity of the conservation partnership at the state and local level. NRCS teaches key elements of their practice management specifications and the district verifiers look at these specs when verifying carbon sequestration. For example, district verifiers look at percent soil disturbance, grass height, amount of surface residue, and plant vigor – in other words, elements of the practice that are key to carbon sequestration.

What Standard is Used for Verification?
While agricultural soil carbon offsets are expected to meet a certain standard, currently there are no recognized, formal protocols for the *verification process* that assures standards

are being met, but Oklahoma is leading the way. Oklahoma has partnered with NRCS to develop a comprehensive training for Conservation Districts who will verify carbon offsets. Because producers are already familiar with NRCS specifications and local conservation professionals, incorporating the NRCS specifications into verification helps reduce confusion and helps ensure that multiple programs work together seamlessly.

Is Oklahoma Concerned that Current Carbon Sequestration Values are too General?
The Oklahoma Conservation Commission has partnered with Oklahoma universities to conduct research on sequestration values for no-till and grassland in different types of soils in different eco-regions within the state. This data will give us a better idea of the actual sequestration taking place in Oklahoma.

What is the Advantage to the Oklahoma Carbon Program Model?
Other programs run on this model have been successful. By having a state agency with the authority to verify, you basically have a system similar to how EPA implements water quality standards and CAFO regulations: The Federal government sets a minimum standard and then the states do the work to assure the standard is met. Under this model, each state can choose to either appropriate money for their carbon verification program or the agency with primacy can charge fees to those who want offsets verified by the program. When a state uses the fee-based approach, there is little or no cost to the federal government. The Conservation Commission's authority to charge fees is written into the Conservation District Act.

In closing, we ask that you take into consideration what Oklahoma is doing as a possible model for public and private partnership to combat climate change.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	Low	High
Reforestation	Excellent	Excellent	Low	High
Managed forests	Excellent	Excellent	Low	High
Avoided deforestation	Excellent	Excellent	Low	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Rangeland management	Good	Excellent	Low	High
Seeded grasslands	Good	Excellent	Low	High
Methane Digesters	Excellent	Excellent	High	Low

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till cropping	Excellent	Excellent	Medium	Medium
Buffers	Excellent	Excellent	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
OKLAHOMA CARBON INITIATIVE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Sarah Love

Organization(s) you represent

Oklahoma Carbon Initiative

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, Oklahoma Carbon Initiative

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Due to its flexibility, a cap-and-trade program holds the most promise in making actual reductions in GHG emissions while minimizing the overall energy cost to the end user. A cap-and-trade program with a properly structured offset program provides agriculture producers a means and incentive to reduce GHG emissions with soil carbon sequestration and methane reduction projects. A cap-and-trade system was implemented as a result of the 1990 Clean Air Act and has proven to be very successful in reducing sulfur dioxide emissions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

If this question is asking if agriculture and forestry sectors should be allowed to provide offsets under a cap and trade system, then the answer is YES. US Agriculture has tremendous potential to help companies meet their cap-and-trade obligations in a measurable, cost effective manner. Agriculture offsets are real, proven, and readily available to be implemented now at a low-cost.

Through existing no-till practices and conversion of plowed farmland to no-till, agricultural has the potential to offset 10-15% of annual CO2 emissions. Early markets have shown that carbon offsets from conservation agriculture can be quantified, verified and traded. Carbon credit trading will provide an economic incentive for farmers to adopt ecologically based approaches to farming already encouraged by USDA. In addition to removing carbon dioxide from the atmosphere, these practices also increase soil fertility, improve water quality and retention, and create greater wildlife habitat. Implementation of conservation agriculture practices will help the nation more quickly reduce GHGs. For example, current estimates from the Environmental Protection Agency suggest that current carbon sequestration on agricultural lands offset one percent of all U.S. GHG emissions, but has the potential to capture the equivalent of 20 percent of all U.S. GHG emissions.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Distribute 100% of emission allowances annually at no cost. Unused allowances should be eligible to be traded. Allowances should be distributed proportionally across sectors based on annual emissions. Ag allowances should be distributed the same way. No industry should be exempt. If you don't limit allowances you undermine the whole function of a cap and trade system.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Yes, but only after an efficacy analysis on all existing voluntary and regulatory programs is done. Then the best from each program should be taken and consolidate into a streamlined national system that utilizes the infrastructures of the existing programs as applicable. In any case, as with current EPA programs implemented by states, the standards should be at least as restrictive as federal standards, and may exceed those standards.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

Existing government agencies should regulate it. Expertise for various components of a cap-and-trade program already exists within currently established administrative and independent agencies. Legislation should build upon this expertise and provide independent authority to USDA, CFTC and EPA for specific portions of the program.

However, it is vital for USDA to promulgate the rules and administer the agricultural offset program. USDA has the statutory authority in the 2008 Farm Bill and the technical expertise and institutional resources necessary to create and administer an offset program. USDA-NRCS can leverage its experience working with farmers and state partners in addition to its technical expertise modeling, implementing, and measuring farming practices. Agriculture practices that have been shown to sequester carbon follow NRCS specifications. NRCS already has the confidence and trust of the agriculture community. This will help ensure maximum participation.

This model would work as follows: EPA and USDA-NRCS should set a minimum performance standard for practices and then the states do the work to assure the standard is met. Under this model, each state can choose to either appropriate money for a carbon verification program or the agency with primacy for carbon sequestration verification can charge fees to those who want offsets verified by the program. When a state uses the fee-based approach, there is little or no cost to the federal government. In Oklahoma, the Conservation Commission's authority to charge fees is written into the Conservation

District Act. Other programs run on this model have been successful. By having a state agency with the authority to verify, you basically have a system similar to how EPA implements water quality standards and CAFO regulations. This works by EPA setting the national policy, then state conservation agencies regulating and administering the program. In each state, the state conservation agency and conservation districts currently work with agriculture producers to help implement and monitor practices through state and/or federal programs, such as with EQIP. This work involves assisting producers with contracts, conducting verification of conservation practices to ensure monies are properly spent. Itt makes sense that this same federal, state and local system would be utilized in a cap-and-trade program that includes offsets on agriculture land.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

CFTC should continue its role as regulator of the derivative carbon market. Under a cap-and-trade program, trading of carbon offsets will most closely mirror the trading of other agricultural commodities that CFTC currently regulates. Given this and to ensure regulatory consistency of commodity trading, it is appropriate for CFTC to continue its role as regulator of the carbon market. They should work closely with USDA.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes. The system should provide the transparency, oversight and structure that allows for verifiable greenhouse gas reductions while allowing economic growth. Given the creation of a whole new marketable commodity in carbon offsets, transparency must be the overarching goal to ensure confidence among market participants, agricultural producers and the general public. Because of this, the majority of carbon should be traded through a transparent futures market that is accessible to everyone.

The magnitude and scope of a GHG cap-and-trade program in the U.S. is greater than any such system the U.S. has attempted thus far. Because of the implications of such a system, some flexibility needs to be built in to accommodate the transition America will be going through as the entire nation adapts to this new

way of dong business. However, it will also be important to have a regulated, transparent futures market accessible to anybody and anyone in order for the system to have true value in the worldwide marketplace.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Yes, enactment of any policy regulating GHG emissions (whether a carbon tax or cap-and-trade) will have impacts on multiple groups. It will raise the price of using fossil fuels such as coal and oil, and of consuming goods and services that directly or indirectly produce GHG emissions. These higher prices will be felt throughout the economy, but will eventually be passed on to end users.

However, failing to reduce GHG emissions also poses significant economic impacts on agriculture and populations whose welfare is of special interest to the agricultural community. Studies of climate change scenarios show increased frequency of heat stress, droughts and flooding events that will reduce crop yield and livestock productivity. Studies indicate a global increase of 5.5 degrees Celsius could lead to food price increases of 30 percent.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Each state should have the opportunity to keep carbon-generated-revenue in their state and reinvested in local communities. Oil refineries and energy companies stand to pay a great deal to either reduce emissions or purchase offsets. However, the process of adapting their infrastructure to reduce emissions has the potential to create green jobs, and support satellite industries. Offsets purchased on agricultural lands would have sustainable economic benefits in rural communities.

Revenue generated from the sale of emission allowances should be used on several strategic fronts to minimize impacts of regulation, help with adaption to potential impacts of a warming climate, and foster the development of renewable, low-carbon alternative energy sources in the United States. Funds should be used to promote renewable energy development, create green jobs, assist low-income consumers, help industries impacted by warming climates adapt, reward early actors and research new ways to better capture carbon emissions.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

No, because it takes away the incentives for change. Burdens of transition should be taken into consideration when structuring and phasing in the new program.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

As with private agricultural lands, there is significant potential for carbon sequestration and emission reductions on public lands. Federal and state-owned grazing and forest lands have the potential to sequester millions of tons of carbon annually. Public lands should be managed to maximize carbon sequestration. States should use these lands to mitigate emissions from state buildings or state transportation fleets. Offsets from federal lands should be used to mitigate emissions from federal buildings and federal transportation.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

An artificial cap on the price of carbon potentially stifles this innovation. Therefore, we believe that there should not be an artificial legislative cap on the value of carbon prices.

In order to drive innovation necessary to reduce GHG emissions in the long-term, the price of carbon credits must be valued by the marketplace to foster the research, development and implementation of new technologies.

Legislation should include provisions allowing the federal government, under extreme conditions, to adjust yearly reduction targets or allow for the use of additional offset projects as a means to control significant adverse impacts on the economy.

It is also important that any safety-valve provided to moderate costs not undermine the financing of long-term carbon reduction projects that require price certainty. Depending upon the scope of safety-valve authority, Congress should also evaluate the establishment of a floor price for carbon prices to ensure continued investment.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The ETS had many benefits and drawbacks. Closer monitoring was needed of projects and trades; more stringent project standards were needed; Conservation Development Mechanism (CDM) projects needed more scrutiny, screening, and monitoring. Forestry is included in international programs and agriculture typically means reductions of methane. The U.S. voluntary market includes agriculture offsets.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Any program should include a voluntary offset program that allows farmers and ranchers to generate offset credits by implementing practices that sequester or reduce GHG emissions. This creates an offset market in addition to the emission allowance trading that will occur under the cap and trade program. Most farmers and ranchers won't require emission allowances. Those producers will be eligible to work to meet requirements to demonstrate GHG sequestration and/or reduction under the legislation and should be able to sell these offsets to regulated entities at a fair market price.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Offsets should **not** be issued by the government. However the percentage of offsets used to mitigate emissions should be limited by the government. Each emitter within a sector should be allowed to mitigate up to 30% of their emission overage with carbon offsets that are available in a free market venue. Each regulated emitter should be held responsible for knowing how many offsets they can purchase and what their limit is.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress should **not** prioritize or distribute offsets. As above in #14-15 each emitter should be allowed to use any combination of offsets, purchased on the free market, to mitigate up to 30% of their emission overage.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

USDA-NRCS would set the technical specifications for agricultural offsets and USFS should set the technical specifications for forestry offsets and set standards for how the offsets are verified. Each agency should then "ride herd" over the program. The USDA would also conduct on-going research through the land-grant schools to determine sequestration rates of different agricultural and forestry practices, but farm out the actual operation of the verification system to the state governments, and through them to the local conservation districts.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Agricultural practices should be held to applicable Natural Resources Conservation Service (NRCS) specifications that currently exist for the respective agricultural practice. While the entire specification is not relevant to soil carbon sequestration, the applicable parts of the specification should be used to assess the offset. For example, under NRCS specifications, to qualify as a "no-till" field, a field must meet specifications for minimal soil disturbance and plant residue above the soil surface. These are quantifiable aspects of the practice that can be used to assess the project for carbon sequestration value.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Consider Oklahoma's model: The Conservation Commission (a state agency) has statutory authority to verify and certify carbon offsets. The Commission charges aggregators a fee for the verification service and works with local conservation districts and other state approved verifiers through a cooperative agreement to do the actual on the ground verification.

This is similar to how the Commission works through an agreement with the districts for farm bill delivery where NRCS actually contracts with the Conservation Commission on farm bill delivery and the Commission then sends the money to the districts to do the work. Oklahoma is accustomed to delivering conservation programs using a partnership model. In Oklahoma, the NRCS has an established relationship with state conservation agencies and local conservation districts through legislation going all the way back to the 1930's. This relationship is required by federal law.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Both. Standards are already used by USDA-NRCS to confirm agricultural practices meet their specifications prior to cost-share payments being distributed. This same approach and the standards currently in use should be the foundation for the program established by Congress. Meanwhile, project based approaches should be used on a limited basis conducted in partnership with landgrant schools to further strengthen the standards used in a standards based approach.

Projects should be used on a small scale as a tool to gather the data that allow standards to evolve over time. The research to measure carbon sequestration over the life of the project or beyond can be used to develop a broader data set specific to each agricultural practice. These data can then be used to refine the standards. These data would be used to quantify the offset value.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Once an emitter exhausts its allocated allowances the emitter should be able to mitigate up to 30% of their emissions overuge with agriculture and forestry offsets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The most influential factor facing agricultural offsets is the influence of competing commodities prices. Depending on crop and fuel prices, offset contracts may face extreme competition from competing landuses. Too many long-term contracts could threaten public access to food, as we have seen with the competing effects of growing corn for ethanol and growing corn for food. Therefore, contract length should be reasonable with a minimum of five years to accommodate changing food supplies that could be affected by natural disasters or other unforeseen circumstances.

Offset contracts should be flexible to allow offset providers/producers to buyout their contracts in order to switch to a more profitable landuse if the need arises. Contracts should be allowed to renew indefinitely. Contracts should accompany all land sales with the buyer assuming full responsibility of the contract through its remaining life and should include a buyout option. There is no way to guarantee the perpetuity, permanence, or duration of an agricultural or other offset. However, flexible contract provisions can provide incentives.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

When standards will not be compromised by doing so, existing projects should be grandfathered into any new program. If standards will be compromised, offset contracts

should continue and expire outside of the federal system. Applicants can then enter into a contract outside of the federal system or apply and contract under new program rules.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Agriculture producers who took early steps to voluntarily implement conservation practices that sequester carbon should be rewarded. Stacking credits is one way of rewarding these producers and others. Too often we ignore those who have been early adopters and provide incentives for those who will only adopt when forced to. That amounts to rewarding the bad actors and is not a very responsible way of doing business.

Regarding stackability, the Oklahoma carbon program model provides an excellent example. It ties several natural resource initiatives together. For example, in Oklahoma, when the Conservation Commission (a state agency) implements an EPA 319 grant project, it uses the grant funds to cost-share with agricultural producers in a watershed. This cost-share encourages participants to protect water quality from nonpoint source pollution by installing practices such as riparian buffers or no-till crops. The practices also sequester carbon. The 319 program is run as a water quality cost-share program similar to the EQIP program by NRCS, but limited in scope to the priority watershed and to those BMP's designed to address water quality issues in that particular watershed. So, NRCS provides the technical assistance and does work above the watershed with additional land treatment through programs like EQIP, while FSA funds the CREP, and EPA funds the 319 project based on matching dollars from the private sector, such as from producer cost-share and carbon credit purchases by businesses. Meanwhile, the state appropriates dollars for CREP and 319, and staff from local conservation districts and the Conservation Commission provide information to producers. The staff also verify carbon sequestration and the practices installed for the water quality work. This model of overlapping conservation programs sequesters carbon, prevents soil erosion, improves wildlife habitat and cleans up the water. Stacking works.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

All greenhouse gas emission reduction efforts and carbon sequestration should be eligible to participate, regardless of whether or not the project received assistance from the federal or state government. Projects that are undertaken voluntarily and receive state or federal assistance (such as cost share or technical assistance) should qualify as an offset project as long as they meet the requirements established by USDA. Offering cost share payments in conjunction

with payments from carbon offsets is a good way to increase participation in multiple programs, which results in multiple benefits.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Each offset contract should contain a reserve provision whereby twenty percent of the acreage is held in reserve until the contract expires. The reserve should be used to cover losses/reversal of carbon sequestration resulting from a natural disaster or other event uncontrolled by the producer. Intentional destruction or disruption of the practice should result in penalties to the producer.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The authority should be delegated to the appropriate government agency to develop regulations. EPA should determine a basic structure, modeled after other successful programs such as the Underground Injection Control (UIC) program, or water quality standards programs. USDA-NRCS should set minimum standards for offsets and verifcation protocols and procedures. However, it should be left up to each state to determine whether the state or EPA will implement the carbon sequestration program in the state. Protocols should be handled by rulemaking process which closely follows a clearly stated intent in the enabling legislation. Protocols should be developed by the agency with the authority over that part of the program.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The primary obstacles are accurate, reliable information and availability of adequate technical assistance. The cost implementing conservation practices is also an obstacle.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

On the whole, there are not enough dollars from the federal or state level to maximize participation in existing conservation programs that protect soil and water quality and

sequester carbon. When producers can receive compensation from the sale of carbon offsets, it will add an additional incentive for them to participate in existing programs. However, the mission of existing programs is not to mitigate GHGs; therefore, this new legislation should be structured to provide the additional infrastructure necessary to encompass the new goal of carbon sequestration. This could be done by expanding funding to existing state and federal programs or by creating a new program specifically geared toward helping producers mitigate greenhouse gas emissions. This is encouraged in the 2008 Farm Bill.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Oklahoma has a unique voluntary carbon program that can serve as a model for carbon programs in other states. To date, Oklahoma is the only state in the nation with a statute that gives a state conservation agency the legal authority to verify and certify carbon offsets with the full faith and credit of the state government.

Who Verifies Carbon Offsets from Agriculture?

The Oklahoma Conservation Commission verifies offsets from no-till and converted grasslands. The Commission charges aggregators a fee for the verification service and works with local conservation districts and other state approved verifiers through a cooperative agreement to do the actual on the ground verification. This agreement is similar to the Commission's agreement with the districts for farm bill delivery where NRCS actually contracts with the Conservation Commission on farm bill delivery and the Commission then sends the money to the districts to do the work. Oklahoma is accustomed to delivering conservation programs using a partnership model. In Oklahoma, the NRCS has an established relationship with state conservation agencies and local conservation districts through legislation going all the way back to the 1930's. This relationship is required by federal law.

How are Conservation Districts Trained to Verify Offsets?

Participating Conservation District staff are trained by Oklahoma NRCS to recognize NRCS specifications for no-till and grasslands. The training is similar to farm bill delivery training, so it also helps strengthen the technical capacity of the conservation partnership at the state and local level. NRCS teaches key elements of their practice management specifications and the district verifiers look at these specs when verifying carbon sequestration. For example, district verifiers look at percent soil disturbance, grass height, amount of surface residue, and plant vigor – in other words, elements of the practice that are key to carbon sequestration.

What Standard is Used for Verification?

While agricultural soil carbon offsets are expected to meet a certain standard, currently there are no recognized, formal protocols for the *verification process* that assures standards

are being met, but Oklahoma is leading the way. Oklahoma has partnered with NRCS to develop a comprehensive training for Conservation Districts who will verify carbon offsets. Because producers are already familiar with NRCS specifications and local conservation professionals, incorporating the NRCS specifications into verification helps reduce confusion and helps ensure that multiple programs work together seamlessly.

Is Oklahoma Concerned that Current Carbon Sequestration Values are too General?
The Oklahoma Conservation Commission has partnered with Oklahoma universities to conduct research on sequestration values for no-till and grassland in different types of soils in different eco-regions within the state. This data will give us a better idea of the actual sequestration taking place in Oklahoma.

What is the Advantage to the Oklahoma Carbon Program Model?
Other programs run on this model have been successful. By having a state agency with the authority to verify, you basically have a system similar to how EPA implements water quality standards and CAFO regulations: The Federal government sets a minimum standard and then the states do the work to assure the standard is met. Under this model, each state can choose to either appropriate money for their carbon verification program or the agency with primacy can charge fees to those who want offsets verified by the program. When a state uses the fee-based approach, there is little or no cost to the federal government. The Conservation Commission's authority to charge fees is written into the Conservation District Act.

In closing, we ask that you take into consideration what Oklahoma is doing as a possible model for public and private partnership to combat climate change.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	Low	High
Reforestation	Excellent	Excellent	Low	High
Managed forests	Excellent	Excellent	Low	High
Avoided deforestation	Excellent	Excellent	Low	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Rangeland management	Good	Excellent	Low	High
Seeded grasslands	Good	Excellent	Low	High
Methane Digesters	Excellent	Excellent	High	Low

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till cropping	Excellent	Excellent	Medium	Medium
Buffers	Excellent	Excellent	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
OKLAHOMA CONSERVATION
COMMISSION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Stacy Hansen

Organization(s) you represent

Oklahoma Conservation Commission (State Agency)

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, Carbon Sequestration Certification Program (State Agency Employee)

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Due to its flexibility, a cap-and-trade program holds the most promise in making actual reductions in GHG emissions while minimizing the overall energy cost to the end user. A cap-and-trade program with a properly structured offset program provides agriculture producers a means and incentive to reduce GHG emissions with soil carbon sequestration and methane reduction projects. A cap-and-trade system was implemented as a result of the 1990 Clean Air Act and has proven to be very successful in reducing sulfur dioxide emissions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

If this question is asking if agriculture and forestry sectors should be allowed to provide offsets under a cap and trade system, then the answer is YES. US Agriculture has tremendous potential to help companies meet their cap-and-trade obligations in a measurable, cost effective manner. Agriculture offsets are real, proven, and readily available to be implemented now at a low-cost.

Through existing no-till practices and conversion of plowed farmland to no-till, agricultural has the potential to offset 10-15% of annual CO2 emissions. Early markets have shown that carbon offsets from conservation agriculture can be quantified, verified and traded. Carbon credit trading will provide an economic incentive for farmers to adopt ecologically based approaches to farming already encouraged by USDA. In addition to removing carbon dioxide from the atmosphere, these practices also increase soil fertility, improve water quality and retention, and create greater wildlife habitat. Implementation of conservation agriculture practices will help the nation more quickly reduce GHGs. For example, current estimates from the Environmental Protection Agency suggest that current carbon sequestration on agricultural lands offset one percent of all U.S. GHG emissions, but has the potential to capture the equivalent of 20 percent of all U.S. GHG emissions.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Distribute 100% of emission allowances annually at no cost. Unused allowances should be eligible to be traded. Allowances should be distributed proportionally across sectors based on annual emissions. Ag allowances should be distributed the same way. No industry/sector should be exempt. If you don't limit allowances you undermine the whole function of a cap and trade system.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes, but only after an efficacy analysis on all existing voluntary and regulatory programs is done. Then the best from each program should be taken and consolidate into a streamlined national system that utilizes the infrastructures of the existing programs as applicable. In any case, as with current EPA programs implemented by states, the standards should be at least as restrictive as federal standards, and may exceed those standards.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Existing government agencies should regulate it. Expertise for various components of a cap-and-trade program already exists within currently established administrative and independent agencies. Legislation should build upon this expertise and provide independent authority to USDA, CFTC and EPA for specific portions of the program.

However, it is vital for USDA to promulgate the rules and administer the agricultural offset program. USDA has the statutory authority in the 2008 Farm Bill and the technical expertise and institutional resources necessary to create and administer an offset program. USDA-NRCS can leverage its experience working with farmers and state partners in addition to its technical expertise modeling, implementing, and measuring farming practices. Agriculture practices that have been shown to sequester carbon follow NRCS specifications. NRCS already has the confidence and trust of the agriculture community. This will help ensure maximum participation.

This model would work as follows: EPA and USDA-NRCS should set a minimum performance standard for practices and then the states do the work to assure the standard is met. Under this model, each state can choose to either appropriate money for a carbon verification program or the agency with primacy for carbon sequestration verification can charge fees to those who want offsets verified by the program. When a state uses the fee-based approach, there is little or no cost to the federal government. By having a state agency with the authority

to verify, you basically have a system similar to how EPA implements water quality standards and CAFO regulations. This works by EPA setting the national policy, then state conservation agencies regulating and administering the program. In each state, the state conservation agency and conservation districts currently work with agriculture producers to help implement and monitor practices through state and/or federal programs, such as with EQIP.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

CFTC should continue its role as regulator of the derivative carbon market. Under a cap-and-trade program, trading of carbon offsets will most closely mirror the trading of other agricultural commodities that CFTC currently regulates. Given this and to ensure regulatory consistency of commodity trading, it is appropriate for CFTC to continue its role as regulator of the carbon market. They should work closely with USDA.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes. The system should provide the transparency, oversight and structure that allows for verifiable greenhouse gas reductions while allowing economic growth. Given the creation of a whole new marketable commodity in carbon offsets, transparency must be the overarching goal to ensure confidence among market participants, agricultural producers and the general public. Because of this, the majority of carbon should be traded through a transparent futures market that is accessible to everyone.

The magnitude and scope of a GHG cap-and-trade program in the U.S. is greater than any such system the U.S. has attempted thus far. Because of the implications of such a system, some flexibility needs to be built in to accommodate the transition America will be going through as the entire nation adapts to this new way of dong business. However, it will also be important to have a regulated, transparent futures market accessible to anybody and anyone in order for the system to have true value in the worldwide marketplace.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Yes, enactment of any policy regulating GHG emissions (whether a carbon tax or cap-and-trade) will have impacts on multiple groups. It will raise the price of using fossil fuels such as coal and oil, and of consuming goods and services that directly or indirectly produce GHG emissions. These higher prices will be felt throughout the economy, but will eventually be passed on to end users.

However, failing to reduce GHG emissions also poses significant economic impacts on agriculture and populations whose welfare is of special interest to the agricultural community. Studies of climate change scenarios show increased frequency of heat stress, droughts and flooding events that will reduce crop yield and livestock productivity. Studies indicate a global increase of 5.5 degrees Celsius could lead to food price increases of 30 percent.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Each state should have the opportunity to keep carbon-generated-revenue in their state and reinvested in local communities. Oil refineries and energy companies stand to pay a great deal to either reduce emissions or purchase offsets. However, the process of adapting their infrastructure to reduce emissions has the potential to create green jobs, and support satellite industries. Offsets purchased on agricultural lands would have sustainable economic benefits in rural communities.

Revenue generated from the sale of emission allowances should be used on several strategic fronts to minimize impacts of regulation, help with adaption to potential impacts of a warming climate, and foster the development of renewable, low-carbon alternative energy sources in the United States. Funds should be used to promote renewable energy development, create green jobs, assist low-income consumers, help industries impacted by warming climates adapt, reward early actors and research new ways to better capture carbon emissions.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

No, because it takes away the incentives for change. Burdens of transition should be taken into consideration when structuring and phasing in the new program.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

As with private agricultural lands, there is significant potential for carbon sequestration and emission reductions on public lands. Federal and state-owned grazing and forest lands have the potential to sequester millions of tons of carbon annually. Public lands should be managed to maximize carbon sequestration. States should use these lands to mitigate emissions from state buildings or state transportation fleets. Offsets from federal lands should be used to mitigate emissions from federal buildings and federal transportation.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

An artificial cap on the price of carbon potentially stifles this innovation. Therefore, we believe that there should not be an artificial legislative cap on the value of carbon prices.

In order to drive innovation necessary to reduce GHG emissions in the long-term, the price of carbon credits must be valued by the marketplace to foster the research, development and implementation of new technologies.

Legislation should include provisions allowing the federal government, under extreme conditions, to adjust yearly reduction targets or allow for the use of additional offset projects as a means to control significant adverse impacts on the economy.

It is also important that any safety-valve provided to moderate costs not undermine the financing of long-term carbon reduction projects that require price certainty. Depending upon the scope of safety-valve authority, Congress should also evaluate the establishment of a floor price for carbon prices to ensure continued investment.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The ETS had many benefits and drawbacks. Closer monitoring was needed of projects and trades; more stringent project standards were needed; Conservation Development Mechanism (CDM) projects needed more scrutiny, screening, and monitoring. Forestry is included in international programs and agriculture typically means reductions of methane. The U.S. voluntary market includes agriculture offsets.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Any program should include a voluntary offset program that allows farmers and ranchers to generate offset credits by implementing practices that sequester or reduce GHG emissions. This creates an offset market in addition to the emission allowance trading that will occur under the cap and trade program. Most farmers and ranchers won't require emission allowances. Those producers will be eligible to work to meet requirements to demonstrate GHG sequestration and/or reduction under the legislation and should be able to sell these offsets to regulated entities at a fair market price.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Offsets should **not** be **issued** by the government. However the percentage of offsets used to mitigate emissions should be limited by the government. Each emitter within a sector should be allowed to mitigate up to 30% of their emission overage with carbon offsets that are available in a free market venue. Each regulated emitter should be held responsible for knowing how many offsets they can purchase and what their limit is.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Congress should **not** prioritize or distribute offsets. As above in #14-15 each emitter should be allowed to use any combination of offsets, purchased on the free market, to mitigate up to 30% of their emission overage.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

USDA-NRCS would set the technical specifications for agricultural offsets and USFS should set the technical specifications for forestry offsets and set standards for how the offsets are verified. Each agency should then "ride herd" over the program. The USDA would also conduct on-going research through the land-grant schools to determine sequestration rates of different agricultural and forestry practices, but farm out the actual operation of the verification system to the state governments, and through them to the local conservation districts.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Agricultural practices should be held to applicable Natural Resources Conservation Service (NRCS) specifications that currently exist for the respective agricultural practice. While the entire specification is not relevant to soil carbon sequestration, the applicable parts of the specification should be used to assess the offset. For example, under NRCS specifications, to qualify as a "no-till" field, a field must meet specifications for minimal soil disturbance and plant residue above the soil surface. These are quantifiable aspects of the practice that can be used to assess the project for carbon sequestration value.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Consider Oklahoma's model: The Conservation Commission (a state agency) has statutory authority to verify and certify carbon offsets. The Commission charges aggregators a fee for the verification service and works with local conservation districts and other state approved verifiers through a cooperative agreement to do the actual on the ground verification.

This is similar to how the Commission works through an agreement with the districts for farm bill delivery where NRCS actually contracts with the Conservation Commission on farm bill delivery and the Commission then sends the money to the districts to do the work. Oklahoma is accustomed to delivering conservation programs using a partnership model. In Oklahoma, the NRCS has an established relationship with state conservation agencies and local conservation districts through legislation going all the way back to the 1930's. This relationship is required by federal law.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Both. Standards are already used by USDA-NRCS to confirm agricultural practices meet their specifications prior to cost-share payments being distributed. This same approach and the standards currently in use should be the foundation for the program established by Congress. Meanwhile, project based approaches should be used on a limited basis conducted in partnership with landgrant schools to further strengthen the standards used in a standards based approach.

Projects should be used on a small scale as a tool to gather the data that allow standards to evolve over time. The research to measure carbon sequestration over the life of the project or beyond can be used to develop a broader data set specific to each agricultural practice. These data can then be used to refine the standards. These data would be used to quantify the offset value.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Once an emitter exhausts its allocated allowances, the emitter should be able to mitigate up to 30% of their emissions overage with agriculture and forestry offsets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The most influential factor facing agricultural offsets is the influence of competing commodities prices. Depending on crop and fuel prices, offset contracts may face extreme competition from competing landuses. Too many long-term contracts could threaten public access to food, as we have seen with the competing effects of growing corn for ethanol and growing corn for food. Therefore, contract length should be reasonable with a minimum of five years to accommodate changing food supplies that could be affected by natural disasters or other unforeseen circumstances.

Offset contracts should be flexible to allow offset providers/producers to buyout their contracts in order to switch to a more profitable landuse if the need arises. Contracts should be allowed to renew indefinitely. Contracts should accompany all land sales with the buyer assuming full responsibility of the contract through its remaining life and should include a buyout option. There is no way to guarantee the perpetuity, permanence, or duration of an agricultural or other offset. However, flexible contract provisions can provide incentives.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

When standards will not be compromised by doing so, existing projects should be grandfathered into any new program. If standards will be compromised, offset contracts

should continue and expire outside of the federal system. Applicants can then enter into a contract outside of the federal system or apply and contract under new program rules.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Agriculture producers who took early steps to voluntarily implement conservation practices that sequester carbon should be rewarded. Stacking credits is one way of rewarding these producers and others. Too often we ignore those who have been early adopters and provide incentives for those who will only adopt when forced to. That amounts to rewarding the bad actors and is not a very responsible way of doing business.

Regarding stackability, the Oklahoma carbon program model provides an excellent example. It ties several natural resource initiatives together. For example, in Oklahoma, when the Conservation Commission (a state agency) implements an EPA 319 grant project, it uses the grant funds to cost-share with agricultural producers in a watershed. This cost-share encouruges participants to protect water quality from nonpoint source pollution by installing practices such as riparian buffers or no-till crops. The practices also sequester carbon. The 319 program is run as a water quality cost-share program similar to the EQIP program by NRCS, but limited in scope to the priority watershed and to those BMP's designed to address water quality issues in that particular watershed. So, NRCS provides the technical assistance and does work above the watershed with additional land treatment through programs like EQIP, while FSA funds the CREP, and EPA funds the 319 project based on matching dollars from the private sector, such as from producer cost-share and carbon credit purchases by businesses. Meanwhile, the state appropriates dollars for CREP and 319, and staff from local conservation districts and the Conservation Commission provide information to producers. The staff also verify carbon sequestration and the practices installed for the water quality work. This model of overlapping conservation programs sequesters carbon, prevents soil erosion, improves wildlife habitat and cleans up the water. Stacking works.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

All greenhouse gas emission reduction efforts and carbon sequestration should be eligible to participate, regardless of whether or not the project received assistance from the federal or state government. Projects that are undertaken voluntarily and receive state or federal assistance (such as cost share or technical assistance) should qualify as an offset project as long as they meet the requirements established by USDA. Offering cost share payments in

conjunction with payments from carbon offsets is a good way to increase participation in multiple programs, which results in multiple benefits.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Each offset contract should contain a reserve provision whereby twenty percent of the acreage is held in reserve until the contract expires. The reserve should be used to cover losses/reversal of carbon sequestration resulting from a natural disaster or other event uncontrolled by the producer. Intentional destruction or disruption of the practice should result in penalties to the producer.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The authority should be delegated to the appropriate government agency to develop regulations. EPA should determine a basic structure, modeled after other successful programs such as the Underground Injection Control (UIC) program, or water quality standards programs. USDA-NRCS should set minimum standards for offsets and verifcation protocols and procedures. However, it should be left up to each state to determine whether the state or EPA will implement the carbon sequestration program in the state. Protocols should be handled by rulemaking process which closely follows a clearly stated intent in the enabling legislation. Protocols should be developed by the agency with the authority over that part of the program.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The primary obstacles are accurate, reliable information and availability of adequate technical assistance. The cost implementing conservation practices is also an obstacle.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

On the whole, there are not enough dollars from the federal or state level to maximize participation in existing conservation programs that protect soil and water quality and

sequester carbon. When producers can receive compensation from the sale of carbon offsets, it will add an additional incentive for them to participate in existing programs. However, the mission of existing programs is not to mitigate GHGs; therefore, this new legislation should be structured to provide the additional infrastructure necessary to encompass the new goal of carbon sequestration. This could be done by expanding funding to existing state and federal programs or by creating a new program specifically geared toward helping producers mitigate greenhouse gas emissions. This is encouraged in the 2008 Farm Bill.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Oklahoma has a unique voluntary carbon program that can serve as a model for carbon programs in other states. To date, Oklahoma is the only state in the nation with a statute that gives a state conservation agency the legal authority to verify and certify carbon offsets with the full faith and credit of the state government.

Who Verifies Carbon Offsets from Agriculture?
The Oklahoma Conservation Commission verifies offsets from no-till and converted grasslands. The Commission charges aggregators a fee for the verification service and works with local conservation districts and other state approved verifiers through a cooperative agreement to do the actual on the ground verification. This agreement is similar to the Commission's agreement with the districts for farm bill delivery where NRCS actually contracts with the Conservation Commission on farm bill delivery and the Commission then sends the money to the districts to do the work. Oklahoma is accustomed to delivering conservation programs using a partnership model. In Oklahoma, the NRCS has an established relationship with state conservation agencies and local conservation districts through legislation going all the way back to the 1930's. This relationship is required by federal law.

How are Conservation Districts Trained to Verify Offsets?
Participating Conservation District staff are trained by Oklahoma NRCS to recognize NRCS specifications for no-till and grasslands. The training is similar to farm bill delivery training, so it also helps strengthen the technical capacity of the conservation partnership at the state and local level. NRCS teaches key elements of their practice management specifications and the district verifiers look at these specs when verifying carbon sequestration. For example, district verifiers look at percent soil disturbance, grass height, amount of surface residue, and plant vigor – in other words, elements of the practice that are key to carbon sequestration.

What Standard is Used for Verification?
While agricultural soil carbon offsets are expected to meet a certain standard, currently there are no recognized, formal protocols for the *verification process* that assures standards

are being met, but Oklahoma is leading the way. Oklahoma has partnered with NRCS to develop a comprehensive training for Conservation Districts who will verify carbon offsets. Because producers are already familiar with NRCS specifications and local conservation professionals, incorporating the NRCS specifications into verification helps reduce confusion and helps ensure that multiple programs work together seamlessly.

Is Oklahoma Concerned that Current Carbon Sequestration Values are too General?
The Oklahoma Conservation Commission has partnered with Oklahoma universities to conduct research on sequestration values for no-till and grassland in different types of soils in different eco-regions within the state. This data will give us a better idea of the actual sequestration taking place in Oklahoma.

What is the Advantage to the Oklahoma Carbon Program Model?
Other programs run on this model have been successful. By having a state agency with the authority to verify, you basically have a system similar to how EPA implements water quality standards and CAFO regulations: The Federal government sets a minimum standard and then the states do the work to assure the standard is met. Under this model, each state can choose to either appropriate money for their carbon verification program or the agency with primacy can charge fees to those who want offsets verified by the program. When a state uses the fee-based approach, there is little or no cost to the federal government. The Conservation Commission's authority to charge fees is written into the Conservation District Act.

In closing, we ask that you take into consideration what Oklahoma is doing as a possible model for public and private partnership to combat climate change.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	Low	High
Reforestation	Excellent	Excellent	Low	High
Managed forests	Excellent	Excellent	Low	High
Avoided deforestation	Excellent	Excellent	Low	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Rangeland management	Good	Excellent	Low	High
Seeded grasslands	Good	Excellent	Low	High
Methane Digesters	Excellent	Excellent	High	Low

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till cropping	Excellent	Excellent	Medium	Medium
Buffers	Excellent	Excellent	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
OREGON DEPARTMENT OF
AGRICULTURE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Stephanie Page

Organization(s) you represent

Oregon Department of Agriculture

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am the Oregon Department of Agriculture's Renewable Energy Specialist and am responding to this questionnaire on behalf of the department.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The department believes that either type of program could be effective in reducing greenhouse gas emissions. Our highest priority is that either program be structured to minimize negative economic impacts to agricultural producers and provide incentives to agricultural producers for voluntary emissions reductions and carbon sequestration practices.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Farmlands, ranchlands, and forestlands should not be regulated under a carbon reduction program. We need much more research about the levels of emissions from agricultural lands, as well as the effects of various practices on greenhouse gas emissions. At this point, we can identify practices that we believe will reduce emissions and sequester carbon, but there is not enough research to really quantify the benefits of many of those practices.

Even if they are not directly regulated, agriculture and forestry will certainly be impacted by a cap-and-trade or carbon tax because these programs will increase their energy costs. The department believes that funds generated through a cap and trade or carbon tax program should be used to provide incentives to agriculture and forestry for voluntary sequestration and greenhouse gas reduction practices, as well as other voluntary measures that bring ecosystem benefits that may be difficult to quantify.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Farmlands, ranchlands, and forestlands should not be covered under a cap as part of a cap and trade program, so we would not expect there to be allowances for the agriculture and forestry sectors.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

We believe there should be a single, national cap and trade or carbon tax program that is consistent across all states, to ensure some states do not have a competitive advantage over others. We believe that the program design could borrow from RGGI and the Western Climate Initiative to avoid duplication of efforts.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

We believe it's most appropriate for the U.S. Environmental Protection Agency to implement the regulatory component of a cap-and-trade program if it's established. EPA has already implemented cap-and-trade programs to deal with other pollutants, and has experience working with many of the entities that would be permitted under a cap-and-trade program. In addition, state regulatory agencies have established working relationships with EPA.

The U.S. Department of Agriculture is the most appropriate agency to implement the voluntary components of cap-and-trade, such as incentives for sequestration and greenhouse gas emissions reductions, relative to agriculture.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The body that regulates is not the primary concern with trading, but rather whether there is sufficient oversight and regulatory parameters. We have seen in the housing markets with derivative trading and secondary markets what can happen when proper oversight and boundaries are not implemented, monitored and enforced. Manipulation of markets and speculative trading should be ardently guarded against.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

The more trading options available the more risk of market misuse. While expanding market trading can provided liquidity, such liquidity may end up "running the market," rather than the intended purpose of a functional system of trading credits.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include:

residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

A carbon tax is essentially a "fee for usage" tax that is intended to discourage usage of carbon-based energy sources and give a more level playing field for entry of renewable energy sources.

Because agriculture is a large consumer of energy, presently mostly from carbon-based sources, a carbon tax will have a more direct detrimental cost/penalty which will increase input costs. Nearly all sectors of Oregon's agricultural industry require significant gasoline or diesel inputs, and Oregon's agricultural operations also use electricity and heating fuels in dairy operations, irrigated lands, greenhouse heating, and processing of agricultural products. Agriculture is not able to pass on these costs on directly and therefore will experience a lower net income level.

A cap and trade program will be less direct, but still result in higher energy costs for producers.

It's unlikely that an offset program will provide enough income to cover the costs incurred by most agricultural producers through carbon reduction programs. Other incentives should be established in addition to offsets to encourage agricultural practices that reduce greenhouse gas emissions and sequester carbon. The department believes that if incentive programs are structured appropriately and provide adequate incentives, this could help agricultural producers mitigate the impacts of increased energy costs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

The department recommends providing incentives to agricultural producers for ecosystem services such as carbon sequestration, greenhouse gas emissions reductions, and other air quality improvements. We believe the U.S. Department of Agriculture is the most appropriate agency to administer such a program for agriculture.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes. Grant programs to agricultural producers and rural small businesses should be expanded to help more businesses reduce their energy use and associated costs. Energy audits for agricultural producers should also be heavily subsidized (i.e., 75% cost-share) to help producers identify strategies to save energy.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The department believes that the national renewable fuel standards should be modified to allow biofuels from materials harvested on public lands to contribute towards the renewable fuel goals. Allowing thinning of public forests and removal of invasive species such as juniper from public lands will not only provide feedstock for biofuels, it will also reduce carbon emissions associated with catastrophic wildfires and improve forest and rangeland health.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Carbon prices need to be high enough to encourage effective offset programs that reward producers who implement long-term management changes. However, the prices should also have limits that prohibit market manipulation and trading that create market uncertainty and wide swings that may undermine the overall purpose and confidence in the system.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Agriculture may be regulated under Australia's cap and trade program, but not until 2015. The Australian government will determine in 2013 whether to include agriculture in the program. Agriculture is not included in Australia's program for the same reasons that would make it difficult to include agriculture in an American cap and trade program – it is very difficult and complex to estimate emissions from agricultural operations, most emitters are very small operations with low overall emissions, and most agricultural operations would be disproportionately affected economically by being regulated through cap and trade.

Based on a policy paper by the Australia government about the program, it appears that efforts will be made to shift much of the costs off-farm to the supply chain of fuels, fertilizers, and other inputs with associated emissions. The government also plans to explore incentives for on-farm reductions of emissions.

The New Zealand government has already decided to include agriculture in its cap and trade program, and agricultural emissions will be regulated under the program beginning in 2013. As part of the program, emitters of greenhouse gases must either reduce their emissions or purchase New Zealand Units (NZUs) to pay for those emissions.

The agriculture sector will not be required to pay the full cost of its emissions until 2030. The sector will be allocated a number of emissions units from 2013 through to 2030. From 2013 to 2018, the annual allocation will equate to 90 percent of the sector's total 2005 emissions. The allocation will phase out gradually from 2019 to 2030.

Research is ongoing in New Zealand to identify practices that can help producers reduce emissions and sequester carbon. Similar research in the United States will be critical to help producers identify practices to reduce greenhouse gas concentrations and sequester carbon.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

A voluntary offset and incentive program would be the most effective for the agriculture sector. A voluntary program would minimize economic impacts to agriculture from greenhouse gas regulations. Also, given the limited amount of information available about agricultural emissions and effective practices to reduce emissions at this time, it would be difficult to assign the correct amount of allowances or establish performance standards with confidence that they will be effective.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Agriculture needs to be part of the offset program, perhaps as a set-aside amount to ensure funding is available for voluntary efforts that reduce carbon emissions and other such activities.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

As far as agricultural offsets are concerned, criteria will vary by the type of project. For soil carbon sequestration projects, criteria should include an estimation of the baseline amount of carbon in the soil at the time the project is enrolled as an offset, and an estimation of the additional carbon sequestered annually by maintaining the project. These figures will vary by region, climate, and cropping or grazing system, and research is needed to ensure they are as accurate as possible across the country. For methane digester projects, criteria should estimate the methane and possibly nitrous oxide emissions avoided through the digestion process. For livestock dietary modification projects, criteria should be developed based on research-based estimates of methane and nitrous oxide reductions that dietary changes or nutritional supplements can create. For fertilizer reduction and management projects, criteria should be based on research estimates of the nitrous oxide reductions associated with management practices. For soil carbon, livestock diet, and fertilizer

management projects, much more research is needed to improve the quantification of the benefits of these projects.

We recommend that the U.S. Department of Agriculture be responsible to administer offset and other incentives for agriculture, and be responsible to verify offset and other projects to reduce greenhouse gas emissions and sequester carbon. U.S. Department of Agriculture agencies, including the Farm Service Agency and Natural Resources Conservation Service, have extensive experience verifying and monitoring conservation practice installation and maintenance. They can establish verification criteria such as visual inspection of practices and producers' feeding and fertilizer application records.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

For agriculture, the responsibility for verifying offset projects should be delegated to the U.S. Department of Agriculture.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

For agricultural offsets, we recommend a hybrid approach that accounts for field measurements but also uses some pre-calculated values to determine a project's benefits. Agricultural projects could use models to predict a project's benefits based on several input variables. The USDA Natural Resources Conservation Service uses several models to estimate soil erosion, manure storage options, soil carbon sequestration, and other natural resource results of conservation practices. The model to estimate soil erosion uses a combination of pre-calculated values and field measurements to determine a field's erosion level.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

If duration and flexibility are too strict, it will limit ability of growers to responding to changing weather, rotational cropping needs, economic signals, and market opportunities. Some project types

might fit a longer duration, but there should not be a strict limit on all project types. A balance is needed to encourage participation and project activity; permanence and duration requirements for offset programs that are too strict will simply discourage projects in agricultural applications.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Once their existing contracts expire, these projects should be treated the same as any other projects that had been completed prior to the start of the offset program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

We strongly believe that early adopters should not be punished for their actions by being rendered ineligible for carbon sequestration and greenhouse gas reduction incentives. Rather, early adopters should be rewarded for the risks they have taken in trying new practices. We understand there is a strong preference for offset projects that pass the additionality test, so it may be best to reward early adopters through some other mechanism, rather than offsets. For agricultural producers, rewards for early adopters of greenhouse gas reduction and carbon sequestration practices could be distributed through programs such as the Conservation Security Program, which provides incentives to producers who have already achieved certain levels of conservation.

We also believe producers should be eligible for multiple incentives if a project has multiple natural resource benefits. For example, producers should be allowed to "stack" credits for a project that offers carbon sequestration as well as water quality benefits.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

An example to consider is the Conservation Reserve Program where programs have been paid cost-share to plant native grasses or other vegetation, and are paid an annual rental rate to continue the enrollment of the land in the CRP program and out of crop production. As a side benefit, the CRP land will bring about reduce erosion, increased carbon sequestration, less usage of inputs (fertilizer and fuels), and improved water quality. Should producers be eligible for an additional carbon offset payment or other public value benefits for these CRP acres? Some would view this as "double dipping" and may be critical of additional payments. However, growers always have the option of putting the land back into production when CRP contracts expire. If market prices are high enough to entice land out of CRP reserves, qualification for additional benefits to keep the land in CRP may be a prudent public investment. The same logic could apply to other programs. The payment rates

may be reduced somewhat from what a new project might qualify for to create a sense of equity between projects.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

As long as a producer complies with the terms of the incentive contract, they should not be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions. This would be similar to holding a landowner liable if a fish passage barrier were removed and fish did not return to his or her stream. As long as the practice is installed based on the best available science, the landowner should not be responsible if the environment doesn't respond the way the science would predict.

USDA already has procedures in place to address natural disasters that destroy or harm projects, and we recommend applying these existing procedures to offset projects. For example, if a riparian buffer enrolled in the Conservation Reserve Enhancement Program is destroyed by fire or other natural disaster, the Farm Service Agency County Committee determines whether the landowner should receive additional cost-share to reestablish the project, based on environmental benefits. Typically, if the disaster occurs during the first few years of a project, the County Committee determines that additional cost-share is appropriate to restore the project. If the project is in its later years, the County Committee usually determines that the contract should be canceled with no refunds required.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

We believe that the guiding policies and principles of the offset program should be outlined in legislation. For example, Congress should establish policies regarding additionality of offsets and whether leakage should be accounted for. Details such as contract length, offset payment rates, and methodologies to quantify the benefits of offsets, should be developed in regulation. Agricultural offset program regulations should be delegated to the U.S. Department of Agriculture.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Several barriers prevent some agricultural producers and landowners from implementing practices that sequester carbon or reduce greenhouse gas emissions. We believe that the biggest barrier is the lack of quantitative information about practices' ability to sequester carbon and reduce greenhouse gas emissions. Producers are naturally hesitant to implement a practice that may turn out to have little, if any, environmental benefit. Funding for research, both at the university level and at the USDA Agricultural Research Service, is critical to overcome this barrier. Additionally, cost is a significant issue. Unless there is cost-share and/or incentives and carbon payments high enough to

cover installation, maintenance costs, labor, and some level of payment high enough to encourage continuation, producers will be reluctant to participate.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? *Please respond in 300 words or less.*

In some regions, incentives are sufficient to encourage adoption and implementation of some practices to mitigate climate change impacts. However, additional incentives and technical assistance are needed to encourage other practices, and help producers in certain regions that are struggling to implement practices that mitigate climate change impacts. For example, while no-till is popular in certain regions of Oregon, producers in other rainfall regions have struggled with this practice and found it economically infeasible.

In addition, incentives do not exist for some agricultural practices that could reduce greenhouse gas emissions, such as modifying livestock diets. There are certainly costs associated with this practice, either from adding supplements or from the possibility of reduced production, so incentives will be important to help producers implement these practices.

The department would also like to see increased funding for the Rural Energy for America program, to help support energy efficiency and renewable energy projects on agricultural and rural small businesses, and a streamlined application process for small projects. Although many applicants from Oregon have successfully applied for grants, other high-quality projects did not receive funding because there were too many applicants nationwide. In addition, the application requirements for the program discourage producers with small-scale projects (i.e. projects less than $20,000 total cost) from applying.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

In addition to establishing an offsets program, we strongly recommend that other incentives be established to reward agricultural practices that likely have greenhouse gas mitigation benefits. This would encourage greenhouse gas reductions for practices that don't yet meet the "quantifiable" test usually applied to offsets because the research is not yet available. Examples of such practices include reduced tillage and no-till in western states; irrigation water management to avoid saturated soils and decrease nitrous oxide emissions; managing livestock diets to reduce greenhouse gas emissions and benefit air quality; precision fertilizer application techniques; and use of fertilizers with nitrification inhibitors.

The department strongly supports continued use of, and incentives for, biofuels to reduce greenhouse gas emissions, reduce agriculture's vulnerability to energy price volatility, and reduce our dependence on imported fossil fuels. There has been continued debate over the past year about the lifecycle greenhouse gas emissions of ethanol versus gasoline, and we urge careful evaluation of this issue as a low-carbon fuel standard is developed. Indirect greenhouse gas emissions are very difficult to quantify, and we believe more research is needed in this area before indirect greenhouse gas emissions associated with ethanol can be calculated. We also believe that comparable boundaries should be drawn around the gasoline production process if indirect lifecycle emissions are included in a low-carbon fuel standard.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural produc and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural produc and private forestland owners to *implement immediately (High, Medium, Low)*
Pasture/rangeland management	Moderate	Moderate	Medium	High
Riparian buffers	Good	Good	Medium	High
Methane digesters	Excellent	Excellent	High	Low
Livestock diet management	Moderate	Moderate	Medium	Medium

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural produc and private forestland owners to *implement immediately (High, Medium, Low)*
No-till or reduced till	Moderate (for Oregon; depends on region)	Moderate	Medium	Medium, depends on region
Riparian buffers	Good	Good	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
OREGON ENVIRONMENTAL
COUNCIL
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Allison Hensey and Sallie Schullinger-Krause

Organization(s) you represent

Oregon Environmental Council

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Allison Hensey is the Oregon Environmental Council's (OEC's) Program Director for Healthy Food and Farms. Sallie Schullinger-Krause is the OEC's Program Director for Global Warming.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We believe that a federal cap-and-trade program will initially provide the most effective means to reduce greenhouse gas emissions. There are already a number of cap-and-trade examples in the United States and elsewhere that are proven mechanisms for successfully reducing pollution. The advantage of a cap and trade system is that it utilizes the power of the marketplace to achieve the cheapest, most efficient emissions reductions first. It gives polluters clear goals, a predictable timeline and flexibility, and allows our economy time to adjust.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The OEC agrees with the Oregon Department of Agriculture's response:

Farmlands, ranchlands, and forestlands should not be regulated under a greenhouse gas reduction program. We need much more research about the levels of emissions from agricultural lands, as well as the effects of various practices on greenhouse gas emissions. At this point, we can identify practices that we believe will reduce greenhouse gas emissions and sequester carbon, but there is not enough research to really quantify the benefits of many of those practices.

Even if they are not directly regulated, agriculture and forestry will certainly be impacted by a cap-and-trade or carbon tax because these programs will increase their energy costs. Funds generated through a cap and trade or carbon tax program should be used for research to provide incentives to agriculture and forestry for voluntary sequestration and greenhouse gas reduction practices, as well as other voluntary measures that bring ecosystem benefits that may be difficult to quantify.

OEC also believes that investment in research to understand the greenhouse gas mitigation potential of agriculture, and the most effective means to reach this mitigation potential is critical to meeting our goals of slowing global warming. Funds generated through a regulatory program should be used for this research as well as for incentives and technical assistance to help agricultural producers adopt mitigation practices.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the

distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

In the event that a cap-and-trade program is implemented, emission allowances should be allocated in a way that is fair, reduces the costs to society and maximizes the public benefit of allowances. The best way of achieving these principles is to auction allowances, which requires that all polluters pay based on the amount of emissions for which they are responsible. Consequently, this removes the potential for market distortion that could result with the distribution of free allowances, the potential for favoritism between economic sectors and the potential for windfall profits for regulated entities.

Relative to the agriculture sector, the OEC agrees with the Oregon Department of Agriculture's response: *Farmlands, ranchlands, and forestlands should not be covered under a cap as part of a cap and trade program, so we would not expect there to be allowances for the agriculture and forestry sectors.*

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

The OEC agrees with the Oregon Department of Agriculture's response: *We believe it's most appropriate for the U.S. Environmental Protection Agency to implement the regulatory component of a cap-and-trade program if it's established. EPA has already implemented cap-and-trade programs to deal with other pollutants, and has experience working with many of the entities that would be permitted under a cap-and-trade program. In addition, state regulatory agencies have established working relationships with EPA.*

The U.S. Department of Agriculture is the most appropriate agency to implement the voluntary components of cap-and-trade, such as incentives for sequestration and greenhouse gas emissions reductions, relative to agriculture.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

A carbon reduction program will likely increase energy costs to agricultural producers and rural residents, as it will for all energy intensive industries and residential users of energy. This is one of the costs of slowing global warming. These short term costs are essential to prevent the far more dire consequences of failing to address global warming. Agriculture will be significantly affected by global warming, through changes in water availability, pests and disease, and growing regions. While the agricultural sector has significant capacity for greenhouse gas mitigation, and should be part of the solution to global warming, many of the management changes that would mitigate do not fit easily into tradable offsets in greenhouse gas markets. This is due to current uncertainty and lack of research in mitigation levels for different practices, which are dependant on climate, geography, and soil, among many other factors. This is also due to the cost-prohibitive nature of project-specific extensive monitoring required for certainty. The OEC agrees with the Oregon Department of Agriculture's response:

It's unlikely that an offset program will provide enough income to cover the costs incurred by most agricultural producers through carbon reduction programs. Other incentives should be established in addition to offsets to encourage agricultural practices that reduce greenhouse gas emissions and sequester carbon. The department believes that if incentive programs are structured appropriately and provide adequate incentives, this could help agricultural producers mitigate the impacts of increased energy costs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Allowances represent a public asset as permission for regulated entities to use the atmosphere to dispose of pollution. Therefore the value of allowances should accrue to, and be used for the public interest. The auction of permits creates a source of revenue that can be distributed among families and communities to help them deal with higher energy prices and revitalize local economies, both rural and urban.

Revenue generated by the auction of allowances should fund the following general categories; 1) benefit energy consumers; 2) advance energy efficiency, renewable energy technologies, and other

greenhouse gas mitigation strategies; 3) protect natural resources; and 4) benefit affected workers and communities. More specific examples include funding to ease transitions for affected workers, provide bill-paying assistance for low-income families, boost energy efficiency in homes and buildings, support research and development for greenhouse gas mitigation in hard-to-cap sectors like farms and forests, and implement conservation strategies that reflect the growing demands on our natural resources in a changing climate.

The OEC also agrees with the Oregon Department of Agriculture's response with regard to particular uses of revenues within the agriculture sector: *The department recommends providing incentives to agricultural producers for ecosystem services such as carbon sequestration, greenhouse gas emissions reductions, and other air quality improvements. We believe the U.S. Department of Agriculture is the most appropriate agency to administer such a program for agriculture.*

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

The OEC agrees with the Oregon Department of Agriculture's response: *Yes. Grant programs to agricultural producers and rural small businesses should be expanded to help more businesses reduce their energy use and associated costs. Energy audits for agricultural producers should also be heavily subsidized (i.e., 75% cost-share) to help producers identify strategies to save energy.*

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands can play a valuable role in helping to sequester carbon and reduce greenhouse gas emissions. The public nature of this land implies that it should be treated as a valuable public resource that is conserved and used in ways that benefit all citizens. Given the sizable acreage and primary uses of public lands, the potential for reducing net greenhouse gas emissions by implementing best management practices may be high. This potential will vary by region and be determined by a variety of factors.

Fortunately, the public ownership of these lands means that mitigation options that reduce net greenhouse gas emissions can achieve high rates of implementation. The management of resources on public lands, including fossil fuels, renewable energy generation, grazing management to reduce emissions, and the use of forest thinning materials and perennial grasses as biofuels feedstock all have important contributions in reducing greenhouse gas emissions. Solar, geothermal, and wind energy offer renewable alternatives for fossil fuels and can be cited on public lands.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (EUTS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

There are three key lessons from the EUTS that we can apply to the development of a US carbon trading system.

With regard to the allocation of allowances, EUTS emitters were given free pollution permits rather than being required to pay the government for the permits' market value. Emitters than passed on the cost of those permits (which they received free) to their customers and walked away with windfall profits. This had little to do with market speculation but resulted from a poorly regulated system. Power rates are very tightly controlled in the US by public utility commissions and presumably electricity providers will not be allowed to include unsubstantiated costs in the rate structure. However without revenue from auctioning used to support complementary policies in energy efficiency and other mitigation efforts, higher energy costs were ultimately paid for by the consumer. The Regional Greenhouse Gas Initiative (RGGI) in the Northeast has already applied this lesson and is starting with an auction-based system.

The EUTS also overestimated current emissions and issued too many permits, with the predictable result of not achieving the promised emissions reductions. Newly established reporting rules will make it easier for regulators in Europe and the US to set the correct limit.

Regarding the use of offsets within the EUTS, in the case of the Clean Development Mechanism (CDM) program developed by the UNFCCC to promote the transfer of sustainable technology to developing countries, serious questions of reliability, additionality and permanence have arisen leading to doubts over whether the use of CDM credits by regulated companies within the EUTS has actually led to decreased emissions. In a worst case scenario, the use of these credits without proven additionality, can lead to an increase of pollution. As the US determines the extent to which offsets should be applied within a cap-and-trade system as a flexibility mechanism for regulated entities, it should evaluate any changes made to the CDM program before including those credits in a US system.

The pilot stage of the EUTS was just that; a pilot stage. The architects of the system expected the process would entail a learning curve, designed the program over a series of phases and are now working to make corrections to the original system. By 2013, there will be 100% auctioning of permits in the power sector, and a complete phase out of free allocation for the industrial sector by 2020.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

A voluntary offset and incentive program administered through the USDA would be the most effective for the agriculture sector. This is a proven model with existing infrastructure. Agricultural best management practice incentives, similar to conservation incentives, will be critical to ensuring broad participation from the agricultural community, and better reaching agriculture's potential for mitigation. Limiting agriculture's participation in slowing global warming to tradable credits in a market system will miss a significant volume of mitigation opportunities from the agricultural sector.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less

Offsets are generally less reliable for proven emissions reductions. Offsets refer to any pollution reductions outside of a regulated program. They are either outside the geographic jurisdiction of a program or in unregulated sectors, making it difficult to reliably quantify or enforce them. Too much reliance on offsets could delay domestic technology and infrastructure improvements and lock in long-term investments in polluting resources and behavior within regulated sectors.

We believe that offsets should play a limited role in compliance, providing short-term cost management flexibility beneath a firm, vigorously enforced cap and should be subject to performance, category and valuation standards specific to offset categories. As well, offsets should be sourced only from sectors not regulated under a cap-and-trade program.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

The OEC agrees with the Oregon Department of Agriculture's response: *Agriculture needs to be part of the offset program, perhaps as a set-aside amount to ensure funding is available for voluntary efforts that reduce carbon emissions and other such activities.*

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The OEC agrees with the Oregon Department of Agriculture's response: *As far as agricultural offsets are concerned, criteria will vary by the type of project. For soil carbon sequestration projects, criteria should include an estimation of the baseline amount of carbon in the soil at the time the project is enrolled as an offset, and an estimation of the additional carbon sequestered annually by maintaining the project. These figures will vary by region, climate, and cropping or grazing system, and research is needed to ensure they are as accurate as possible across the country. For methane digester projects, criteria should estimate the methane and possibly nitrous oxide emissions avoided through the digestion process. For livestock dietary modification projects, criteria should be developed based on research-based estimates of methane and nitrous oxide reductions that dietary changes or nutritional supplements can create. For fertilizer reduction and management projects, criteria should be based on research estimates of the nitrous oxide reductions associated with management practices. For soil carbon, livestock diet, and fertilizer management projects, much more research is needed to improve the quantification of the benefits of these projects.*

We recommend that the U.S. Department of Agriculture be responsible to administer offset and other incentives for agriculture, and be responsible to verify offset and other projects to reduce greenhouse gas emissions and sequester carbon. U.S. Department of Agriculture agencies, including the Farm Service Agency and Natural Resources Conservation Service, have extensive experience verifying and monitoring conservation practice installation and maintenance. They can establish verification criteria such as visual inspection of practices and producers' feeding and fertilizer application records.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The OEC agrees with the Oregon Department of Agriculture's response: *For agriculture, the responsibility for verifying offset projects should be delegated to the U.S. Department of Agriculture.*

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

The OEC agrees with the Oregon Department of Agriculture's response: *For agricultural offsets, we recommend a hybrid approach that accounts for field measurements but also uses some pre-calculated values to determine a project's benefits. Agricultural projects could use models to*

predict a project's benefits based on several input variables. The USDA Natural Resources Conservation Service uses several models to estimate soil erosion, manure storage options, soil carbon sequestration, and other natural resource results of conservation practices. The model to estimate soil erosion uses a combination of pre-calculated values and field measurements to determine a field's erosion level.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The OEC agrees with the Oregon Department of Agriculture's response: *Once their existing contracts expire, these projects should be treated the same as any other projects that had been completed prior to the start of the offset program.*

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

The OEC agrees with the Oregon Department of Agriculture's response: *We strongly believe that early adopters should not be punished for their actions by being rendered ineligible for carbon sequestration and greenhouse gas reduction incentives. Rather, early adopters should be rewarded for the risks they have taken in trying new practices. We understand there is a strong preference for offset projects that pass the additionality test, so it may be best to reward early adopters through some other mechanism, rather than offsets. For agricultural producers, rewards for early adopters of greenhouse gas reduction and carbon sequestration practices could be distributed through programs such as the Conservation Security Program, which provides incentives to producers who have already achieved certain levels of conservation.*

We also believe producers should be eligible for multiple incentives if a project has multiple natural resource benefits. For example, producers should be allowed to "stack" credits for a project that offers carbon sequestration as well as water quality benefits.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The OEC agrees with the Oregon Department of Agriculture's response: *An example to consider is the Conservation Reserve Program where programs have been paid cost-share to plant native grasses or other vegetation, and are paid an annual rental rate to continue the enrollment of the land in the CRP program and out of crop production. As a side benefit, the CRP land will bring about reduced erosion, increased carbon sequestration, less usage of inputs (fertilizer and fuels), and improved water quality. Should producers be eligible for an additional carbon offset payment or other public value benefits for these CRP acres? Some would view this as "double dipping" and may be critical of additional payments. However, growers always have the option of putting the land back into production when CRP contracts expire. If market prices are high enough to entice land out of CRP reserves, qualification for additional benefits to keep the land in CRP may be a prudent public investment. The same logic could apply to other programs. The payment rates may be reduced somewhat from what a new project might qualify for to create a sense of equity between projects.*

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The OEC agrees with the Oregon Department of Agriculture's response: *We believe that the guiding policies and principles of the offset program should be outlined in legislation. For example, Congress should establish policies regarding additionality of offsets and whether leakage should be accounted for. Details such as contract length, offset payment rates, and methodologies to quantify the benefits of offsets, should be developed in regulation. Agricultural offset program regulations should be delegated to the U.S. Department of Agriculture.*

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The OEC agrees with the Oregon Department of Agriculture's response: *Several barriers prevent some agricultural producers and landowners from implementing practices that sequester carbon or reduce greenhouse gas emissions. We believe that the biggest barrier is the lack of quantitative information about practices' ability to sequester carbon and reduce greenhouse gas emissions. Producers are naturally hesitant to implement a practice that may turn out to have little, if any,*

environmental benefit. Funding for research, both at the university level and at the USDA Agricultural Research Service, is critical to overcome this barrier. Additionally, cost is a significant issue. Unless there is cost-share and/or incentives and carbon payments high enough to cover installation, maintenance costs, labor, and some level of payment high enough to encourage continuation, producers will be reluctant to participate.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? *Please respond in 300 words or less.*

In general, existing incentives are insufficient to realize much of the mitigation potential that exists in the agricultural and forestry sectors through wide-spread practice adoption. Existing programs that offer incentives for the adoption and implementation of management practices that sequester carbon and reduce greenhouse gas emissions do not frequently recognize the climate change benefits of these practices.

There is still a fair amount of uncertainty related to the potential magnitude of domestic carbon sequestration capacity and the relative effectiveness of different management practices. Some uncertainty among scientists and researchers underscores the need for additional funding and technical expertise related to management practices. With a better understanding of how different management practices sequester carbon and mitigate greenhouse gas emissions across different regions over time, incentives can be more effective. Universities, industry and non-profits provide valuable research on this topic. Increasing grant funding opportunities for these organizations can help them collect, analyze, and disseminate accurate and timely information to producers.

Technical assistance, like that offered by the USDA's Natural Resource Conservation Service, is also essential to speeding up the adoption of management practices. Currently, the reach and effectiveness of many of these conservation programs is hindered by insufficient budgets and staff. These programs offer an existing avenue for promoting climate friendly management practices and could be used in synergy with programs originally designed to meet other conservation goals.

The priorities of existing conservation programs should be assessed and revised to ensure that the resources of these programs are strategically targeted to incent management changes that provide the greatest net benefit in both reducing greenhouse gas emissions and sequestering carbon, and in meeting current conservation goals such as protecting water quality and watershed function, improving soil health, and protecting wildlife and native plant communities.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The OEC agrees with the Oregon Department of Agriculture's response: *In addition to establishing an offsets program, we strongly recommend that other incentives be established to reward agricultural practices that likely have greenhouse gas mitigation benefits. This would encourage greenhouse gas reductions for practices that don't yet meet the "quantifiable" test usually applied to offsets because the research is not yet available. Examples of such practices include reduced tillage and no-till in western states; irrigation water management to avoid saturated soils and decrease nitrous oxide emissions; managing livestock diets to reduce greenhouse gas emissions and benefit air quality; precision fertilizer application techniques; and use of fertilizers with nitrification inhibitors.*

The department strongly supports continued use of, and incentives for, biofuels to reduce greenhouse gas emissions, reduce agriculture's vulnerability to energy price volatility, and reduce our dependence on imported fossil fuels. There has been continued debate over the past year about the lifecycle greenhouse gas emissions of ethanol versus gasoline, and we urge careful evaluation of this issue as a low-carbon fuel standard is developed. Indirect greenhouse gas emissions are very difficult to quantify, and we believe more research is needed in this area before indirect greenhouse gas emissions associated with ethanol can be calculated. We also believe that comparable boundaries should be drawn around the gasoline production process if indirect lifecycle emissions are included in a low-carbon fuel standard.

In 2007 OEC published "Fueling Oregon with Sustainable Biofuels" which examines the net energy composition of different biofuels and feedstocks, and identifies the most sustainable options. We hope this report will guide future incentives for the most efficient biofuels. This report can be found on OEC's website at www.oeconline.org/resources/publications/reportsandstudies/sustainablebiofuels.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Pasture/rangeland management	Moderate	Moderate	Medium	High
Riparian buffers	Good	Good	Medium	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till or reduced till	Moderate (for Oregon; depends on region)	Moderate	Medium	Medium; depends on region
Riparian buffers	Good	Good	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
OREGON STATE UNIVERSITY
EXTENSION SERVICE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Lyla Houglum

Organization(s) you represent

Oregon State University Extension Service

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director of Special Initiatives for OSU Extension, and Executive Director for the Western Extension Directors Association.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Don't create a new agency. An agency within DOE or within USDA can regulate this.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Land owners should be compensated for keeping land out of production.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Minimal assistance only for those affected directly.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

They should be managed for multiple use including carbon sequestration.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Total amount of carbon sequestered based on credible peer reviewed research, with the least economic impact.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Landowners should be held liable except in the event of a natural disaster.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

There will be a huge need for landowner education about this issue. Provide funding for USDA's Cooperative State Research Education and Extension Service (CSREES) to provide ag producer and landowner education. The Extension Service has staff in nearly every county in the nation. They currently work with ag producers and landowners and would be a trusted credible resource.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

In addition to land owner incentives, Congress will need to provide funding to get the word out and to provide the best research based information available on this topic. With funding this could be done through the Cooperative Extension System in USDA CSREES.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Another approach to significant carbon reduction is through the volunteer based "Climate Master" program which is built on current university research. This is a highly successful model for educating citizens about climate change and engaging them as volunteers in their household and community to help individuals and businesses reduce their greenhouse gas emissions. Research has shown that participants in this program reduced emissions an average of 2 tons per person per year, which is 10% of national per capita emissions. Participants in the first year of this program reached an additional 1200 additional community members through outreach efforts, increasing climate literacy throughout the community and building public support for climate-positive policy and technology. Both rural and urban communities would benefit from this program by having a cadre of locally trained volunteers who inform and educate the public about the causes and risks of climate change and practical solutions to reducing your carbon footprint. Communities also benefit from having thousands of residents working to reduce their energy use and thus their greenhouse gas emissions.

The curriculum for the "Climate Master at Home" program and the "Climate Master at Work" program have both been developed and tested by the University of Oregon's Climate Leadership Initiative. They are partnering with the Oregon State University Extension Service to implement the program at the community level. Funding is needed for mass program implementation and for development of the "Junior Climate Stewards" program for youth. The Cooperative Extension System of USDA CSREES is uniquely positioned to deliver this program through their network of county based offices. This would require additional capacity built through funding for the creation of state and county based Climate Master program coordinators. The Cooperative Extension System also has significant experience managing various volunteer programs. In addition to having a notable impact on reducing carbon emissions, this program would engage the country in collective positive action toward a common goal--reducing carbon emissions.

In my role as Executive Director for the Western Extension Directors Association, I also have direct contact with Extension Directors across the nation, and could therefore provide easy access to this program in other states and territories. For additional information about the "Climate Master" program please contact Lyla Houglum, Director of Special Initiatives, Oregon State University Extension Service, and Executive Director, Western Extension Directors Association, 125-B Ballard Extension Hall, Corvallis, OR 97331; phone: 541-737-9920; e-mail: lyla.houglum@oregonstate.edu.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
SAL PALAZZOLO
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Sal Palazzolo

Organization(s) you represent

Arizona Game & Fish Department

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am the private lands supervisor and farm bill coordinator for the Arizona Game & Fish Department. I currently supervise a program of 8 people whose primary responsibility is to work with producers to enhance ranch and farmland for wildlife and other societal benefits (watershed health, clean water, air, etc.)

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

My feelings is that a program that is designed around a hybrid of the two approaches would work best. I feel that it is necessary to maintain a mechanism in which industries/activities that produce carbon are assessed a base fee, but at the same time if they are successful in reducing their carbon outlay they can trade off those credits to recoup some value. My concern with a straight cap and trade is that there is opportunity to set a cap too high or allow for too much flexibility in which entities will work the system and avoid any fees even if they are producing significant carbon..

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes, it is necessary to cover all sectors with this program.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

It should be a combination of both so that there is opportunity to make a logical distribution of allowances depending on circumstances. Agricultural and forestry allowances would be distributed in both categories depending on a best fit. Example: carbon produced by activities that are for the enhancement of wildlife habitat or watershed/forest health should be at no cost. Industrial forest production should be auctioned. There should be a limit on the number on no-cost allowances.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

It should be placed within an existing agency. I feel the creation of a new agency would cause dissatisfaction within the public, feeling this is more "big government growth" just to tax the public.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

No, I feel that rural areas would have the most to gain. These are the areas in which projects designed for carbon sequestration would be located and they would benefit financially from these activities.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Distribution of revenue to state and federal wildlife agencies for projects on private lands designed to sequester carbon. Grants to states, cities and private companies for innovative projects designed to reduce carbon outputs. Efforts to secure properties for carbon sequestration-purchase of urban parks, conservation easements, etc.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

No

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands have a huge role in the effort to sequester carbon, but efforts should also focus on private landowners. Roles should include protection of public lands from development, enhanced management to better sequester carbon as well as using them as a classroom to demonstrate to private land owners how they can get involved.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Market forces

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Agreed upon performance standards for segments of the agriculture and forestry sectors

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No, if people are doing great work in offsetting carbon production, this should be encouraged.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Longevity of the project-a crop field that is planted to grass and left for 3 years and then plowed up (releasing all stored carbon) should not receive any offsets. Longevity needs to be at least 30-50 years.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Project based approach that actually measures results.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

This is extremely important, credits should only be given for projects that result in long-term carbon storage (greater than 30 years) plus any other societal benefit derived (clean water, air wildlife habitat, open space)

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

These should be grandfathered in.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Yes, landowners should be allowed to stack credits as long as they are truly providing that benefit.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

These activities are generally done by people with good intentions and they should be allowed to count even if there was federal or state cost-share involved. If the activity is producing the benefit of sequestering carbon they should count even if that was not the original intent.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Landowner should not be held liable in the event of a natural disaster if they attempt to recover the area. Example a landowner is paid to grow trees the trees are destroyed in an

event. If they landowner replants new trees they are Ok, if they then grade the area and sell it for houses, they need to repay any revenue received. If the project is not living up to expectation the landowner should be given an opportunity to modify the project to make it work.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Delegate to appropriate agencies. Agencies involved would be EPA, department of agriculture in cooperation with state wildlife agencies and conservation oriented NGOs.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Technical advice and initial cost-share to begin the project

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
PHEASANTS FOREVER INC.; AND
QUAIL FOREVER
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

David E Nomsen

Organization(s) you represent

Pheasants Forever Inc., and Quail Forever

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Vice-president of Governmental Affairs - a staff position

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Cap and trade appears to be the most logical and effective mechanism for reducing greenhouse gas emissions because it provides considerable certainty in the achievement of the emission reduction targets. In contrast, given the natural fluctuations in the market prices of energy, it is extremely hard to design a carbon tax system that would achieve the emissions reduction targets with any degree of certainty.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No. The agriculture and forestry sectors should not be covered by a carbon program. These sectors are comprised of numerous small sources and sinks, whose regulation would not only be disruptive to their operations, but it would be enormously burdensome to the relevant federal regulatory agencies.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Emissions allowances should be distributed initially in such a way that a portion is auctioned and a portion are distributed for free. Over time, the cap and trade program should distribute a smaller proportion of allowances for free each year and auction a larger proportion. This will allow affected industries to adjust over time, and avoid experiencing a large economic shock, while generating more revenue for critical climate adaptation activities over the long-term.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

N/A

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

A new cap and trade program should be administered by existing agencies, such as the U.S. Environmental Protection Agency, which should be responsible for developing the fundamental regulatory architecture of the program, and the Department of Agriculture, which should be responsible for overseeing the accreditation of carbon offsets from agriculture and forestry operations. Similarly, the Departments of Interior, Agriculture and Commerce are well suited to oversee natural resources adaption programs related to climate change. These agencies, and others in the federal government, have the expertise to administer a cap and trade program; there does not appear to be a need to create a new federal bureaucracy.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

N/A

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

N/A

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

N/A

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Impacts from a carbon reduction programs to agriculture communities would be significantly ameliorated through the dedication of carbon-derived revenues to federal and state natural resource adaptation programs. Agriculture communities through informed land management can contribute significantly to sustaining functioning ecosystems. Functioning ecosystems, in turn, provide ecosystem services in the form of clean air, clean water, flood attenuation, and vital natural products. Functioning ecosystems also provide the opportunity to capture carbon through sequestration, thus reducing carbon levels in the atmosphere. Finally, functioning ecosystems provide quality habitats to sustain fish and wildlife populations. The role of the agriculture communities in helping realize these benefits, and in providing services to the Nation for these benefits, is not only significant, but will employ citizens in jobs directly related to sustaining ecosystems, and in all of the support goods and services that derive from fishing, hunting and wildlife-related recreational activities, and the use of natural products such as timber.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

N/A

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Federal public lands managed for multiple sustainable use by the Forest Service and the Bureau of Land Management are extremely important in maintaining sustainable populations of fish and wildlife under the threat of global climate change because they typically occur in large contiguous tracts containing crucial areas of habitat and connective migration corridors between large, ecosystem-level protected areas. In Idaho, Montana and Wyoming alone, the BLM manages about 38.3 million acres and the Forest Service manages nearly 50 million acres that are characterized by extensive grasslands, shrub-steppe grasslands, forests, high mountains, arctic tundra and desert landscapes.

Public lands also offer buffers against the increasing human development pressures occurring on adjoining private lands. Failure to protect Western public lands will result in the pathways and wildlife connections between regional ecosystems being discontinuous at best, and could create a series of fragmented core "habitat islands" leading to extirpation of resident wildlife because of negative genetic influences (inbreeding) common among small, isolated populations of wildlife, the effects of natural disasters, and the inability of wildlife to re-colonize an area.

Scientific management, protection and enhancement of grasslands, riparian buffers and wetlands Federal public land could be critical means to increase soil carbon sequestration. Reforestation in heavily logged areas could also provide significant carbon sequestration.

Federal land management policies for sustainable multiple use currently allow for the accommodation of state-promulgated fish and wildlife habitat improvement and management goals in BLM Resource Management Plans and Forest Service Land and Resource Management Plans. Public land management plans can be increasingly directed towards amelioration of climate change by Federal laws, regulations and executive orders.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

N/A

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Along with the multiple benefits of cleaner air and improved water quality, terrestrial sequestration provides tangible benefits to the reduction of carbon in the atmosphere. Under the establishment of the EUETS carbon sinks were not originally allowed because of the scientific uncertainties surrounding their permanence and sequestration rates. Some questions revolving around scientific certainty have been answered and others are being considered today. Sound scientific practices have been employed to define sequestration rates for many different types land management practices involving forests, grasslands, and wetlands. From this science new offset protocols have been developed through the voluntary market, and others are being created which will provide great value to many levels of conservation. These protocols can be used to include terrestrial offsets in a U.S. program. The inability to use terrestrial offsets in the ETS program has proven detrimental to conservation in general, and to forests in particular. Because the ETS didn't provide sinks as part of the solution, the value in forests has only been in consumption or their destruction for other uses instead of conservation. Huge masses of land have been altered releasing large amounts of carbon into the atmosphere. Allowing the use of terrestrial sinks as part of the equation would be an incentive to investors and traders to participate in projects designed to improve the landscape and the implied benefits conservation provides.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

The most effective approach would be a combination of voluntary offsets and allowances for selected agriculture and forestry activities. Offset credits should be available for any voluntary activity that generates verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases. In addition, the cap and trade program should offer allowances – taken from within the cap – to activities like no-till farming practices that have been undertaken for many years prior to the establishment of a cap and trade system, and which legitimately sequester carbon each year, but since they have been occurring for many years may have difficulty meeting a strict definition of additionality. Conservation practices in particular those involving grassland protection or establishment, reforestration, and wetland restoration have been documented showing high rates of carbon sequestration. The Conservation Reserve Program already plays an important role in improving water and air quality, soil protection, and wildlife habitat improvements. Policies and programs focused on carbon sequestration can be enhanced by maintaining a fully subscribed CRP. Many conservation programs involve longer term habitat restoration contracts and easements thus providing important opportunities to efficiently and effectively sequester carbon.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Since we believe that any project that generates verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases should get offset credits, we do not believe that there should be an artificial cap placed on these projects. To do so would discourage projects that could contribute to a solution to climate change and could lead to higher aggregate compliance costs.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

N/A

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

N/A

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Offset projects should be judged by whether they generate verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases. Ideally, offset projects that involve plantings of trees, shrubs, grasses or other activities that create wildlife habitat should be awarded bonus allowances or money from auction revenues for the features of these projects that help wildlife adapt to climate change. Foresters and farmers should be given guidance from USDA as to the types of projects that both sequester carbon and create habitat for fish and wildlife so that they can achieve a wide range of objectives.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should seek to balance the need to establish credible and rigorous verification standards that would be applied by third-party verifiers with the goal of minimizing the costs of verification activities so that they do not substantially erode the net value of these offset projects. In fact, Congress should consider providing USDA with auction revenues and/or allowances that could be used to both 1) cost-share monitoring and verification activities and 2) provide additional financial incentives to farmers and foresters for the wildlife habitat benefits associated with certain carbon sequestration projects.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

N/A

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Congress should authorize unlimited use of offsets for projects that result in verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases. A pool of allowances from within the cap should be set aside for USDA to reward ongoing carbon sequestration practices like no-till farming that began prior to the establishment of the cap. Conservation practices in particular those involving grassland protection or establishment, reforestration, and wetland restoration have been documented showing high rates of carbon sequestration. The Conservation Reserve Program already plays an important role in improving water and air quality, soil protection, and wildlife habitat improvements. Policies and programs focused on carbon sequestration can be enhanced by maintaining a fully subscribed CRP. Many conservation programs involve longer term habitat restoration contracts and easements thus providing important opportunities to efficiently and effectively sequester carbon

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

N/A

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Credits traded on existing voluntary registries like CCX or registered with the federal government under the 1605(b) program at DOE are of varying quality. If Congress intends to consider honoring some of these credits under a mandatory cap and trade program, EPA and USDA should first evaluate them against the standards developed for projects under the mandatory program. Credits that were generated under protocols that fail to meet the standards of the mandatory program probably do not deserve credit under that new program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Producers and forest owners that have already undertaken positive activities to sequester carbon or reduce greenhouse gas emissions should be included in an offset program. Program guidelines should not serve as a disincentive that would encourage abandonment of positive activities in order to establish a lower "baseline" from which positive activities could be demonstrated. Activities undertaken to sequester carbon and reduce greenhouse gasses should be allowed in conjunction with activities beneficial to water quality and wildlife habitat. Many USDA and state level conservation programs are voluntary-incentive based in nature and by allowing "stacking" of benefits/payments where compatible with various program objectives, will support making these programs more economically viable and competitive.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Payments from other Federal or state programs should not prohibit inclusion in an offset program. Offset payments should be skewed toward proportionally higher payments per acre for practices that demonstrate both higher levels and longer term levels of sequestration and/or reduction.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

N/A

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The legislation should establish general standards for judging the quality of potential offset projects, focusing on addionality, permanence, and verifiability. However, it should leave the development of specific criteria and protocols to the relevant agencies. In the case of terrestrial carbon sequestration, USDA should take the lead. For other projects, such as geological sequestration, it probably makes sense for EPA and the Department of the Interior to share the responsibility.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Producers and landowners face a steep educational curve regarding how their individual land management decisions impact carbon sequestration and greenhouse gas emissions. Designing offset programs that fit in conjunction with multiple program objectives will require almost an unprecedented level of discussion/input from various agencies and constituent groups to ensure various programs/policies are not compromised but are continued or enhanced by inclusion of offset program objectives.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

The benefits of reducing greenhouse gas emissions and sequestering carbon are so significant that Congress should offer as many incentives as are practical to encourage participation in conservation and forestry programs. We support under the appropriate guidelines, the use of "stacked" incentives to maximize benefits; the provision of low interest loans and tax incentives to encourage landowner participation; and, of course, the provision of the technical assistance to the private landowner to manage their land to produce maximum public benefits. For example, land management plans should be designed to achieve the multiple benefits of soil stabilization, carbon sequestration, and fish and wildlife habitat. The add-on benefit is that landowners, should they so desire, could benefit even further by providing access to their property for fishing, hunting and other wildlife-related activities. State fish and wildlife agencies, with the provision of appropriate funding, have the expertise and are in an excellent position to assist landowners in the design of programs that meet these multiple benefits.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

We wish to amplify on the need for climate-derived dedicated funding for state and federal natural resource adaptation programs.

While there are many potential uses of funds derived from a climate change regulatory protocol, there are few if any of these uses that will deliver as many significant public benefits as natural resources adaptation programs. In short, functioning ecosystems provide services in the form of clean water, clean air, and other benefits that ensure the quality of human life. Ecosystems can significantly capture carbon thorough sequestration, thus being part of the solution to reducing carbon levels. In addition, functioning ecosystem provide quality habitat for sustaining fish and wildlife and provide billions of dollars in direct economic benefits.

Federal and state fish and wildlife managers know what needs to be done to sustain species. They have a successful track record for successfully managing species and habitat restoration programs. When the public understands that doing management not only benefits fish and wildlife but also enhances their quality of life, their support increases significantly. For example, analysis of the success of bond issues on the ballot in the western U.S. substantiates that land issues have slightly less than 50% acceptance, but if you add water which is so vital to the West, the acceptance level climbs to 60%. Water quantity, quality, and availability will be affected by climate change everywhere. In some places there will be too much too fast, in others, not enough, and yet in other places, permanent inundation.

Following are examples of the value of functioning ecosystems to citizens:

1. One of the primary reasons for the creation of the National Forests was to "secure favorable conditions of water flow". The U.S. Forest Service estimates that the total value of high quality fresh water flowing form NFS lands in terms of instream and offstream uses exceeds, $7.2 billon annually. NFS lands contribute nearly 20% of the Nation's water supply, and in the western U.S. more than 50% of the region's water supplies. Approximately 60 million citizens rely on water flowing from NF lands for their drinking water.

2. The Catskill watershed provides New York City with most of its clean drinking water. Replacing the natural water filtration services provided by this watershed with a treatment plant would cost nearly $8 billion dollars plus annual operating costs of $300 million.

3. Wetland systems such as coastal marshes and mangrove forests attenuate floods and buffer coastal and inland communities from storm surges. A recent study estimates that wetlands provide $23 billion annually in services

4. Wetlands store significant amounts of carbon in their soils, which can be released if wetlands are drained, become dry or if permafrost wetlands melt. Northern peatlands sequester carbon but if these wetlands are impacted by climate change, they will start releasing more carbon than they sequester.

5. For over 100 years, our Nation has benefited from the foresight of great leaders of conservation as Teddy Roosevelt, Gifford Pinchot, Aldo Leopold and Rachel Carson to name just a few. The U.S. system of conservation, implemented through the North American model of wildlife conservation, has resulted in great conservation and restoration successes, and is the envy of the world. Climate change threatens not only this investment, but also those made in our public lands, and the very future of natural resources conservation in this country.

6. Natural resources provide enormous contributions to our national, state and local economies. If outdoor recreation activities such as fishing, hunting, hiking, camping and other wildlife-dependent recreation were combined into one business, it would rank in the top 10 Fortune 500 companies.

7. One out of every 20 jobs in the country is related to fishing, hunting and wildlife – related activities, goods and services, and these activities stimulate 8% of all consumer spending. The 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation found that over 87 million Americans pursued outdoor recreation in 2006 and spend $120 billon that year on those activities. Climate change has the potential to greatly disrupt this economic engine.

8. Protecting fish, wildlife and natural resources employs our citizens and protects our economy through shovel-ready jobs. Activities such as native habitat restoration increases ecosystem resiliency, maximizes carbon sequestration and ensures fire retardation and resiliency, a challenge which will only grow with climate change. Other activities such as removing invasive species and renovating damaged watersheds provide green jobs and improve the environment.

Appropriately so, state and federal agencies are approaching fish and wildlife conservation increasingly from a landscape perspective. Initiatives like the Western Governor's Association Wildlife Corridors Initiative; State Wildlife Action Plans; Migratory Bird Joint Ventures, and National Fish and Habitat Action Plan Partnerships are examples of how state and federal natural resource agencies and the conservation community understand and apply the need to mange across landscapes. The confluence of all these efforts can significantly inform our responses to climate affected habitats and systems, as we manage for resiliency to ensure the function and vitality of these systems. But it will take a modest investment from climate derived revenue to make all of this happen. The investment is small compared to the long-term dividends it will pay for the future quality of life for our citizens, the delivery of ecosystem services, fish and wildlife, and the security of our Nation.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
FRANK PIZZARELLO
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Frank Pizzarello

Organization(s) you represent

Citizen Member of Sigma Xi

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Private Citizen; I have 40 years experience in Reseach and Development as a principle investigator in the field of microelectronics, materials, Heat flow in missile systems and various engineering problems related to missiles. BS Illinois Institute of Technology, Masters Degree in Physical Chemistry from The University of Chicago ; Graduate work in Solid State Physics and Metallurgy Illinois Institute of Technology .

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

No to the question posed. In short it is my opinion based on the analysis given that Global Warming is not occurring and the Earth is on average in Thermal Equilibrium or if you prefer Steady State Thermally. The analysis given is shared by a number of other qualified Scientist and engineers and should be taken seriously for the obvious reasons related to unnecessary expenditure on unnecessary projects. I propose in the attachment an experimental approach that can be accomplished by present day Technology that can ascertain the Thermal State of the Earth on firm Scientific grounds. I will make only afew selected comments on the following questions since they are all related to the assumption that GW is actually underway.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Reforestation is always a good idea.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Cap and trade is unnecessary; Replace coal fired electric power plants with nuclear power plants . It's a going technology and Clean!

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?

Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been

early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

The contribution to Globe Warming by Greenhouse Gases

Heat is lost by the Earth through thermal radiation. The law governing this loss I given by the Stefan Boltzman equation given as:

H=CET^4 where H is the radiant energy emitted from a body, C is a constant of proptionalty ,E is the emissivity, and T is the absolute temperature. H can be thought of as the heat emitted by the ground and atmosphere at a temperature T. The contributors to H is the absorbed solar energy, geothermal sources, human activity such as production of electricity, manufacturing, transportation such as the operation of trucks , automobiles,etc. E is the property of the atmosphere to transmit or absorb the infra red radiation produced by the heated Earth and atmosphere. For example cloud covering the earth reflects and absorbs heat radiated from the ground and atmosphere thus limiting the heat radiated into Space simultaneously the incoming Sun's energy is reflected at some fraction into space.

The emissivity because it is a quality factor of the media is fractional and falls in the range of values from 0 to 1. The factors determining the value of E are cloud covering, small particles, greenhouse gases and etc.. For example it is observed that on clear nights the temperature drops because the earth can freely radiate heat into space; thus the cooling the earth, the E in this case is close to 1. It is essential that the earth radiates heat that is inputted from the sun and other sources to maintain thermal equilibrium. Thermally the earth can acquire three conditions H less CET^4,H=CET^4, and H greater CET^4. In the first case Earth is warming , or the second case earth is at

thermal equilibrium, or third case the earth is cooling. I maintain the Earth is on average at equilibrium.

First consider the heat produced by human activity. The Stefanan-Boltzman equation states that the heat radiated alters the temperature by the ¼ power of the heat. Simply stated this requires an enormous additional heat input to change the average temperature of the Earth when the vast quantity of Solar heating is factor into the total. I think it is safe to say that before human industrial activity the earth was in a state on average of thermal equilibrium. Second consider the contribution to the emissivity by the green house gases. Briefly the radiant energy emitted follows Plancks' equation which is a distribution that shows what magnitude of heat is radiated at various wave length(ref 2 black body distribution). The distribution has a peak emission depending on the temperature of the radiating body. The case in question the earth has approximately an average temperature of 0 degrees Celisus or 273 Kelvin(Ref2) which sets the peak at a wavelength of 10.6 microns. The molecule of Carbon dioxide has two principle mode of vibration which is activated by the absorption of heat.(Ref 1). One is at a wavelength of 14.99 microns which is referred to as the bending mode and the other is at 4.26 micron which is referred to as the stretching mode. Note that neither mode corresponds to the peak at 10.6 microns. The stretching mode at 4.26 microns interacts little to none with the emitted thermal radiation of the earth at 0 degree C; thus contributing little or nothing to Global Warming. Alternately the mode at 14.99 micron does interact and absorbs some of the emitted radiation; however this absorption is limited to a narrow band of frequencies which range between approximately 14.9 and 15.1 microns. Referring to Plancks' equation

(ref2) it can be calculated that heat absorbed by the Carbon dioxide is approximately 2% of the total heat emitted by the earth at a temperature of 0 C. If by some mechanism the average temperature of the earth rise to 23C the the contribution by carbon dioide does not significantly increase. Another factor that should be considered is the mass of earth. Its large mass possesses an enormous thermal inertia and many years to centuries would be required to change the earth average temperature even a small amount at this small additional heat input. Also this estimated small heat absorption by carbon dioxide can be easily compensated by other factors which can dominate the average temperature of Earth.

These results can be checked for accuracy of magnitude but the Physics is accurate and be should consider in any determination on the questionable theory of Global warming. Identical calculation for methane was made for methane and found absorption of heat was little to none at the average earth temperature. The Congress should consider this matter carefully since a large expenditure of resources are at stake.

As a proposal I would like to offer experimental approach that could determine the thermal State of the earth. That is answer the question is the Earth at Thermal Equilibrium? I propose that a satalite be launch in a polar orbit scanning the entire surface with radiometers that measure the heat energy leaving the earth and the heat energy arriving from the sun. In addition cameras to note the atmospheric conditions and estimate the emissivity. These data will be adequate to make a solid estimate of whether the Earth is at thermal equilibrium or to what degrees it departs equilibrium.

Ref 1: Handbook Of Chemistry and Physics 86th Edition 2005 2006 pp 14-28 to14-31

Ref 2: The Encyclopedia of Physics: Robert M. Besancon

Reinhold Publishing Corporation pp 586

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
PLUM CREEK TIMBER COMPANY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Bob Jirsa

Organization(s) you represent

Plum Creek Timber Company

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, Corporate Affairs

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

Should Congress enact climate change legislation, an economy-wide cap-and-trade program with offset provisions is the preferred approach to ensure that the reductions sought are actually achieved. If there are only a certain number of emissions allocations available to covered entities in a given year, we will enjoy a greater certainty that the emissions reductions sought will be the emissions reductions actually achieved. A fee or tax cannot deliver that kind of certainty, as large emitters may choose to simply purchase rights to emit rather than take the steps necessary to reduce their emissions.

A properly designed cap and trade approach with offsets will also deliver the necessary reductions at the least cost, since the lowest cost reductions will enjoy an advantage in the carbon marketplace.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Fairness requires that an economy wide cap-and-trade program apply to all sectors, but due to the diversity and number of emission sources, we believe agriculture and forestry sectors should not be directly capped. Rather, the emissions from carbon fuels used in forestry and farming should be indirectly covered under the cap. To simplify implementation, the "point of regulation" should be imposed "upstream" on major primary fossil fuels (e.g., coal, oil, natural gas) such that the "price" of subsequent carbon emissions is passed along to fuel and fertilizer users in the form of higher fuel and fertilizer prices. A farmer or a forester would be required to ultimately pay the price of the emissions attributed to their operations, and would be thus incentivized to become more efficient.

However, fairness also dictates that a farmer or forester should be able to capture the market value of the carbon sequestration and storage that they provide to society through a well designed "offset" program. For example, according to the Environmental Protection Agency, U.S. forests and forest product flows result in a net annual sequestration of more than 745 metric tons of carbon dioxide equivalent (or more than 203 metric tons of carbon), offsetting roughly 10% of all U.S. greenhouse gas emissions each year. The overall cost of an economy wide cap-and-trade program can be reduced through a program that effectively monetizes these offsets, and makes them available to emitters and the economy at large.

Therefore, to summarize, agricultural and forest landowners should pay their fair share of carbon costs through the costs of their emissions resulting from their fuel use. But fuel use should be the sole focus, with an "upstream" point of regulation for ease of implementation. We should not attempt to assign or determine a "net carbon emission" to landowners and producers resulting from activities apart from fuel use, since the land management activities associated with farming and forestry results in a highly complex and variable patchwork of emissions sources and sinks. To achieve the lowest economy-wide costs, landowners and producers should be able to offer certified "offsets" to the carbon market to optimize their emissions "sinks" through more intensive forest management, improved farming methods, or other means.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

We find the simplicity and "economic purity" of a 100% auction compelling, but recognize that some sectors of the economy heavily invested in long-lived carbon intensive infrastructure may require time and new capital to reinvest in lower-emissions infrastructure. We also recognize that some no-cost allocations may be a political prerequisite for a bill's enactment. To the extent that no-cost allowances are available, they should be minimized, and phased out as soon as possible.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

No. For the sake of simplicity and transparency, we should have a single national program with a large emissions allocation market offering maximum liquidity. We should not confuse and balkanize the market. Of course, the significant learning that has taken place during the development of these regional programs should, as appropriate, be incorporated into the national program as the legislation and subsequent regulations are developed, and early participants should be recognized and rewarded as discussed in the answer to question #23

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

We see no reason why existing agencies cannot be tasked with the responsibility. In this case, EPA can lead on the overall program with USDA playing the lead role with respect to agriculture and forestry offset programs.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Again, we see no reason to "reinvent the wheel."

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Given the recent national experience with unregulated derivatives markets, we tend to favor choice "A" - Highly structured instruments on regulated, transparent futures markets accessible to anybody and everyone.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Yes, we should be honest about the fact that a meaningful policy response to greenhouse gas emissions will result in a consequential "price" on emissions that will be inordinately borne by rural communities that have higher per-capita energy costs; by energy intensive industries; and by lower income consumers who spend a disproportionately large share of their income on energy and food.

Impacts to agricultural producers and forest landowners will be significant if forests and farms are directly capped, if there is not a level playing-field with respect to the global marketplace, and if a viable offset program does not exist. We believe that forests should not be captured under a cap or directly regulated as a source of GHG emissions. At the same time, the development of an offset program that recognizes the role of working forests and harvested wood products in sequestering greenhouse gases could lead to the dual benefit of reducing greenhouse gases and creating economic opportunities for communities related to private forests.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenue generated under a carbon reduction program should be spent on initiatives to promote energy efficiency and renewables, carbon capture and storage research and development, and to promote sequestration in agriculture, forestry and other uncapped sources. A portion of new funding should be directed to federal forest-climate research programs to help develop improved precision in forest carbon monitoring and to create new measurement tools that will lower transaction costs and increase participation by landowners. For reasons of efficiency, it is desirable to use existing USDA programs to promote energy efficiency and renewables, carbon capture and storage research and development, and delivery of forest sequestration incentives to landowners.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

We urge Congress and the government to avoid adverse economic consequences on businesses associated with climate change controls. Providing a vigorous offset program at the outset of any cap and trade system will assist those companies with higher overall costs of reducing their own greenhouse gas emissions. For that reason, we believe that Congress must take care in enacting a cap and trade system to provide adequate time for the full operation and functioning of an offsets market at the outset of implementation of the cap and trade regime.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The opportunities for public lands to contribute to forest carbon storage is one important value among the mix of values provided by public lands—values such as watershed protection, recreation, timber supply, habitat, and wilderness. It is by no means a value to be exclusively pursued or maximized at the expense of all others, but it is nevertheless important.

There is a role for public lands in sequestering and/or reducing greenhouse gases. However, we believe that programs to promote sequestration on public lands must be distinct from offset programs involving private forests. Regulatory and management approaches between private and public lands can differ significantly, and effective and efficient greenhouse gas programs should be tailored separately to the different types of ownership.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Our preference would be to allow market forces to set carbon prices.

However, recognizing that the "perfect" can often be the enemy of the "good," a "relief valve" mechanism, provided that it was set at a sufficiently high price high to be infrequently employed, could be considered, particularly if such a cost-containment mechanism is deemed to be politically necessary for the passage of a bill.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The ETS has illustrated how free permit allowances may provide revenue to emitters that may not be passed along to consumers, even as the higher costs of compliance are passed along. The ETS lesson strengthens the argument that permits should be auctioned to the extent possible.

The United Nation's Clean Development Mechanism ("CDM") does allow credits for afforestation or reforestation, but not forest management. The CDM has been problematic and will undoubtedly undergo changes in the coming years as it has produced very few projects in the forestry area due to unnecessary restrictions in the program. The Voluntary Carbon Standard, a global consortium dedicated to improving standards and programs for offsets, has proposed potential standards for forestry management.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

We would prefer a voluntary offset program. Candidly, we have concerns that either a "bonus allowance" program or a "performance standard" approach, however well intentioned at the outset, could eventually morph into costly mandatory requirements.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Limits on the number of offsets will raise the economic cost of the legislation and endanger its ultimate adoption. If the confidence in the quality of the offsets is very high, there should be no need to limit them.

While we recognize that the need to achieve a political compromise might ultimately require the Committee to adopt a limitation on the number of offsets that could be employed in a given year, a focused effort to ensure the quality of offsets should diminish the political pressure to impose such limits. Any limits set by legislation should be periodically revisited.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Available offsets should be readily accessible to all capped sectors and that distribution should be driven by market demand. Such a market-based system will promote the most efficient and effective means of achieving the goal of the cap and trade system by distributing offsets to sectors where they are most in demand and by ensuring the most efficient pricing mechanism for offset credits

If the question is related to the production or creation of offsets, we believe analysis of co-benefits will be helpful in ranking projects. For example, a carbon sequestering forestry project might provide valuable ancillary benefits (such as water quality protection, wildlife benefits, or other environmental services) above and beyond their additional measurable GHG emissions reductions. Projects or programs that offer such co-benefits should be given top priority in the production of limited offsets. In addition, offsets deemed to be "higher quality" in view of the rigor used to quantify, measure, and monitor them could be preferentially selected.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Questions 17, 18, 19, 20, 22 and 24 are closely related, and are thus collectively answered here.

The integrity of an offsets program, for the purposes of public and market confidence, is critical. There must be well understood mechanisms in place that can be used to measure and verify offsets. It must be clear what activities have credible climate benefits. There must be an accounting of reversals that occur which mitigate the value of the offset, as well as an accounting of "leakage effects," where the offset results in a shifting of activities that result in net emissions to new areas not included in the offset project.

There should be a combination of pathways that a landholder or producer might pursue to seek an offset and verify its integrity. The first and most accurate pathway would be

through a program of field sampling. There are already several guides on how a producer or forester can undertake such a program. (As one example, see "Harnessing Farms and Forests in the Low-Carbon Economy: How to create, measure and verify greenhouse gas offsets, published by the Nicholas Institute for Environmental Policy Solutions, Duke University Press, 2007.) Of course, the methodologies of such a program should be established or "approved for use" by the USDA. A second pathway would be to use standard, generalized, internet-based models that are also "approved" by USDA. These would have greater uncertainties compared to the method of direct measurement, but this could be addressed by discounting the offsets that were quantified using this approach..

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

With respect to the forest industry, we believe there should be recognition for all project types including afforestation, reforestation, forest management, harvested wood products, and avoided deforestation. As mentioned above, there should be methods to ensure credibility of offsets, including accounting for "additionality" and "leakage."

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should establish the goals of such a verification system, leaving the modalities for achieving those goals for the relevant agencies to determine. Methodologies can be updated easier than statutory language, as warranted by advances resulting from improved science, data, or practice.

But with respect to forestry, we would urge an approach that determines an appropriate baseline and a standardized methodology for measuring net changes in carbon over time. There should be methods for determining internal and external leakage that can be monitored and accurately measured. There should be provisions for calculating the percentage probability of reversals and methodologies for mitigating and reporting potential reversals.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

As suggested above in the response to question #17, both should be available to the landowner or producer, with the understanding that the offsets from the more generalized methods lacking field sampling may be discounted.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

In the marketplace, they should be fully equivalent, on a ton-to-ton basis.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Offsets should be permanent, but there should be methods to address the loss of carbon through intentional reversals (such as forest harvest, land tillage) or unforeseen reversals (such as fire, insect infestation, or storm). In those instances, the "seller" of the offset would have to purchase allowances, sequester additional carbon, or take advantage of risk mitigation mechanisms (such as a "carbon insurance" program).

The Committee should also structure legislation to accommodate the short term "rental" of carbon sequestration, giving project developers the opportunity to repay the carbon debt should they choose to harvest or change land use. The availability of such "short term" offsets might allow emitters the flexibility to rationally transform capital stock to low or net-zero emitting technologies over time.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing projects or credits, to the extent that they are determined to be sufficiently rigorous, should receive credit. The failure to do this would penalize companies and individuals who have taken early action, and have a chilling effect on these kinds of activities while the legislation is considered and adopted, and as implementing regulations are promulgated—tasks that could literally take years.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

If the "early actors" have previously produced offsets that meet the standards to be established for offsets in the legislation and implementing regulations, then they should be fully credited. To the extent they do not, they could be discounted.

If offsets recognized by a reputable entity (such as RGGI or CCX) were not produced, but a producer or landowner undertook the activity as part of an effort to simply "do the right thing," then there should be a method through which the producer or land owner could petition the responsible government agency for some level of offset value during a reasonable "look back period" (e.g., five or ten years).

Producers and owners should be allowed to "stack" credits to the extent that their activities are in excess of existing regulatory requirements. As mentioned earlier, these ancillary environmental benefits might also be used as a method to "prioritize" offsets available for use in the event that offsets are limited in the legislation

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Activities supported by public funds should not be available to produce offsets of value for private gain, particularly if the practice was not specifically implemented for the purpose of sequestering, avoiding, or reducing greenhouse gas emissions.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

As suggested above in the answer to question #22, several forms of risk mitigation could be developed. For example, a private or government insurance program might be established; or the seller of offsets might have to contribute a small amount to a risk pool that could be the source of revenues to purchase allocations in the event of a reversal.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

We believe that legislation should be drafted in a manner that authorizes and encourages private forest companies and government agencies to pursue and implement forest offset projects without haste. It will be critical for the success of a comprehensive cap and trade program to facilitate a full and vigorous offset trading market at the outset of a cap and trade system. Thus, Congress should give clear direction to the relevant agencies--presumably the Department of Agriculture and the EPA--to implement and facilitate forest offset projects at the outset. To achieve this goal, Congress should identify a broad and full range of eligible forest offset projects in legislation and provide for both an expedited approval and verification process for such projects as well as an opportunity to pursue other types of projects not identified in the legislation. To the extent Congress delegates authority to the agencies for devising protocols and procedures, it should provide expedited and enforceable deadlines.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

There is certainly a "knowledge" barrier and a learning curve to overcome, but the prospect of valuable offsets should help incentivize landowners and producers to overcome them.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

In general, Congress should promote and protect the economic viability of working forests. Congress should also continue its support for the establishment of conservation easements and the Forest Legacy Program, and provide incentives for landowners to maintain their lands as forests, even if they choose not to generate offsets. Doing so will help produce additional carbon reductions apart from, and in addition to, the efforts embodied in the cap and trade legislation.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

As a matter of policy and with respect to America's forest resource:

We should encourage the use of wood biomass as a low carbon substitute for fossil fuels;

We should recognize the "carbon neutrality" of emissions from wood biomass fuels, consistent with the approaches of the EIA, the Intergovernmental Panel on Climate Change, EPA, WRI and other recognized approaches;

We should encourage the use of wood as a substitute for more energy-intensive building materials;

We should apply scientifically sound approaches and methodologies in "calculating" life cycle analyses and indirect land use effects. Congress should not require implementing agencies to calculate indirect land use effects if there is not a consistent, reliable, transparent and accurate method to do so. We are deeply concerned that the Energy Independence and Security Act of 2007, in the case of indirect land use change related to renewable fuels, directed EPA to calculate what cannot currently be accurately calculated. That error should ideally be corrected, or at least not repeated, in future legislation.

We should recognize and support established methods for demonstrating and verifying sustainability such as the Sustainable Forestry Initiative (SFI), the Forestry Stewardship Council (FSC), and the American Tree Farm program.

We appreciate the opportunity to respond to this questionnaire and stand ready to work with the Committee as it works to ensure that farms and forests, and producers and timber land owners, are treated fairly and afforded the opportunity to contribute to solutions addressing the threat of climate change.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation and Reforestation	Excellent	Excellent	Medium	High
Forest management	Excellent	Excellent	Medium-High	High
Harvested wood products	Excellent	Excellent	Low	High
New technologies	Excellent	Good-Excellent	Medium-High	Medium
Avoided deforestation	Excellent	Excellent	Medium	Medium

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
POET, LLC
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name
Dr. Mark Stowers

Organization(s) you represent

POET, LLC

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Vice President of Science and Technology

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

POET may support a climate change policy that is:

1. *Science based* and proven with sound and validated research where cause and effect relationships are clearly understood.
2. *Practical* in relation to cost and benefits of upsetting the social, economical, and environmental balances currently experienced.
3. *Implementable* without hindering business focus.

It is difficult to estimate the impacts to POET without having specific language to review. We approach the thought of being carbon constrained cautiously.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture should be treated in ways that support its long term ability to feed and fuel the world and also offer strategic security. Perhaps agriculture should be excluded from carbon constraints as a means to protect a renewable source of domestically produced transportation fuel?

Furthermore, the GHG emissions from agriculture are small and produced from a large number of sources. The Environmental Protection Agency's 2007 inventory of GHG's indicated the ag sector emits 7.3% of total US GHG's. However when you remove livestock's enteric fermentation and rice production you are left with only 5.3% of total US emissions. It is difficult to envision an implementable process that cost effectively reduces GHG emissions.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Farmers, cannot be put into a position of costly compliance, yet when possible, they should be granted the opportunity to reduce emissions and be rewarded for their efforts.

There are sound GHG offset credit methodologies available for farmers to use whereby they may change cropping practices or utilize renewable crop inputs that sequesters or offsets GHG emissions. Developing these low carbon input options would make a good target for research funding.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

If more than one system exists and there are drastic differences between them, a competitive advantage may be created for one business while the other business in a different GHG reduction protocol suffers due to unequal financial burdens. The risk bound in this issue can be mitigated with an analysis and effort to devise a plan of convergence.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

It is conceivable that a new entity may need to be created just to manage and forecast allowances and offset credits and related offset projects under a cap and trade environment. Perhaps this is a private entity?

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The availability of good risk management would be welcome. However, without more details of the actual policy, these are complicated issues for which to invoke constructive thoughts.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

At this point it is difficult to foresee the need for derivatives of carbon allowances or offset credits. It depends greatly on how the allowance and offset mechanisms are developed and used. If government intervention is involved to control price, it may be nearly impossible to develop a derivative product outside the actual allowance and offset markets. As well, purchasing offsets for compliance will always be weighed against making investments to reduce emissions which will limit natural market supply and demand dynamics.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Assuming the carbon reduction program for which you speak is a national program covering all sectors including agriculture and forest owners, yes, there will be an impact to those populations having special interest to agriculture community. Depending on the details of the program, it may be negative or positive.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Depending on the outcome of potential climate change legislation,there will considerable risk for those entities currently developing new and novel non-fossil energy consuming products. Their research and development efforts should be supported and nurtured for maximum effectiveness and speed of delivery. Of even greater importance is support of first generation technologies that provide the early GHG friendly products enabling feasible downstream infrastructure investments and efficient supply chains of enabling technologies.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, there should also be some form of assistance and or evaluation for the unfortunate inefficient business that cannot reduce emissions, nor afford to pay for allowance. It is

hoped the assistance would come in a form that would help the company to be self sustaining in the long term. Such assistance may come in the form of energy efficient investment rebates as well as indirect support through helping displaced employees of certain failing companies due to unavoidable emissions cost or obsolete products that are no longer relevant.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

No Comment.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

In a traditional cap and trade program,(I.E. SOx and NOx reduction programs) a price could be projected based on known inventories of GHG's, emission reduction targets and assumptions around the cost of technology deployment to reduce energy usage or reduce direct emissions. However, it may benefit to have stop gap measures in place triggered by carbon price levels above or below the macroeconomic sensitivity levels.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

A trading platform and emission targets with allowances can make meaningful differences in the reduction of CO2. However, these measurements need to be reproduceable, science based, and should not cause hardships for endusers.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

It is difficult to distinguish differences between the options given. Fundamentally, we believe there are many technically feasible options for agriculture to sequester GHG emissions but generally, any change affecting the use of carbon in agriculture will do harm to society. It is difficult to envision enactment of a program that classifies agriculture as a point source polluter.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offsets should be provided to the technologies that offer the greatest GHG reductions, with strong consideration given to improvements to current technologies and research and development. In turn this should, benefit end users, all the while increasing a business's ability to reduce GHG emissions.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The criteria should be science based and measure only direct GHG emissions.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Offset projects should deliver measurable science based GHG reductions that treats all offsets on an equal basis.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

An unbiased process of checks and balances needs to be introduced, that follows implementable and practical science based measurements that treats all offsets on an equal basis.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

This can be accomplished through a project based approach whereby the accuracy and legitimacy of the reductions can scientifically be quantified.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Very few parties in a sector will be similar enough to view their allowance / offset positions in similar light… let alone the business model differences from sector to sector.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The contract length and terms should allow the business flexibility to implement practical technologies to apply emission reductions.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Early action should be allowed for voluntary type projects that conform to the compliance standards once established.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

If the additionality of these projects is met through measureable scientific methods, there is no reason why these projects should not qualify for early action credit

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

No matter the funding source, if the project came about because of the benefits of emissions reductions, it should be rewarded for those reductions that are measureable on a sciencentific basis.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

No Position

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Given the uncertainty as explained within answer number 5 above, it may be prudent to create a new agency solely responsible to handle climate change threat mitigation.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

The adoption curve of new technology for producers is very long and the technology must be proven across various weather patterns where years of data are needed. There should be sound science and fair incentives involved dealing only with direct emission reduction by the producer.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

If included, conservation and forestry programs must be designed with sufficient flexibility to accommodate projects with increased ability to offset GHG emissions.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

POET would recommend these points as a guideline for any policy considerations as it relates to climate change:

1. RFS - Renewable Fuels Standard – An already existing mechanism that works to measure and ensure the sustainability of renewable transportation fuels.
2. LCFS – Low Carbon Fuels Standard – A new and unproven mechanism that brings market based sanctions to transportation fuels. If structured properly it may produce benefits.
3. Science Based – Theories and policy should be grounded in sound and validated research.
4. Practical – The costs and benefits of such policy should be studied carefully to ensure they are realizable.
5. Implementable – A complex policy requiring new government entities will limit effectiveness. The changes to business should be incremental and thoroughly risk mitigated.
6. All transportation fuels should be treated fairly and equally when determining sustainability.

Any form of carbon constraint will have an impact to society, the environment and economy of the US. There are many assumptions and scenarios that can be analyzed with varying positive and negative effects.

The EPA's 2007 GHG inventory released in 2009 suggests 85% to 90% of the US estimated 7 billion tons of annual GHG emissions are from emitters with 25,000 MT or more of CO2eq. It would seem reasonable the initial targets for emissions reductions will be the >25,000 MT per year entities. According to the same EPA dataset, total agriculture amounts to 7.3% of the total emissions. When you remove enteric fermentation and the rice production subsectors, the agriculture amount is reduced to 5.3% of the total US emissions.

Low Carbon Fuel Standard (LCFS) policy concepts are being evaluated by many state and international governments *as a means to reduce carbon emissions*. Although the concept of measuring the carbon intensity of a biofuel and taking that credit against fossil fuels is appealing, the concept would seem to raise many questions. Such as, how will the chemical industry be given credit for the emissions from agricultural inputs that are supposedly managed through the LCFS? Likewise, how will a biorefinery benefit from carbon reductions if their carbon is being accounted for and used by the downstream blender? It would seem much simpler to have all emissions be the responsibility of the primary producer or polluter, which includes the biorefinery or chemical producer and the petroleum blender. In the same way indirect land use change estimates are not accurate enough to make meaningful additionality claims for LCFS offsets, nor are any of the other supply chain estimates that are part of the LCFS life cycle analysis.

In addition to grain crop based offset credits, cellulosic ethanol will be commercialized thanks to corn based ethanol market penetration and research efforts. The demand for cellulosic feedstocks will also originate from stewards of the land and a properly designed system should provide farmers with additional offset credits.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No Reply				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Manure Lagoon Covers	Excellent	Excellent	Medium	Medium
Manure Building Pits	Moderate	Moderate	High	Medium

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Soil Organic Carbon Control – Tillage	Moderate	Moderate	High	Medium
Non-fossil Carbon based Crop Inputs	Good	Excellent	High	High
Fallow cover crops	Good	Moderate	Medium	High
Irrigation & Water Management	Good	Moderate	Medium	High
Nitrogen Fertilizer Use Efficiency	Excellent	Excellent	High	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
POLLINATOR PARTNERSHIP
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

R. Thomas (Tom) Van Arsdall, on behalf of Laurie Davies Adams

Organization(s) you represent

Pollinator Partnership

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director of Public Affairs

Laurie Davies Adams is Executive Director

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Congress and the Administration should take decisive action to address climate change. The overwhelming scientific consensus, which we accept, is that aggressive action to reduce carbon emissions globally is imperative if we are to have a chance to reduce the negative consequences of climate change, including on agriculture and on pollinators that provide ecosystem services. The consequences of not taking action are regarded as far greater than the challenges of taking decisive action now and managing the shorter term impacts of increased costs of fossil-based energy and products that will result from carbon taxes/fees, a cap-and-trade program, or a hybrid.

Insect and other animal pollinators play a pivotal part in the production of food that humans eat—with estimates as high as one out of every three bites—and in the reproduction of at least 80 percent of flowering plants. The commodities produced with the help of animal pollinators generate significant income for agricultural producers. For example, domestic honey bees pollinate a conservatively estimated $15 billion worth of crops in the U.S. each year, produced on more than 2 million acres. It is increasingly recognized that native bees also contribute significantly, providing "free" ag pollination services, or ecosystem services. Recent estimates credit native pollinators for providing about $3 billion annually in crop pollination services. Globally insect and animal pollination are estimated to contribute $250 billion in ag products.

A 2006 National Academy of Sciences, NRC report on the Status of Pollinators in North America identified a number of problems and threats to pollinating species. Today, possible declines in the health and population of pollinators in North America and globally pose what could be a significant threat to the integrity of biodiversity, to global food webs, and to human health. Honey bees, native bees and other ag pollinators are at risk due to Colony Collapse Disorder (CCD) in honey bees and a number of other issues threatening the health of all pollinators.

Insect and other animal pollinators are adversely affected by global warming and significant changes in climate. It is anticipated that many species will have trouble adapting, and researchers have identified problems already. Indeed pollinating species are arguably key indicator species about the effects of climate change.

While the U.S. should continue to seek action on a global scale, the U.S. can best lead by example. The market-based approach is to significantly increase the price of carbon emissions in our economy as a market signal to encourage conservation, use of alternative

fuels, and development and adoption of new technologies that capture or reduce carbon emission.

A carbon tax is clearly the most efficient approach of the two options cited. However, a cap-and-trade program would appear to be the more politically feasible. Whatever approach is taken, the price signal has to be strong enough to prompt changes in behavior by energy users and consumers that result in reduced carbon emissions. The commensurate challenge is to mitigate adverse economic impacts in ways that don't negate the motivation to reduce carbon emissions directly or indirectly.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

In a comprehensive approach to dealing with carbon emissions and climate change, the Pollinator Partnership believes that to the extent the agriculture and forestry sectors, or portions thereof, are demonstrated to be major direct sources of carbon emissions, such emissions should be covered under a carbon reduction program, at least to the extent practicable management or technology options are identified. Commensurate mitigation measures should be pursued to help agriculture and forestry sectors that would be impacted adjust to the associated economic impacts. Certainly both sectors will be economically impacted through their direct use of fossil fuels and electricity, as well as carbon-intensive products.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

This is beyond the scope of our ability to comment meaningfully. However, the Agriculture Committee can play a leadership role in ensuring that carbon credits and other attributes that agriculture and forestry can provide to help reduce carbon or mitigate climate change, such as habitat that sustains and enhances pollination and other important ecosystem services are properly valued.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

This is beyond the scope of our ability to comment meaningfully.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

This is beyond the scope of our ability to comment meaningfully.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

This is beyond the scope of our ability to comment meaningfully.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

This is beyond the scope of our ability to comment meaningfully.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

There will certainly be negative impacts of a carbon reduction program on regions and populations whose welfare is of special interest to the agriculture community. An ecosystem service provided by pollinators for agriculture is one such example beyond the human side of the equation. Appropriate mitigation measures should be pursued that do not undo the intended market signals to encourage carbon reduction. There will arguably be far greater negative impacts to deal with if carbon reduction action is not pursued due to the consequences of unchecked climate change.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Some funds could be directed to conservation programs that help farmers and ranchers establish habitat for native and managed pollinators and conservation corridors for native pollinators.

These mitigation measures will benefit agriculture by helping pollinators that provide pollination services to agriculture and are key species in healthy wildlife ecosystems adjust to climate change. Healthy pollinators are important to specialty crop and other producers who need bee pollination services, as well as the processors and those who consume their products.

Healthy pollinators also provide essential ecosystem services to wildlife ecosystems that also provide economic value to farmers and ranchers through hunting, fishing and ecotourism.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

To the extent that their economic viability is jeopardized, transitional assistance may be warranted. However, such assistance should be provided in a way that does not interfere with or cancel out the motivation by businesses to reduce carbon emissions.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Properly managed public lands can play a significant role in sequestering carbon and reducing emissions, in part just by leaving them in their natural state and not developing such lands.

The Pollinator Partnership cautions against using public lands to plant and grow monoculture crops for bioenergy. Such actions could destroy critical habitats and migration corridors for pollinators and other wildlife, at a time when the nation is trying to deal with major losses in habitat. Should any bioenergy options be considered on public lands, the goal should be as much or more habitat for pollinators and other wildlife on public lands.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

This is beyond the scope of our ability to comment meaningfully. Rather than placing a limit, or cap on carbon prices, perhaps the focus should be instead on mitigating the

adverse impacts. Whatever route is chosen, the end result should provide a strong motivation to reduce carbon emissions.

One noteworthy area where values cannot be established through market forces is for pollination and other ecosystem services--not so much a limit, but a reasonable value so that farmers and ranchers could be eligible for appropriate incentives for providing pollinator habitat.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

This is beyond the scope of our ability to comment meaningfully. We should certainly endeavor to learn as much as possible from the experiences of others in crafting an approach that promote behavior that reduces carbon emissions and provides for mitigation of adverse impacts as determined necessary without detracting from the goal of reducing emissions.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Carbon offsets should be real, measurable and verifiable. Additional offsets beyond an established baseline should definitely be credited. However, it is unlikely that one size will fit all. Some parts of agriculture and forestry probably should be treated like other business and industry. Other portions, particularly concerning large scale land uses and animal agriculture, may warrant different approaches. Agriculture and forestry should be awarded appropriately for carbon sequestration offsets, at least for net additions beyond some established baseline.

Similarly, ag pollination and other ecosystem services that are sustained through agricultural habitat conservation efforts should be valued on an equivalent basis. Even though they are not directly carbon reductions, this represents an important area for mitigating the adverse consequences of climate change. The Agriculture Committee can help by identifying the importance of this area and the value of mitigation measures, so that farmers and ranchers are eligible for incentives equivalent to carbon offsets.

The Pollinator Partnership can be a resource in this area.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

There would not appear to be a need for limits so long as they are true contributions to a net reduction in carbon emissions as part of a cap-and-trade system, or mitigation, such as in preserving and sustaining pollinators and other ecosystem services. A well designed system will still result in into pricing signals downstream that will change behavior that results in reducing carbon emissions, including new offsets.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

It would seem that offsets and the value of mitigation such as in the area of pollinator ecosystem services should be marketable just like credits.

However, there are several possible uses of offsets in the process as we understand it. One is to help segments of the population that are deemed to be at serious economic risk due to carbon reduction efforts, or through programs designed to aid such groups, by providing credits that can be resold in the trading market. Another is to provide a source of revenue to NGOs that are working to reduce carbon emissions or help deal with the adverse effects of climate change. Both of these categories would appear to be legitimate policy priorities.

The Pollinator Partnership would plan to utilize any such assistance received to help create pollinator habitat and conservation corridors that will become even more important in coping with climate change.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

While we are unable to meaningfully comment on what the criteria should be, there should be true accountability and transparency in the process.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The offsets should be additions beyond an established baseline. The larger issue that needs to be resolved is how to credit, if at all, offsets due to past behavior, such as conservation tillage that was implemented prior to a cap-and-trade program. For example, should habitat for pollinators and other wildlife and that carbon sequestration benefits generated be

counted as an offset if it was established prior to a cap-and-trade program? If not, is there an incentive to undo such practices?

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

We are unable to comment meaningfully on how to design a verification system. It should be based on sound science, be transparent, timely and cost-effective. For pollination and other ecosystem services, the same principles should apply.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Ideally the preferred approach would be measuring field results given the wide diversity of agriculture, by region, soil types, etc. However, this may not be feasible or could be cost-prohibitive. One option to consider is to establish defensible but conservative default values, with a workable process that would allow a producer to demonstrate higher offset values.

This could also be applied to actions to protect and sustain ecosystem services.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Allowances presumably should be based on the emissions of each sector or entity and some expectation about how well the recipient is able to pass the costs downstream to the 'user' and/or reduce emissions, switch to renewable energy or other mitigation measures.

A generator of offsets that is also a carbon source should have the ability to use directly to offset its own emissions or offer same for sale in the credits market.

Similar flexibility might appropriately be applicable for pollination and other ecosystem services in mitigating the adverse effects of climate change.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The overriding factor should be the length or permanence of offsets. The challenge will be what to do if natural forces or changes in agricultural cropping or other practices undo the carbon benefits of the practices that generate the offsets, or ecosystem services.

One option is to conduct the accounting at a more aggregate level, with offsets generated and sold for aggregation and resale. A mechanism based on contract law would likely evolve between the aggregator and individual offset generators. There would like be a provision that would require an individual producer to reimburse the price paid. The aggregator could also make things balance in terms of its obligations out by purchasing other offsets, whether from individual producers or the open market.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

So long as such projects and credits can meet the criteria selected, they should be counted.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Landowners should be allowed to 'stack' credits. The combined value is much more likely to convert conservation practices into a valuable commodity that producers will be motivated to produce. That is a benefit for climate change, pollinator and wildlife habitat, water quality and other desired outcomes.

The 'additionality' issue is more challenging. We do not want to create reverse incentives where early adopters are either penalized or incentivized to undo good conservation practices. One possible option to consider is to provide at least a partial credit for good, existing ag conservation practices that provide carbon sequestration benefits, but have already been 'paid for.' Then provide a premium for new practices that will likely involve new costs and additional management.

The same principles should apply actions to protect and sustain to ecosystem services as mitigation for climate change.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

To the extent they provide carbon sequestration benefits or protect and sustain ecosystem services, they should be counted as legitimate offsets, with no penalty, again taking into account an appropriate resolution to the 'additionality' issue. Conservation assistance has long been provided to agricultural producers to help them implement good conservation practices that are for the 'public good.' Farmers typically have to spend some of their own

funds to obtain cost-share assistance and generally have to invest their time to manage the practices. Often some economic production and income are foregone on the land where the practice is implemented. Bottom line, farmers spend more than they receive in conservation assistance. They should not be penalized for receiving conservation assistance. They should be rewarded for the carbon sequestration and climate change mitigation efforts, such as working to protect and sustain pollinator ecosystem services.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

These issues for individual cases could likely be better worked out in the marketplace through contracts between producers and aggregators than the federal government trying to micromanage the process. The risks of failure would likely be factored into the process and pricing. However, in principle, offsets shouldn't be counted unless they are real. The overall system should generate true carbon sequestration and/or offsets.

However, if a producer undertakes the effort and investment in a practice that turns out not to provide offsets through no fault of the producer, the system should arguably not be punitive to the producer.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Authority should be delegated for the implementing details, but legislation should articulate the desired outcomes, principles, general guidelines and expected accountability. This also applies to pollination and other ecosystem services mitigation.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

As for any change in practices and the established way of doing business, there are a number of barriers and obstacles that are no stranger to the Committee.

Examples include-sound science and technical assistance, integrating changes into an existing operation that are economic and practical in terms of management time, upfront costs and ongoing management costs, how new practices fit into the current operation, risks, how the economics compare with alternative approaches and uses of scarce operating capital, the willingness of lenders to allow changed practices, the ability to capture value from the offsets and the fear of voluntary adoption of such practices turning into more government regulation.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Conservation cost-share, technical assistance and incentive programs are chronically underfunded compared with the tremendous identified demand and expectations placed on farmers and ranchers for conservation. Congress could start by fully funding USDA's conservation programs. One "low hanging fruit" that can provide carbon sequestration and other conservation benefits, including habitat for pollinators and other wildlife, is to encourage more habitat through these programs. Again, the Committee can help ensure that such efforts are properly valued and rewarded.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The Pollinator Partnership again urges the Committee to investigate options to mitigate the adverse impacts of climate change, such as efforts to protect pollinators and sustain the ecosystem services they provide, and to properly value such ecosystem services.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE SUBMITTED BY PROFESSIONAL LANDCARE NETWORK (PLANET)

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name: Thomas J. Delaney

Organization(s) you represent: Professional Landcare Network (PLANET)

Address: [Redacted]

Email: [Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director of Government Affairs

LAWN (TURF) / LANDSCAPES IN CARBON REDUCTION PROGRAMS

APRIL 2009

1. CARBON TAX/FEES, CAP-AND-TRADE, OR HYBRID APPROACH BY CONGRESS?

- We believe in a cap-and-trade system. Turf/landscapes can play a significant role in sequestering carbon and provide benefit to participants.
- The EPA acknowledges that greenspaces are a significant carbon sink that is growing in contribution annually. A separate modeling effort also suggests that maintained turf and landscapes sequester carbon (rate, total contribution) equal to that of agricultural grasslands, with a possibility that maintained turf and landscapes may provide equal contributions to that of agriculture, more broadly.
- Any cap-and-trade legislation must fully recognize the wide range of carbon mitigation or sequestration benefits that maintained turf and landscapes can provide.
- Any cap-and-trade legislation must provide an initial list of project types that are eligible offsets.
- Maintained turf and landscapes must not be capped, but considered viable offset instruments.

2. SHOULD AGRICULTURE AND FORESTRY SECTORS BE COVERED IN A CARBON REDUCTION PROGRAM?

- Maintained turf and landscapes sector must not be subject to an emissions cap.
- Legislation must be structured to make economic sense for maintained turf and landscapes.
- Any sector providing credible offsets should be considered for inclusion if it is based on sound science.

5. REGULATING AGENCY?

- We believe USDA should define the rules and administrate the offsets program.

The EPA should work with the USDA and other stakeholder organizations to ensure for effective caps and offsets.

9. TRANSITIONAL ASSISTANCE FOR AFFECTED BUSINESSES?

- As carbon reduction systems develop, it seems appropriate to reduce participation costs as revenue markets develop. While there may not be direct transitional assistance, perhaps this concept is applied through cost-revenue balance so that initial outcomes are cost-benefit neutral.
- Transitional assistance may be needed to incentivize early participation – this may be especially true for turf and landscape systems as aggregation is developed, credit protocols are established in this domain, and as a market develops so that it can provide some form of legitimate revenue.
- Such incentives will be key to creating mechanisms to reduce overall carbon (e.g. without engaged participants, a cap-and-trade system becomes less impactful).

20. SHOULD CONGRESS IMPLEMENT A STANDARDS-BASED APPROACH WITH PRE-CALCULATED VALUE OR A PROJECT-BASED APPROACH THAT MEASURE FIELD RESULTS FOR ESTABLISHING ELIGIBLE OFFSETS?

- There should be a practice-based field approach used to measure results and in establishing offsets. In turf and landscapes there are significant diversity in application, management practices so results in carbon reduction can differ.

24. ADDITIONALITY, STACKABILITY? EARLY ACTOR BENEFITS?

- Legislation should not prohibit stackable credits or participation in multiple programs when multiple benefits are achieved for the same practice.
- Early actors should be incented and rewarded. Initiative outside should be encouraged as a means of establishing a program, creating lessons applicable to program development, and serving the fundamental purpose of reducing carbon.

27. STANDARDS AND PROTOCOLS

- USDA should define the rules and administrate the offsets program.
- Standards and protocols need to be practice-based. Such can also relate to sustainability BMP efforts that are being discussed as a mechanism in the turf and landscape industry.

29. DO EXISTING PROGRAMS HAVE SUFFICIENT MECHANISMS AND INCENTIVES TO ENCOURAGE ADOPTION AND IMPLEMENTATION?

- Legislation should recognize early actors.
- The primary expected incentive for adoption will be the potential value of offsets to be derived from turf and landscapes. Mechanisms should be developed to support the installation and maintenance of turf and landscapes. The benefits of turf and landscapes include:
    - Turfgrass traps and removes dust and dirt from the air.
    - 2,500 square feet of turf absorbs carbon dioxide from the atmosphere, and releases enough oxygen for a family of four to breathe.
    - On a hot summer day, lawns will be 30 degrees cooler than asphalt and 14 degrees cooler than bare soil.
    - The front lawns of eight houses have the cooling effect of about 70 tons of air conditioning. The cooling effect of turf reduces the amount of fuel that must be burned to provide the electricity which powers the air conditioning.

Tom Delaney
Director of Government Affairs
Professional Landcare Network
[Redacted]

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
PUBLIC LANDS COUNCIL
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Jeff Eisenberg

Organization(s) you represent

Public Lands Council

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director

Question #11: **What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?**

Public lands need to play an important role in helping to sequester carbon and/or reduce greenhouse gas emissions because of the enormous number of acres involved and the potential to put these acres to positive use. The Forest Service manages more than 190 million acres, and the Bureau of Land Management more than 260 million acres. Existing soil surveys show that significant portions of this land have the potential to sequester carbon through range management practices. The potential for trees to sequester carbon is critical. Additionally, greenhouse gas emissions can be reduced by more careful management of fire risks on forest and rangeland.

Much of this land is not under any specific management scheme pursuant to a permit. The land managing agencies may need additional authority to manage these lands for GHG benefits. To the extent carbon credits are produced from this management that qualify for trading on the open market, the land management agencies should be encouraged to produce the credits, and funds generated from this activity should be used to further encourage the work. They could be divided between the land managing agency to be used for further management and an outside entity that performed the work or management, if such an entity is involved.

The most likely agents to manage the public lands for GHG benefits are those already using the land under a permit, such as ranchers. Permittees may wish to manage land they manage under permit for GHG benefits, or manage non-permit land. Involving permittees in managing lands under permit for GHG benefits should be a purely voluntary endeavor. In either case, GHG benefits generated will have to meet the test of "additionality", among other tests, in order to be traded on the open market as carbon credits. Funds generated from such credit should be divided between the permittee and the land managing agency to provide an adequate incentive for performing the work. The payment would be for the service provided to society of producing marketable carbon credits.

RESPONSE TO QUESTIONNAIRE SUBMITTED BY RANGE FUELS, INC.

Range Fuels, Inc.

[Redacted]

Range Fuels

Bill Schafer
Senior Vice President,
Business Development

April 10, 2009

The Honorable Collin C. Peterson
United States House of Representatives
Committee on Agriculture
Room 1301, Longworth House Office Building
Washington, DC 20515-6001

Regarding: Range Fuels Responses to Climate Change Legislation Questionnaire

Dear Mr. Chairman:

Here are responses to the inquiries contained in the questionnaire dated March 11, 2009 concerning topics related to climate change options and greenhouse gas emissions reductions that may be considered by Congress. We value the opportunity to participate in a debate of such importance and appreciate the continued support we have received in our drive to commercialize cellulosic ethanol.

Sincerely,

William B. Schafer, III
Senior Vice President of Government Affairs
Range Fuels, Inc.

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name: *Bill Schafer, Senior Vice President of Government Affairs, IT and Business Development, Officer and Assistant Secretary*

Organization(s) you represent: *Range Fuels, Inc*

Address: [Redacted]

Email: [Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Range Fuels strongly supports the enactment of a program to monetize the benefits of greenhouse gas (GHG) emissions reduction. Whether this mechanism is embodied in a carbon tax or cap-and-trade program the goal should be effectiveness, simplicity, clarity, and transparency.

A carbon tax has advantages with respect to simplicity, but as a tax it carries a stigma with negative political ramifications. A carbon tax has also been opposed by many in the environmental community because it depends on pricing to change behaviors in ways that achieve GHG reduction goals rather than mandating the goals through fixed caps. Setting taxes at a level that doesn't overshoot or fall short of goals would be challenging.

In the past, cap-and-trade systems, for example the SO_2 system established under the CAA, have depended heavily on establishing equitable baselines for existing emitters and issuing allowances and primarily focused downstream. Most analyses of cap-and-trade programs currently under consideration find this structure to be unadministrable and focus on an upstream program focused on energy suppliers, rather than consumers, as more feasible. The major objection to this approach has been a forecasted increase in the cost of gasoline and home heating fuels, but it would also increase electricity costs through increases in coal and natural gas costs.

The sectoral hybrid approach, considered by many to be most politically feasible, would involve product efficiency standards and large source cap-and-trade. This approach would present administrative challenges and be prone to increased complexity, creating opportunities for "gaming" the system in ways unintended by its designers. Moreover, focusing most stringently on large source cap-and-trade places responsibility for the firmest reductions in GHG emissions on industries and power generators that primarily consume domestically produced energy. It ignores, to some extent, and does not address the continued economic outflow to foreign energy suppliers, replacing higher gasoline and heating fuel costs with increased costs for manufactured goods and electricity. This could encourage continued declines in domestic manufacturing jobs. There are also program design challenges in finding ways to make efficiency standards tradable and deciding which products are subject to efficiency standards.

Our recommendation is for an upstream cap-and-trade program focused on primary fossil energy sources. This conclusion is based upon the greater simplicity and expected greater administrative efficiency of this program. The complexity necessary to implement a hybrid program would make transparency very difficult. A possible answer to the political liabilities inherent in an upstream cap-and-trade system could lie in tax reductions (for example, income taxes) reducing the increased taxes paid under the program in the form of passed through allowance costs with fossil fuel pricing combined with support for low carbon fuels, renewable energy technology development, and energy efficiency. Fossil fuels used as product feedstocks or in other non-energy uses should be given a tax rebate for embedded allowance costs.

2) Should the agriculture and forestry sectors be covered under a carbon reduction programs? Why or why not?

The agriculture and forestry sectors should be covered under carbon reduction programs, given their key roles in both generating and sequestering GHG emissions. If the intent of the program is to incentivize reductions in GHG emissions and increases in sequestration, any program that excluded the agriculture and forestry sectors would lack a major stakeholder and potential contributor.

Low carbon forestry and agricultural practices, such as no-till, should be promoted in the same way more efficient, lower carbon oil refinery technologies and practices are promoted. An upstream cap-and-trade program builds in incentives for reduced fuel and fertilizer usage as upstream suppliers are required to purchase allowances that ultimately reflect carbon intensity in product prices. Biomass sales should not require matching carbon allowances as would be necessary with fossil fuels, due to the short-term carbon fixation and carbon release cycle. Likewise, methane generated by livestock or organic decomposition of wastes should not require offset by allowances. Waiving the requirement for matching allowances from biomass may also eliminate the need for auditing of existing carbon baselines and award of allowances for increases in sequestration. Farmers would be rewarded through the competitive advantage their anaerobic digester's methane or crops sold for conversion to biofuels hold over fossil fuels that must pay for offsetting allowances. Allowance auction prices would rise to a level sufficiently high to discourage consumption of fossil fuels and development of substitute renewable alternatives that meet GHG reduction goals.

The programs will likely entail potentially significant disruption to existing industries across the economy, including forestry and agriculture, but this seems unavoidable when legacy business practices are determined to be inadequate in

addressing climate change challenges and new, preferred practices are promoted.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Emission allowances should ultimately be distributed purely through auctions. Easing of transition costs through limited distribution or "grandfathering" to industries subject to the greatest disruption during early years of the program should be minimized. A strict schedule for phasing out the limited free distribution during early years is critical to promote effective allowance market development. Priority should be given not only to those industries likely to experience the greatest impacts, but also those industries that can best support establishment of the program. For example, electric utilities might be given priority because their emissions are well documented and applicable experience gathered under CAA implementation could increase the probability of successful implementation.

Forestry and agriculture would only require allowances as an offset against increases in fuel, fertilizer, and equipment prices resulting from the increased cost of fossil fuels. Grandfathered allowances effectively constitute a subsidy easing transitions to less carbon intensive business and personal lifestyle practices.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

A federal, upstream cap-and-trade program should take precedence over any state or regional programs and establish minimal compliance standards. Any state or region wishing to impose more stringent standards on itself could be free to do so, but no state or regional program could be allowed to compromise the goals of the national program or enjoy a significant advantage over those in compliance with federal mandates. This could operate in a fashion similar to that employed for EPA air quality standards with states required to submit a State Implementation Plan (SIP) or be held to federal standards until a SIP has been submitted and approved.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created?

An upstream cap-and-trade system could be administered by the IRS with support from the DOE. Assuming significant offsets in personal and corporate income taxes by allowance auction proceeds, this coordination could be more easily effected.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator?

The CFTC should continue its role as the regulator of this derivative carbon market. There is no apparent reason why existing derivatives or futures market practices should differ for an upstream cap-and-trade system.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?

Yes. Given the simplicity and transparency of an upstream cap-and-trade system and the established history of the energy-based commodity markets, minimal government intervention through the use of established practices will reduce risks of unintended consequences resulting from the invention of a new market structure.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

It is difficult to predict whether the net impact to the aforementioned groups might

be positive or negative, but the fundamentally regressive nature of increased energy costs impacts suggest some built-in inequities geographically and socio-economically. Certainly negative impacts would be experienced through price increases in fossil fuels and products produced with energy derived from fossil fuels, but increased demand for short-cycle, renewable sources of energy could conceivably more than offset those negative impacts, providing a net positive impact. Increased demand for solar, wind, and biomass-derived sources of energy will likewise increase demand for the enabling requirements to deploy these technologies, chief of which is land. Whereas residents of cities have always enjoyed a tremendous economic advantage over rural residents resulting from their advantaged access to a wider array of economic goods and services, renewable energy can provide a broad based rural economic renaissance, similar to that seen in Midwestern states that have benefited from corn ethanol development, but on a much larger and broader scale. Rural populations will always be vulnerable to rises in energy costs due to their higher per-capita energy consumption resulting from their low population densities, but renewable energy development could more than offset the penalties and re-invigorate rural economies.

If, with time, rural economies were found to be bearing a disproportionately large, negative impact under the program, tax rebates for embedded carbon allowance costs could be offered for fuel and power, similar to those rebates recommended for industries expected to suffer most during the transition from current practices to those desired under low-carbon future goals.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Revenues generated should be used to develop renewable energy technologies, promote energy efficiency, support low carbon fuels, and reduce personal and corporate income taxes with special attention toward mitigating regressive impacts.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to carbon reduction program receive transitional assistance?

No. If transitional assistance is provided, it should be only for a very limited time while they make a transition to lower carbon practices. There is a high probability for unintended consequences in favoring once industry over another during this period that must be guarded against. Again, if transitional assistance is limited to a tax rebate for a part of the embedded allowance cost paid in increased energy pricing, this could be easily documented and relief provided

through the existing IRS code.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Public lands can play an important role in helping to sequester carbon and/or reduce greenhouse gas emissions through management practices that optimize or increase sequestration and reduce emissions, as well as providing wildlife habitat and biome diversity as a counter balance to increased use of private lands for the production of renewable energy. Since public lands are not distributed evenly across states, environmental priorities must be recognized and supported in states with a lower proportion of public lands to maintain renewable energy's environmental credibility. Also, states with a large amount of public lands, like many of the western states, should strive to balance environmental and developmental priorities by providing access to public lands in ways that demonstrate good stewardship and proper management of these resources.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established?

Carbon prices should be determined primarily by market forces, but not exclusively. Just as stock markets have "circuit breakers" that close down trading on a particular stock if speculative activity has created excessive volatility, the government should retain the right to limit the range within which allowances trade. This could amount to a "collar" under which the government agrees to set some minimum amount and a maximum amount an allowance can be sold for at auction. These minimum and maximum amounts can be set upon issuance of the allowance by the government and tied to vintage. The amounts could be reset each year based upon the government's projections of progress toward program goals.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

All programs currently in place are downstream, rather than upstream, cap-and-trade systems and suffer from the complexity inherent in that approach. Setting of baselines, auditing additive improvements over baselines, and coping with a huge number of downstream emitters forces waiver of the program for other than major emitters and/or a major employment program for assessors, auditors, and

compliance enforcement personnel. Given that these employment programs provide jobs in areas that provide minimal contribution to GDP, such a complex, difficult to administer program is unlikely to minimize negative economic impacts, as has been projected by studies such as that performed by Charles River Associates (CRA) for the Center for Clean Air Policy (CCAP).

We are not aware of any existing international carbon reduction programs currently exist for agriculture and forestry.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset of allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

The offset program should be entirely voluntary and the government need not be involved in auditing offsets or awarding bonus allowances or setting performance standards.

The offset of allowance program for an upstream cap-and-trade program should depend upon certifications by purchasers of allowances of offsets claimed as tax credits against their allowance purchases, auditable by the IRS. The government should not be involved in establishing baselines or auditing offsets other than through the IRS. Agricultural or forestry activities that provide offsets should be sponsored by allowance purchasers intending to claim the offsets against their allowance purchase requirements. These claimants would be responsible for documenting a baseline and the results of programs increasing carbon sequestration in an auditable form, on an annual basis for submission to the IRS. Programs, including agricultural or forestry activities, as well as power plant carbon capture and sequestration and other similar programs, would be financed by bilateral contracts between the claimants and the implementers of the program, if they are not directly implemented by the claimants. This produces a competitive bidding situation wherein claimants can select the lowest cost sequestration options providing a savings over projected auction prices for allowances. As a totally market-based system, offset providers are motivated to find very low cost carbon reduction options, claimants (purchasers of offsets) are

motivated to sponsor entrepreneurial carbon reduction programs that save them money over auction priced allowances, and taxpayers are not saddled with a complex, difficult to administer, and potentially enormous public-sector program. Taxpayer liabilities would be largely limited to incremental IRS staff needed to provide audit services on a selective basis, as is done with income taxes and some USDA, DOE and EPA technical support.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Under the upstream cap-and-trade structure described, the government does not issue offsets. Offsets are documented and claimed by allowance purchasers against their required allowance purchases, subject to verification under IRS audits.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Under the upstream cap-and-trade structure described, the government does not issue offsets. Offsets are documented and claimed by allowance purchasers against their required allowance purchases, subject to verification under IRS audits.

17) What should be the criteria for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Under the upstream cap-and-trade structure described, offsets are documented and claimed by allowance purchasers against their required allowance purchases, subject to verification under IRS audits. Guidelines for quantification would be issued by the IRS. Verification would be performed on a spot basis, selectively, by the IRS with fraud or misrepresentation subject to penalties similar to those applied to fraudulent tax practices. Monitoring would take place similarly as claimants would be required to document annual carbon offsets. In the event of a natural disaster or change in usage that reduced or increased claimable carbon offsets, a claimant would simply adjust that year's tax return.

18) What should be the criteria for assessing offset projects?

These criteria should be established jointly by the USDA, DOE and EPA.

19) How should Congress design a system for verifying offset projects?

Verification would be performed on a spot basis, selectively, by the IRS with fraud or misrepresentation subject to penalties similar to those applied to fraudulent tax practices. Verification criteria should be established jointly by the USDA, DOE and EPA

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Congress should establish pre-calculated values for expected results for particular approaches or programs to serve as benchmarks for flagging excessive claims for offsets falling outside of expected values. Being flagged in this way would help prioritize projects for auditing in combination with random audits.

21) What should be the relationship between offsets and allowances?

Offsets should directly decrease the number of allowances a purchase would otherwise be required to make in units of annual tons of CO_2 equivalence. Equivalency is important to allow offsets for reductions in non-CO_2 greenhouse gases, such as methane, although expected atmospheric residence time would have to be considered, as well as actual greenhouse warming effects.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Under the program we've recommended, offsets are confirmed on an annual basis. Contract length, flexibility, and other terms and conditions are established solely between the purchaser and the provider of allowance offsets.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g. the Chicago Climate Exchange or an emission registry)?

Existing offset projects are typically documented and qualified in order to be considered under existing systems and, therefore, could be claimed under the new system on an annual basis, subject to the same requirements as new projects. Some allowance for undocumented criteria could be provided in a more flexible framework than that used for new projects for grandfathered projects provided

primary program objectives are demonstrably achieved.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Existing offset projects are typically documented and qualified in order to be considered under existing systems and, therefore, could be claimed under the new system on an annual basis, subject to the same requirements as new projects. Some allowance for undocumented criteria could be provided in a more flexible framework than that used for new projects for grandfathered projects provided primary program objectives are demonstrably achieved. Early-actors should be rewarded through their ability to sell offsets to allowance purchasers provided sufficient documentation is available.

Activities should be able to provide value towards other environmental market activities such as water quality or wildlife habitat creation without consideration for their value in carbon sequestration or greenhouse gas emissions reductions. The individual values should be considered and evaluated individually without regard for other values.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?

Activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) should not be disqualified from acceptance as offsets. Other assistance can be assumed to be provided in order to promote development of technologies or practices desirable from a policy perspective, but needing support in order to attain non-governmental financial support. This is an issue separate and distinct from environmental value. Offset value can provide additional incentives for private investment, accelerating these desirable activities.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

If a claimed offset is found following audit to not sequester carbon or reduce greenhouse gas emissions, the claimant of the offset (purchaser of allowances) would be liable for providing allowances of the proper vintage sufficient to cover the disallowance. This is the best way to provide accountability, given that the claimant is required to document and submit offsets, and encourages proper due diligence on their part. In the event of a natural disaster or another event uncontrolled by the producer and/or landowner providing offsets, resolution rests with the provider and purchaser of the offsets as agreed in their bilateral agreement. In any case, the obligation of the offset purchaser to provide a combination of allowances and offsets necessary to meet program requirements must be met. Criteria for late provision of these allowances and offsets under special circumstances could be established in a manner similar to that used in resolving unmet tax obligations, i.e. filing for extensions or substitution without penalty, unless the unmet obligation is due to the negligence of the allowance purchaser.

27) Should the protocols and procedures for the offset programs be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

The protocols and procedures for the offset programs should not be detailed in legislation. Authority should be delegated to the appropriate government agency to develop regulations with support from the USDA, DOE, and EPA.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Agricultural producers and landowners will need a clear, understandable set of guidelines under which offsets will be considered acceptable in order to accept the risks of implementing practices or projects expected to generate offsets for sale to allowance purchasers.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If

not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions under the program described as the primary motivation will be provided by demand for offsets from allowance purchasers. Congress should offer additional financial incentives and technical assistance similar to USDA's BCAP and 9003 programs and DOE's programs supporting development, implementation, and deployment of new renewable energy technologies to speed up adoption/implementation. Support should be in the form of grants, loan guarantees, and technical support.

Part III: Carbon Reduction Program Additional Thoughts

Additional comments on subjects which may not have been covered by the questionnaire, such as low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Our aim in recommending the upstream cap-and-trade system for sequestration and reduction of greenhouse gas emissions has been to recommend a program structure that can meet the nation's environmental goals in the climate change arena with a minimum of complexity, a defensible process, and a maximum of market flexibility in the very near term. Minimizing implementation and transition time will be critical to structuring a successful program. By limiting allowance purchasers to primary providers of energy, administration is greatly simplified. Energy products sold in their first, marketable form such as crude oil, pipeline quality natural gas, and coal would require the seller to purchase a commensurate number of CO_2 equivalent GHG allowances. Tying allowances to sales provides a good check on compliance by the IRS, who is recommended as the lead compliance agency. Likewise, offsets would be documented, auditable activities or programs that reduce an energy seller's allowance purchase obligation, submitted on an annual basis. Energy derived from renewable sources such as wind, solar, and biomass would carry no obligation for seller purchased allowances. This does away with debates over low-carbon fuel standards, life-cycle analysis, etc. in the simplest case as any renewable product's consumption of fossil energy in its production would be penalized by the cost of allowances embedded in that fossil energy's cost. For example, if corn-derived ethanol requires a lot more fossil energy input in its production than cellulosic ethanol, it will be naturally more costly to produce as a result of that energy consumption. Land use change issues are then debated outside of climate change, as they should be, while allowance auction sales limits guarantee both the nation's meeting of environmental goals and a market-driven system of incentives for development of non-fossil alternatives.

Please list specific types of ***forestry practices*** that should be available as efforts, then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	**Cost** for agricultural producers and private forestland owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)
Planting high yield tree species. Increased carbon sequestration through increased tree size	Excellent	Excellent	Medium	High
High carbon fraction farming and harvesting practices, i.e. planting, thinning, and harvesting to optimize Carbon fraction per acre planted.	Excellent	Excellent	Low	High
Low fossil fuel use farming and harvesting practices, i.e. reduced fertilizer usage, reduced fuel consumption during farming operations, reduced transportation fuel usage to minimize.	Good	Good	Medium to High	Medium

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pasturland practices)*** that should be available as efforts, then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	**Cost** for agricultural producers and private forestland owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)
Manure management	Good	Moderate	Medium	High
Low carbon livestock feed	Good	Excellent	Medium*	Medium
Further energy efficiency improvements	Good	Good	Medium	High
High carbon fraction pasturland practices	Excellent	Excellent	Medium	High

Please list specific types of ***crop production practices*** that should be available as efforts, then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	**Cost** for agricultural producers and private forestland owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)
Planting high yield herbaceous species like switchgrass and miscanthus. Increased carbon sequestration through increased biomass	Excellent	Good	Medium	Medium
High carbon fraction farming and harvesting practices, i.e. planting, thinning, and harvesting to optimize Carbon fraction per acre planted.	Excellent	Moderate	Medium	Medium
Low fossil fuel use farming and harvesting practices, i.e. reduced fertilizer usage, reduced fuel consumption during farming operations, reduced transportation fuel usage to minimize.	Good	Excellent	Medium	Medium

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
RENEWABLE FUELS
ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Bob Dinneen

Organization(s) you represent

Renewable Fuels Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President & CEO

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No, the agriculture and forestry sectors should not be covered under the "cap" in a carbon cap and trade system. Because of the broadly distributed and variable nature of agricultural and forestry producers, regulating these industries under the "cap" would prove to be extremely costly and burdensome. With a properly structured carbon reduction program, the agriculture and forestry sectors can provide real and verifiable carbon offsets; but only if these sectors are not subject to an emissions cap.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Congress should consider an approach that establishes allowances at no cost, but is flexible enough to allow later adjustments to allowances should they be necessary. In order to do this, a baseline of emissions by sector or by entity must be established. Existing reporting programs could be beneficial in gathering the information necessary for formulation of the baseline.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes, a federal cap and trade program should be harmonized with regional or state programs. This is necessary to ensure the efficiency and uniformity of carbon markets and to avoid segmentation of the carbon marketplace.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Yes. If an agricultural offsets program is established (which was authorized in the 2008 Farm Bill), the U.S. Department of Agriculture (USDA) should have oversight over implementation and administration of that program. The U.S. Environmental Protection Agency (EPA) should regulate an overall economy-wide cap-and-trade program, in consultation and cooperation with the U.S. Departments of Energy, Agriculture, Transportation, Interior, and other pertinent federal agencies. While the reshuffling and/or addition of resources would be necessary, the EPA has the established infrastructure and institutional knowledge to administer such a program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Yes, the CFTC should continue its role as the regulator of a derivative or futures market for carbon. This is because the carbon derivatives market would likely operate in a manner similar to established commodities markets. CFTC has the institutional experience and infrastructure to oversee such a market.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes, carbon derivatives should be allowed to trade through a variety of market structures, similar to derivatives markets for energy commodities. This allows the broadest market participation possible. Further, multiple market structures allow both minor and major market actors to participate. ,

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Depending on how the program is structured, it is possible that enactment of a carbon reduction program could have negative economic impacts on segments of the agriculture and forestry sector. If agriculture and forestry are included under an emissions cap, the economic impacts could be severe. However, if agriculture and forestry are outside of the cap, such negative effects would likely be avoided. Further, if agriculture and forestry are considered as a source of offsets, a carbon reduction program could actually have significant positive economic impacts on the sector.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Revenue generated under a carbon reduction program should be used to provide grants, loans, and other assistance for technology improvements to mitigate carbon emissions. Such revenues should also be used to establish public research and development programs to develop carbon mitigation best practices, technologies and strategies.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, business sectors that are subject to higher overall costs as a result of a carbon reduction program should qualify to receive limited transition assistance. A transition assistance program should provide financial assistance that is distributed on a phased basis and contingent upon demonstrated progress.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands should play a large role in carbon sequestration. Public lands, such as state and national forests, act as significant carbon sinks and should be managed in a way that takes advantage of the carbon storage benefits of these natural resources. However, policies should be structured in a way that does not adversely impact responsible commercial uses of public lands for agriculture, forestry, energy and other uses.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Yes, carbon prices should be determined by market forces, just as prices for other commodities are determined by market-based economic factors. This allows the market to determine true valuations for carbon and encourages broader market participation.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary offsets program would be most effective for agriculture and forestry and would encourage the widest participation possible.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No, the only limitation on offsets issued annually should be the physical capacity of the U.S. agriculture and forestry sector to sequester carbon.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

If offsets are limited, available offsets should be distributed on the basis of demonstrated sequestration capacity, i.e. entities with the greatest ability and capacity to sequester carbon should be the first to receive offsets.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The 2008 Farm Bill authorizes USDA to develop protocols and guidelines for measuring offsets and accounting for the legitimacy of offsets. It is our recommendation that USDA act quickly to implement these protocols. It should be further noted that USDA has already

conducted a significant amount of work in developing such tools and this research should serve as the foundation for a verification system.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should consider utilizing the USDA's Natural Resources Conservation Service (NRCS) or Farm Service Agency (FSA) to verify offset projects. This is because of the distributed nature of the NRCS and FSA, the agencies' established rapport with the forestry and agriculture sector, and their experience in administering conservation and environmental programs.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should consider an approach that combines both a project-based program and a standards-based baseline to determine eligible offsets. While a pre-calculated "default" framework would be appropriate for most projects, producers should also have the ability to prove their project is more effective than the pre-calculated baseline. This is because there is a wide variety of projects that may qualify for offsets and a pre-calculated baseline would be unlikely to capture that variety.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Congress should establish a system to validate voluntary offset projects or credits. Once validation is achieved, offset projects would be eligible to begin receiving credits under the federal program. Congress should also consider a means for issuing full or partial credit for past offsets and/or carbon reduction efforts that are validated.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

See answer to 23. Congress should consider a program to validate carbon reduction efforts undertaken by early actors and full or partial credit should be issued for those reductions.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

If the intent of the Federal or state program was to encourage or induce carbon reduction practices, the producer should receive credit for those efforts.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A producer should be required to return revenue if an offset project does not reduce carbon emissions as intended. Producers who experience uncontrollable events that may hinder a project's carbon reduction ability should not be required to return revenues, provided that they are able to positively demonstrate the previous carbon reduction ability of the project.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Authority should be delegated to the appropriate government agency, which in the case of agriculture and forestry, would be USDA. It seems appropriate that NRCS would be the agency under USDA that would be best suited to devise protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The renewable fuels industry supports performance-based public policies that advance the production and use of low carbon fuels. Low carbon fuels offer tremendous opportunity for the current and future biofuels industry. Policies should also be harmonized to avoid market confusion and inequities. However, low carbon fuels policies must be based on sound science and defensible life-cycle analysis modeling. Life-cycle analysis is the foundation for any low carbon fuels policy and must be done accurately. In order to avoid inadvertently picking technology winners and losers, it is essential that all regulated fuels are evaluated using the same well-defined and consistent analytical boundaries. If regulations are to be truly technology neutral, low carbon fuels should be allowed to compete fairly against the high-carbon fuels they replace. Each fuel must compete on its own merits. For example, if indirect land use change effects are included in life-cycle analysis, they must be considered for all fuels. Today, the estimation of indirect land use change is highly speculative and uncertain. There are no consensus methods or tools to determine indirect effects. The ongoing discourse and research surrounding land use change issues clearly suggests we are not currently able to estimate indirect land use changes with any degree of certainty. The soundness and effectiveness of a policy framework based on concepts that are not fully understood would most certainly be called into question by stakeholders and consumers alike.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
PROFESSOR DANIEL RICHTER
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Professor Daniel Richter

Organization(s) you represent

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Yes I do. As a environmental scientist for 25 years, there is substantial risk to the environment in not addressing greenhouse gas emissions. The relative ease with which the cap and trade program has reduced sulfur dioxide pollution demonstrates that management of air pollutants can be effective and financially attractive. Although greenhouse gas emissions will be more complicated than sulfur dioxide, the principles of cap and trade remain the same. Most notably, we can promote renewable energy-sector development with a cap and trade on greenhouse emissions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes. Many greenhouse gases are emitted or stored in agricultural and forest ecosystems.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

These programs are diverse and not yet ready to go prime time! I have written about the wide variety of programs.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

How was the sulfur dioxide cap and trade program administered and regulated?

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

There will be winners and losers. If cap and trade programs can benefit distributed, community-based renewable energy production, many different kinds of communities can benefit. Renewable energy sources are highly diverse and nearly all regions and in fact rural and urban environments have a variety of renewable energy sources that can displace fossil fuels.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Cap and trade allows the market to create positive impacts. These impacts should be managed to the benefit of society.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Demonstration areas. Sources of renewable energy (for example, wildfire fuel treatments are sources of renewable energy. The carbon cycle does not discriminate between public and private lands.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

While ETS provides lessons, so do our own pollutant reduction program that have used cap and trade with great effect. Forecasts of how well sulfur dioxide could be reduced by cap and trade have all been too pessimistic. Costs have been far less than expected as well.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Perhaps to initiate such a program yes. But in the long-run, the goal is incredibly challenging, to reduce greenhouse gases, so if the program proves effective, there should be few limits.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The is a greenhouse gas emissions program. Offsets should be prioritized primarily based on effectiveness to reduced fossil carbon.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The technical dimension to the offsets program is very important. Uncertainty needs to be minimized, the criteria need to be generally simple and robust, and understandable by the educated public.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Their ability to reduce greenhouse gases.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?

Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Many of these are social and thus there is an important educational dimension to the success or failure to this program.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Attached is a short paper about the kind of carbon-neutral renewable energy system that could be incentivized by cap and trade program.

Respondent did not complete the chart at the end of the questionnaire.

POLICYFORUM

RESOURCE POLICY

Wood Energy in America

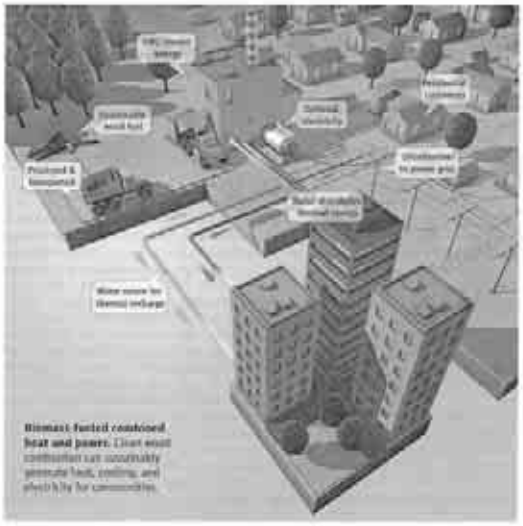
Daniel deB. Richter Jr.,[1*] Dylan H. Jenkins,[2] John T. Karakash,[3] Josiah Knight,[4] Lew R. McCreery,[5] Kasimir P. Nemestothy[6]

Sustainable wood energy offers recurring economic, social, and environmental benefits.

Consumers increasingly want energy that is renewable, clean, and affordable from solar, wind, hydroelectric, geothermal, and biomass sources (*1*). One of the simplest and oldest of renewables is direct combustion of wood (*2, 3*). Wood supplied more energy than fossil fuels in the United States until the 1880s, when coal superseded wood. This transition occurred earlier in Europe, but today, thanks to regrowth of forests and improved technologies, advanced wood combustion (AWC) is being deployed throughout Europe, supplying heat, cooling, and power and reducing greenhouse-gas emissions (*4*). We argue that the European experience can guide successful implementation of community-based AWC in many regions of the United States.

Long important in Scandinavia, over the last two decades, AWC has grown in its contribution to energy use of France, Germany, and central and eastern Europe. More than 1000 AWC facilities have been constructed in Austria (*5*), nearly all local community–based; more than 100 combine heat and electric power. Most serve towns, portions of cities, industrial complexes, and public institutions, and nearly all are 0.1 to 10 MW (thermal). The facilities emit remarkably low quantities of air pollutants, including greenhouse gases, and have thermal efficiencies across the system approaching 90% (*6*). A high efficiency wood-burning plant was recently opened in Simmering-Vienna with total thermal capacity of 65 MW, delivering electricity to the grid and heat to the city's district energy system (*7*).

Whether a plant of this size can be sustainably fueled is an open question. However, Europe's thousands of new community-scale AWC facilities clearly demonstrate that, with public backing, AWC can be rapidly implemented, can reduce oil imports and greenhouse gas emissions, and can increase energy security with wood drawn from local woodlands. AWC can also help communities transition to other renewable energies.



Biomass fueled combined heat and power. Clean wood combustion can sustainably generate heat, cooling, and electricity for communities.

Rakow (*8*) argues that the major barriers to AWC implementation are social, and not economic or technical, and that communities with successful AWC systems adopt systematic approaches to wood-energy policy and practice (*2, 3–8*). To gain public support, decision-makers must increase community appreciation for AWC system reliability, air pollution control, and sustainable forest management, as well as for how wood-energy dollars add jobs and profits to local businesses. Community leadership and public education are critical.

Considerations in Adopting Wood Energy

American forests were recently estimated to be able to sustainably produce 368 million dry tons of wood for energy generation per year (*9, 10*). This yield is likely an underestimate, as it does not account for wood used for pulp and paper or low-value solid products, or wood from fast-growing trees on nonagricultural lands (*11*). Wood energy can add financial value to the forest and can support restoration and improvement in the form of timber-stand thinnings. The sustainability of local woodsheds will need careful monitoring to assure that forest energy impacts enhance rather than deplete ecosystems (*12, 13*). Forest bioenergy planning can include detailed inventories and management plans, education for foresters, loggers, and the public, forest-management certification, and thoughtful consideration with in US renewable fuel and energy standards.

Carbon policies need to distinguish renewable sources of energy (such as wood) that recirculate CO_2 already in the biosphere's carbon cycle from fossil fuels that add more CO_2 to that in active circulation.

European technical advances in wood-

[1]University Program in Ecology, Duke's Center for Sustainable Forests, Nicholas School of the Environment, Duke University, Durham, NC 27708, USA. [2]The Nature Conservancy, Pennsylvania Forest Conservation Program, Williamsport, PA 17701, USA. [3]Resource Professionals Group, Durham, NC 27707, USA. [4]Pratt School of Engineering, Duke University, Durham, NC 27708, USA. [5]State and Private Forestry, USDA Forest Service, Morgantown, WV 26505, USA. [6]Austrian Chamber of Agriculture, Department of Forestry and Energy, A-1014 Vienna, Austria.

*Author for correspondence. E-mail: drichter@duke.edu

energy development include automated control over combustion and air pollution. For example, Austria's 1000 AWC facilities emit minimal amounts of sulfur oxides, mercury and other metals, particulates, and carbon monoxide (*5–7, 14*). Minimal pollutant emissions result from high-quality combustion control (*15, 16*) and from wood's low pollutant content compared with that of fossil fuels. Critical activities in facilitate adoption of reliable wood-based technologies include training of plumbers, steamfitters, and electricians (*8*) and adaptation of international standards for equipment specifications, operation, pollution-control, and safety.

Wood-energy economics are generally more favorable in North America than in Europe (*14*), and it is ironic that AWC was initiated in Europe (*17, 18*). If American communities have sustainable wood supplies and AWC gains public support, acute financial pressure will spur wood-energy development because fossil fuel costs currently exceed those of wood by four times per unit of energy produced (*17, 19, 20*).

Thermally efficient conversion of wood fuel for heating and cooling of buildings or combined heat and power is a most important factor in sustainable siting and operation of AWC systems. Wood is too valuable to use inefficiently.

AWC Initiatives

To rekindle wood energy in America, we propose three energy initiatives that can have wide-ranging, positive effects in many kinds of communities over the coming few years. First, in localities with sustainable wood supplies, make AWC an energy system of choice for new construction and renovation. This initiative seems well targeted to the Northeast U.S.A., given the region's abundant forest land and dependence on heating oil (*21*), but AWC has great potential in the Southeast and West. Relatively rapid transitions to AWC heating and cooling are technically and economically achievable in schools, municipal offices, hospitals, prisons, and industrial facilities. A number of states promote renewable AWC in "Fuels for Schools" programs. In Vermont, for example, 20% of public school students now attend wood-heated schools (*22*).

Second, make better use of wood collected by municipalities from diseased and storm-damaged trees and from construction sites. The volume of safely combustible urban wood in the United States is nearly 30 million tons per year (*8, 10*). Often, local communities dispose of this wood at some expense and miss energy benefits that could come from its clean combustion. Examples of successful operations include one in Minnesota where a refurbished coal-plant has been generating heat, cooling, and power by cleanly burning about 250,000 tons per year of urban wood waste and organic materials in downtown St. Paul (*23*).

Third, expand district-energy systems (in which heat is supplied from a central source to several sites) tied to AWC. District-energy AWC is used throughout Europe. It can be observed in downtown St. Paul, Minnesota; in hospitals and public buildings in Akron, Ohio; and on campuses such as Colgate University and the universities of Idaho and South Carolina. District energy is attractive for high-density communities and eco-friendly urban and suburban housing.

Wood Energy in Perspective

We use two wood-resource calculations to demonstrate the potential value of community-based AWC in America. The first considers a hypothetical program in a medium-sized U.S. state that develops community-based AWC on a scale similar to that in Austria (*24*). Consider if North Carolina were to install one community-scale AWC project per year (at 75 hp, 0.75 MW thermal) in each of 100 counties over a 5-year construction period. Although incremental investment might be $100 million in each of the five construction years, fuel savings could grow to at least $100 to $180 million per year (*24*), and emissions of fossil CO_2 could decrease by 0.75 to 1.0 million ton per year (*24*). The fuel wood required by such a program would amount to about 20% of a recent estimate of the state's energy-wood supply (*25*).

The second calculation considers wood energy in relation to total U.S. energy consumption (*26*), currently about 100 quads [100×10^{15} British thermal units (BTUs) or 28.2×10^{9} kwh] per year. Today, wood supplies the nation with about 2 quads per year (*26*), and the national sustainable energy-wood supply (*9, 10*) potentially contains about 5 quads per year (*26*). Although these rates may seem small, they are enormous quantities of energy, comparable to power production from hydroelectric sources (~3 quads per year) or the content of energy in the nation's Strategic Petroleum Reserve (~4 quads) (*27*). Considering the controversial plans to expand the nation's nuclear capacity, currently at 10 quads per year (*26*), how can we not ask about the future potential of wood energy, especially if the nation were to target its development not only to forests and woodlands, but on low-productivity agricultural lands and in cities?

References and Notes

1. Renewable Energy Policy Network for the 21st Century (REN21), *Renewables 2005 Global Status Report* (Worldwatch Institute, Washington, DC, 2005).
2. J. Fritsche, *A Fresh Survey: the Role of Wood in the Development of Distributed Electric Power* (New York, 1993).
3. K. A. Redman, J. J. Kaufman, *Energy and the Environment* (Wiley, New York, 2003).
4. AWC is defined as an automated, high-efficiency wood-fired energy system with state-of-the-art pollution controls.
5. P. Van Breuk, *Renewable Energy—The Way Forward for the 21st Century* (Austrian Energy Agency, Vienna, 2006); www.energy-agency.at/fileadmin/dateien_overview/Vortrag_Van_Breuk.pdf.
6. P. Vopham, J. Rathbauer, *Austrian Biomass Boiler Manufacturers* (Austrian Biomass Competence Centre, BioNetwork, Austria, 2003).
7. P. Mollekopf, M. Rachbauer, *Energy Policy* (*Wien*) (*2003*).
8. T. Baker, in *Bioenergy—Realizing the Potential* (Elsevier, Amsterdam, 2005), pp. 47–57.
9. R. D. Perlack et al., *Biomass as a Feedstock for a Bioenergy and Bioproducts Industry* (U.S. Department of Agriculture/Department of Energy (USDA/DOE), ORNL TM-2005/66, Oak Ridge, TN, 2005).
10. This estimate of the sustainable energy-wood supply does not include wood from forests protected for social, environmental, or economic reasons.
11. G. A. Mitchell, T. B. Mill, *Life, Wise, Plant* (*Wiley*, *NY*, 1995).
12. R. A. Perry, R. Gore, T. C. Hall, *Forest Ecosystems* (Johns Hopkins Univ. Press, Baltimore, MD, 2005).
13. National Committee on Science for Sustainable Forestry, *Conserving Biodiversity Through Sustainable Forestry* (National Council on Science and the Environment, Washington, DC, 2001).
14. D. Hagauer, R. Lang, K. P. Nemeskolty, *Instruction Manual for the Calculation of Wood Fuel Thermalers* (Austrian Energy Agency, Vienna, 2006); www.klimaaktiv.at/cms/upload/12140.
15. M. Wargelin et al., *Bioenergy in Austria: Potential, Strategies, Success Stories* (BLT Wieselburg, Wieselburg, Austria, 2002); www.blt.bmlf.gv.at/bioenergie/BLT01_Bioenergy_in_Austria_e.pdf.
16. M. Kappel, T. Nussbaumer, *Pellets—Ein Brennstoff mit Zukunft* (Bundesamt für Energie, Bern, Switzerland, 2003); www.newsroom.ch/Publikationen/100Pellets.pdf.
17. United Bach Fuels (Consortia of Europe, Athens, 2006); www.bach-wolf.com/bach/.
18. H. Tanig, *Wood for Energy Production* (Center for Biomass Technology, Danish Energy Agency, Copenhagen, Denmark, 2002).
19. Energy Information Administration (EIA), *Heating Oil and Propane Update* (DOE, Washington, DC, 2006).
20. EIA, *Natural Gas Prices* (DOE, Washington, DC, 2006).
21. Energy Efficiency and Renewable Energy Office, *Buildings Energy Data Book* (DOE, Washington, DC, 2005).
22. Vermont Fuels for Schools, Montpelier, VT, 2006; www.biomass.state.vt.us/news/publications/vermont-fuels-for-schools-off.html.
23. S. R. Velill, *Biomass* (*BBI*, no. 1429, February 2006); www.biomassmagazine.com/article.jsp?article_id=1429&s=-a246.
24. Supplemental calculations are available in supporting material on Science Online.
25. LaCapra Associates Team, *Analysis of a Renewable Portfolio Standard for North Carolina* (LaCapra Associates, Boston, MA, 2005); www.lacapra.com/Attachments/NC_RPS_Report.pdf.
26. EIA, *Annual Energy Review 2005* (DOE, Washington, DC, 2006).
27. About 700 million barrels of crude oil are being stored in the United States' Strategic Petroleum Reserve (SPR), according to EIA.
28. D. G. Victor, S. Schmer-Mueller, *Energy* (*J. Int. Sci.*, *2006*).

Supplementary Online Material

www.sciencemag.org/cgi/content/full/323/5919/1432/DC1

10.1126/science.1166439

Published by AAAS

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
RIVERVIEW, LLP
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Noah Clark

Organization(s) you represent

Riverview, LLP.

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am employed by Riverview, LLP

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A cap-and-trade program is the most effective way to reduce emissions of greenhouse gases while minimizing the cost to taxpayers and the economy.

A cap-and-trade program that does not include the agricultural and forestry sector under the cap, but allows for agricultural and forestry based offsets to be traded as credits for compliance, would provide the best method of combating climate change.

A cap-and-trade program allows for those entities that are regulated, or under the cap, to reduce carbon emissions by using the most cost effective abatement methods. In this way, each entity has a choice to either reduce or incent others to reduce, instead of paying a flat fee or using reduction methods if they are cost-prohibitive.

Carbon taxes/fees do not create a market for capped sectors to meet reduction requirements in the most cost efficient manner possible. Levying a carbon tax also takes away incentive for effective, innovative, and cost efficient offsets to be researched and implemented; limiting possible methods to reduce GHG levels. A tax would also prohibit the agricultural and forestry sectors from participating in a multi-billion dollar offset trading market.

A hybrid of a cap-and-trade program and carbon tax is also unnecessary. Reduction levels can be met by reducing the total number of carbon permits allowed in the marketplace over time. Also, including the sale of offsets in a cap-and-trade program acts as a natural price regulator, because the option of purchasing offsets significantly lowers the cost of complying for capped sectors.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture and forestry should not be considered a capped sector in a cap-and-trade system. There are too many, small sources of GHG emissions within the agricultural and forestry sectors to be tracked efficiently and effectively. The most effective way to address these types of emissions is through voluntary incentive programs.

Both sectors should be allowed to produce and sell offsets to capped entities, which will lower the overall cost of compliance to the economy. This will also allow farmers and foresters the opportunity to contribute to and take part in new economic growth.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The program should rely heavily on the USDA to administer the development and implementation of agricultural and forestry offset policies. USDA has scientific expertise, administrative structures and established working relationships with US agricultural and forestry sectors that position this agency to be an effective regulator.

The USDA has been recognized in legislation such as the Farm Bill to have this type of authority; for example, through the new USDA Ecosystem Services division.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The CFTC should continue as the regulator of the derivative carbon market, but should pair with the USDA to ensure that the development of offset policies is designed to maximize credits for carbon sequestration

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Revenue should be provided to sectors and sources that can provide the lowest cost, shortest term reductions of greenhouse gas emissions and/or that have the highest potential to be negatively affected by any increases in energy and input costs. This can be done through the provision of revenue to the agricultural and forestry sectors from the sale of allowances and offsets.

Early actors should be rewarded with revenue generated from the sale of allowances.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, businesses that are affected by overall costs should receive transitional assistance.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

There should be no limits on carbon prices. Setting an artificially low price on the value of carbon would limit the opportunities for implementation and innovation in methods to reduce carbon.

The inclusion of offsets acts as an economic safety valve by reducing the overall cost of compliance.

Any artificial limit on carbon prices becomes a limit, and in many cases, eliminates the opportunities for farm income from an offsets market.

Allowing offset prices to be set by the market encourages innovation and motivates potential offset providers to more readily identify and implement a broad array of offset tools.

8

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

USDA should work cooperatively with the land grant universities who have conducted much research on this topic, particularly the Consortium for Agricultural Soils Mitigation of Greenhouse Gases (CASMGS) and USDA-ARS research stations in Pullman, WA and Pendleton, OR. Other important research has been conducted by programs established by the US Farm Bill and the Duke Standard.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Congress should delegate this authority to agencies such as USDA who have the technical expertise and funding to design a system for verifying offset projects

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Standards need to be appropriate for a wide array of innovative offset types. For some offset types, such as methane offsets from digesters, project-specific data may be useful for determining the value of eligible offsets.

For other offset types, such as soil carbon sequestration, Congress should establish a standards-based approach using values derived from the results of field studies and measurements from differing soil types and weather regions. In these circumstances, project-specific data could be used to improve the accuracy of the standards.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should be awarded with revenue from the sale of allowances.

Yes, any activity with additional environmental benefit, which also reduces greenhouse gas emissions and has the ability to generate economic returns, should be allowed to be stacked by farmers and foresters. Any environmental market activity that meets the requirements of that system should be credited.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ROCKY MOUNTAIN AGRIBUSINESS ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Mike Urbanowicz

Organization(s) you represent

Rocky Mountain Agribusiness Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

As an organization we are against any carbon tax program. If global warming is truly as issue unless it is addresses globally local efforts will not be successful. Why should another governmental bureaucracy be created at the same time that China and other developing countries do nothing. If Congress thinks that credit default swaps are hard to understand and wrought with fraud develop carbon credits.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

NO. Tell me why a cattle producer who is spreading manure now should receive a tax credit for spreading that same manure in the future. That producer is doing nothing different than they currently practice and yet will be given governmental check or tax credit.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Please establish another agency. Our economy needs many additional high paid and never laid off government employess.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

No. Issue as many as possible. Check into the history of PIK certificates from the 1980's. The USDA printed them and a huge market developed in reselling them. Is the goal to control carbon or develop a profitable trading platform.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Please pay for these programs with state funding. Unlike the federal government states must balance their budgets and will not print money to pay for this proposed program.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Absolutely held liable.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Legislation.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
RODALE INSTITUTE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Greg Bowman

Organization(s) you represent

Rodale Institute

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Communications manager

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Placing economic value on carbon-transferring activity is the essential step toward factoring in this real ecological cost as a factor in economic sustainability. This change will inject a critical, common-sense consideration of net carbon impact into every material resource decision. Phasing in realistic, science-based accounting for carbon-transferring activity on a firm timetable will provide the necessary degree of certainty and incentive for industrial re-design, business planning and agricultural systems.

Certainty of carbon costs, as well as transparent, rational, justifiable links between carbon impact and associated cost are key aspects. Important for agriculture is carbon accounting that includes negative and positive externalities: action currently not captured in economic transactions, with "negative" meaning carbon losses or emissions, "positive" meaning carbon sequestration or withdrawal from the atmosphere.

A differential carbon tax/credit system would combine fees for net carbon emissions with credits for net carbon sequestration.

Many specific practices can improve the performance of agriculture in terms of its total contribution to greenhouse gas emissions. However, the committee will provide its best leadership by providing an ecological framework that acknowledges the absolute necessity of returning US agriculture to function productively within the nation's natural carrying capacity. This requires a systems approach, which looks at the impacts of each practice in the immediate and long-term context of related practices, within the agricultural productive unit where they are applied.

Whichever carbon reduction mechanism is used to address the U.S. role in this global problem, the role of organic agriculture in both sequestering carbon, and reducing the use of energy-intensive inputs, must be recognized as an important part of the solution. Non-chemical no-till, when used within a sustained organic farming system of crop rotation and cover crops, can sequester up to 2,000 pounds of carbon per acre per year in temperate regions, far outperforming contemporary no-till using herbicides and chemical fertilizer.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The diversity and dispersion of agricultural operations across the country would make it impractical to formally all of agriculture under a carbon reduction program.

However, where agricultural operations function like industrial operations, such as in some concentrated animal feeding operations (CAFOs), formal coverage under a carbon reduction program may be warranted and practical

Agriculture must find multiple ways to transition toward biological sustainability. In terms of climate change, carbon sequestration will bring the quickest and most cost-efficient reduction in agriculture's net contribution to our nation's greenhouse gas (GHG) emissions. Mitigation is also important, but pales in comparison to sequestration.

Sequestration options include using certified organic crop rotations with cover crops and compost; cover crops over winter and between cash crops; complex crop rotations beyond two commodity crops, including forage, small grains and perennial crops; rotational multi-year use of pasture of crop land; re-integration of livestock and crop production on the same farms to close nutrient and carbon cycle loops; and application and incorporation of suitable biomass, such as compost, solid manure, leaves and sustainably produced biochar.

Mitigation options include decreasing reliance of chemical nitrogen fertilizer to reduce natural gas consumption, increasing reliance on grass-based systems to produce livestock protein, and reducing the use of pesticides created through energy-intensive systems creasing externalized

Ecological impacts must be calculated by consensus methods and become part of the standard cost of production of commodities and raw agricultural products. Externalized environmental impacts impose unfair and arbitrary economic, health and quality of life costs on communities, tax bases and watersheds impacted by such operations but no management influence on their carbon or GHG behavior..

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Allowances should come with requirements for assessment of carbon stewardship and GHG emission ratings at present, and requirements to improve the sustainability of these levels over time. Benchmarks and the rate of change would be set by the relative position of the initial C and GHG levels compared to geographically relevant target goals for the type of operation evaluated. Allowances should also work to protect farmer-owned and farmer-managed (50 percent +) operations, where changes can most easily be integrated into practical farm plans.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes, where the programs meet federal criteria for effectiveness and viability in increasing food security through decentralized production systems.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Current agricultural economics and practices have significant negative impacts on some of the exampled populations, already. All populations are also being impacted by unchallenged ecological damage that is the focus of this questionnaire. The nation can't

ecologically afford to continue current agricultural practices, regardless of short-term economic gains, which will certainly end when they can no longer be politically funded through artificial financial wealth if they undercut actual biological capacity and assumed ecological services. Example: current drought in the Central Valley of California.

Moving toward true-cost accounting for ecological and environmental services (improvements t o the health and resiliency of natural systems) or damages (negative impacts on natural systems) will have both positive and negative impacts in the short run. Prudent policy will incentivize private-sector embrace of carbon stewardship and GHG mitigation as necessary and certain design essentials in industrial, product, agricultural system and business plan design. A phased carbon tax--or other way to make carbon emission/sequestration an economic reality--will be most helpful in driving broad-sector innovation from both consumers and producers, perhaps made less punitive to lower-income persons through offsetting protections.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

By going to regionally- and community-based, public-private projects that are believed by the stakeholders to be economically viable, ecologically sound and socially acceptable. This option captures the best hope to combine the distinctive geographical mix of natural resources, climate, human skills, history and economic potential for ecologically sound initiatives that will benefit a broad enough sector of the local population to be approved.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, if they also commit to a binding "ecological HACCP" plan including full lifecycle analysis of their carbon and GHG impact (or proxy calculations relevant to their operation), i.e. a thorough assessment of what can go wrong, based on the Hazard Analysis Critical Control Point protocol used successfully for food safety.

Further, transitional assistance would reflect the business's or regulated farm's efforts to date to improve performance on these criteria

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands should be used to experiment broadly with the best innovations for regional sustainability improvement. These high-profile models would include known best

management practices (BMPs) coupled with practices aimed at producing biological, carbon sequestration and GHG mitigation improvements.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Market forces will be critical to drive innovative ways to achieve carbon stewardship if given the proper assurance of payment for success. At the same time, speculation should be limited so as to avoid both excessive up and down swings that would make steady, positive improvement relatively unprofitable (in excessive up swings) or disastrous with precipitous drops.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Terrestrial (forest, range and crop land) sequestration rates can be measured through high-density sampling analyzed through conventional soil testing. This testing will be critical to determine the most successful options within bioregions, and to spot-check actual achievement in the soil over time relative to the book-value attributed to the practices in use. This testing--or affordable improvements that could achieve acceptable levels of accuracy--can distinguish best practices from good practices.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Highest preference should be given for movement toward:
> efforts which result in net carbon and GHG emissions on-site, within the immediate watershed and community of the agricultural operation, so that ecological improvements will benefit the natural systems of the producing entity;
> strengthening of natural systems.

Secondary preference should be given for:
> increasing reliance on-farm inputs
> lowering the need to import technology on a continuing basis,
> systems-level development (where multiple biological synergies increase over time)
> water conservation and multi-farm collaboration

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Require broad sector input from within the agricultural community, including farmer-based groups and research programs with long-term research experience within the organic farming sector, and from the primary ecological zones of the country.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Due consideration should be given for implementation of practices that are already providing ecological services, perhaps through offering preferential entry to limited programs rewarding more advanced practices.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Incentives for achieving target goals beyond base pay for merely implementing a practice would address limit underperformance. Base payment would be due if all "due diligence" provisions of the practice were met.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

New incentives are needed to encourage biologically sustainable systems, beyond the introductory measures of adopting specific practices. The incentives would target known areas of synergy, i.e. use of complex crop rotations using cover crops, where soil carbon is increased while water quality is improved. The incentives should also target highly integrated biological systems, including certified organic farming systems, where energy, water, fertility, pest management, carbon stewardship and greenhouse gasses (GHG) are optimized through documented system plans and verification over time.

Programs that encourage farmers to convert to organic, such as the Organic Conversion option within the EQIP program, should be supported, as well as those which defray certification costs of continuing organic farmers, such as the National Organic Certification Cost Share Program. Congress and USDA should also require:

>NRCS to collaborate with ARS and CSREES to boost technical assistance capacity and delivery for organic transition;
>That business planning and marketing training be provided as part of technical assistance for transitioning producers participating in EQIP;
>NRCS to hire an organic specialist in each state, much in the same way that no-till specialists have been hired by NRCS in many states;
> a nationwide set-aside under EQIP for organic conversion, with a requirement that the organic conversion option be offered to farmers in every State;
> All USDA conservation programs include a carbon reduction goal within them, and establish mechanisms to further that goal;

In addition, U.S. agricultural policy must address food security needs through research into more adaptive natural systems using conventional/classical plant and animal breeding, (RE:

Section 7406 of the 2008 Farm Bill). Regional adaptation of seed varieties and animal breeds to changing climates and micro-climates will help maintain productivity in the face of changing weather patterns.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

It is important to distinguish between practices which improve environmental performance over conventional tillage to decrease erosion and fuel consumption, such as contemporary no-till planting using herbicides and fertilizer, and systems which are much more capable of sequestering carbon, such as rotational organic no-till planting with cover crops.

To draft policy that captures the critical differences in these approaches, please use this information and the associated publication citations as a key reference:

"Organic Agriculture is Significant, Dependable, and Robust Climate Change Mitigation"

Organic agriculture captures atmospheric carbon and stabilizes it in the soil in ways and at rates that make it the most dependable, robust and significant climate change mitigation strategy available (5,6,7,8,9).

Benefits of organic agricultural practices are not constrained to climate stabilization. Co-benefits of organic methods and the carbon they sequester in soils include erosion prevention, drought resistance, food with higher nutritional quality, and increased yields in times of environmental stress (3,9).

Therefore, widespread adoption of organic agricultural practices constitutes society's best option for mitigation: it's readily available, economically beneficial, and simultaneously addresses a host of other societal challenges (7,9).

Herbicide dependent no-till is not sequestration

There is an emerging consensus in the scientific community that herbicide dependent no-till systems do not sequester carbon (1,2,4,10,11). Previous claims that no-till systems dependant on herbicides and synthetic fertilizers sequestered carbon were simply relics of shallow soil sampling methods (2, 4).

Studies that consider the whole plow layer (beyond the top 0-15 cm) and all of the carbon-rich surface residues, transducted to depth by tillage, find that no-till fields have less carbon at depth than their conventionally tilled counterparts (1, 4, 10, 11). Therefore, no-till does not sequester carbon, it merely re-distributes carbon through the soil profile.

Further the synthetic inputs these continuous no-till systems rely on have large, increasing carbon emissions associated with their production and application (7).

Decades of Data from Organic Field Trials Demonstrate Carbon Sequestration

Since 1981, the Rodale Institute has maintained 3 farming systems. The conventionally managed system relies on herbicides for weed control and synthetic fertilizers for plant nutrient needs. The organic legume system receives no external inputs, relying on cover crops, intensified rotation, and tillage to meet both pest management and nutrient management needs. The third "manure" system, simulates an organic dairy, receives manure, or composted manure in addition to the cover crops for nutrients, and relies on tillage for weed control.

Both organic systems have sequestered carbon above and beyond that of the conventionally managed system, which has not shown significant changes in soil carbon since the trial's initiation. Over the conventional average, the legume system sequestered 367 kg C ha-1 yr-1 and the manure system sequestered 460 kg C ha-1 yr-1 (5). Rodale's ten- year organic compost and cover crops trial demonstrated sequestration rates exceeding 2000 kg C ha-1 yr-1 with standard tillage practices (8).

These data demonstrate that organic methods can generate robust carbon sequestration over the soil profile, capable of mitigating 10-40% of annual global carbon emissions, if adopted over all tillable acres.

Sources Cited

Angers, D.A. and N.S. Eriksen-Hamel. 2008. Full-inversion tillage and organic carbon distribution in soil profiles: a meta-analysis. Soil Science Society of America Journal 72: 1370-1374

Baker, J.M., T.E. Ochsner, R.T. Venterea, and T.J. Griffis. 2007. Tillage and soil carbon sequestration – what do we really know? Agriculture, Ecosystems and Environment 118: 1-5

Benbrook, C., X. Zhao, J. Yanez, N. Davies, and P. Andrews. 2008. Nutritional superiority of organic foods. Available from http://www.organic-center.org/reportfiles/Nutrient_Content_SSR_Executive_Summary_FINAL.pdf (accessed March 24, 2009).

Blanco-Canqui, H. and R. Lal. 2008. No-tillage and soil profile carbon sequestration: an on-farm assessment. Soil Science Society of America Journal 72: 693-701

Douds, D., P. Hepperly, and R.Seidel. 2008, October. Exploring the Role of Arbuscular Mycorrhizal Fungi in Carbon Sequestration in Agricultural Soil. Paper presented at the Joint Annual Meeting, Houston, TX

Drinkwater, L.E., P. Wagoner, and M. Sarrantonio. 1998. Legume-based cropping systems have reduced carbon and nitrogen losses. Nature 396: 262-265

Gomiero, T., M.G. Paoletti, and D. Pimentel. 2008. Energy and environmental issues in organic and conventional agriculture. Critical Reviews in Plant Sciences 27:239-254

Hepperly, P., D. Lotter, C. Ziegler Ulsh, R. Seidel, and C. Reider. 2009 (in press). Compost, manure and synthetic fertilizer influences crop yields, soil properties, nitrate leaching and crop nutrient content. Compost Science and Utilization

Pimentel, D. P. Hepperly, J. Hanson, D. Douds, and R. Seidel. 2005. Environmental, energetic and economic comparisons of organic and conventional farming systems. BioScience 55(7): 573-582

Poirier, V., D.A. Angers, P. Rochette, M.H. Chantigny, N. Ziadi, G. Tremblay, and J. Fortin. 2009. Interactive effects of tillage and mineral fertilization on soil carbon profiles. Soil Science Society of America Journal 73: 255-261

VandenBygaart, A.J., E.G. Gregorich, and D.A. Angers. 2003. Influence of agricultural management on soil carbon: a compendium and assessment of Canadian studies. Canadian Journal of Soil Science 83: 363-380

= =

Additional citations of note include:

> Low Greenhouse Gas Agriculture. Mitigation and adaptation potential of sustainable farming systems. UN, Food and Agriculture Organization, March 2009, http://www.fao.org/organicag/en/

> Statement of Supachai Pantichpakdi, Secretary-General of UNCTAD on Organic Farming, October 2008, http://www.organic-center.org/science.latest.php?action=view&report_id=134

> Sustainable Development Law and Policy Journal, Fall 2008, Sustainable Soils: Reducing, Mitigating, and Adapting tp Climate Change with Organic Agricultrure, by Meredith Niles, Center for Food Safety, http://www.wcl.american.edu/org/sustainabledevelopment/2008/08fall.pdf?rd=1

Article starts on page 19 of this link

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Co-composting manure with municipal yard waste, agricultural biomass or other suitable materials	excellent	Good - using research-verified practices	Medium - initial investment in site improvement; machine time/ labor for turning with farm equipment.	> High for solid manure operations > Medium for liquid systems needing solids separation systems Note: suitable land area required, sized to manure output and composting lifecyle to offsite use.
Apply compost at optimum times in crop sequence as soil amendment and biological stimulus	Excellent - displaces portion of chemical N-P-K application	>Excellent w/ high density sampling using standard soil tests, but expensive. >>Excellent + less costly when anticipated improvements in remote sensing come online	>Low - if produced on the farm > Medium to high, depending on local avail-ability and cooperative transportation arrange-ments for bulk delivery to the farm	> High if available locally > Medium if producer is starting from scratch to produce compost on-farm

Management-intensive grazing, whereby high numbers of cattle or sheep are run on a defined area for a limited time to stimulate optimum nutritional intake and root-regrowth of sward.	Excellent	Excellent, as above	> Low once fending installed > Medium initially to install fence. Note: suitability highly dependent on farm layout in relation to buildings, roads, water access relative to grazeable land	High, dependent on ability to fence and sub-divide grazeable land
Add crops to livestock-only farms, where applicable				
Convert to grass-based livestock management				

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners *to implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Certified organic crop rotations with cover crops and compost, tied to a farm-specific Organic System Plan with annual compliance inspections	Excellent - capacity to sequester up to 7300 lbs carbon dioxide per acre per year in temperate regions	>Excellent w/ high density sampling using standard soil tests, but expensive. >Excellent + less costly when anticipated improvements in remote sensing come online	Low to medium initially, depending on changes needed to bring farm into initial compliance	High with necessary training and technical assistance to master basic organic management skills within USDA National Organic Program guidelines
Integrate crop rotations with multi-year grazeable "crop" for rotational grazing	Excellent - capacity to sequester up to XXXX lbs. carbon dioxide /ac/yr	Excellent, as above	> Low once fending installed > Medium initially to install fence. Note: suitability highly dependent on farm layout in relation to buildings,	High, dependent upon suitable physical farm layout and climate

			roads, water access relative to grazeable land	
Complex crop rotations using legume, forage, pasture or small grains	Excellent	Excellent, as above	Low, once initial planting equipment is secured	High with training and technical assistance on management needs and synergies of cropping sequences and market development for new crops
Apply (and incorporate) compost and other stable-carbon biomass such as leaves, solid manure & sustainably produced biochar.	Excellent	Excellent, as above	Low, but will vary with local supply.	high
Grow and wisely manage cover crops to optimize soil carbon sequestration with other cover crop benefits.	Excellent - capacity to sequester up to 3600 lbs. carbon dioxide /ac/y	Excellent, as above	Low, once initial planting equipment is secured	High with training on planning and management on adding cover crops, and the significant long-term benefits they bring.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ROGER RUAN
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Roger Ruan

Organization(s) you represent

Center for Biorefining, University of Minnesota

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director and Professor

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A hybrid of the two approaches would have more flexibility to deal with diverse situations.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agricultural and forestry sectors are also source of carbon emissions and therefore should be covered under a carbon reduction program. These sectors may benefit from such a program if their production activities reduce carbon emissions and sequester carbons. For example, we should encourage these sectors to produce not only foods, feeds, fibers but also feedstock for clean fuels. We should also encourage these sectors to use less chemicals and fossil fuels.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Agricultural and forestry sectors should be given free allowances but with certain limit enough to ensure the minimum needs for food and feed production.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes, to avoid abuse.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

An existing agency should regulate considering its experience and cost reduction.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

CFTC should continue its role.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

N/A

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

It may, depending on the carbon emissions from their activities.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Used for clean technology development, ecological study, and infrastructure planning that reduces carbon emissions.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Small businesses should receive some transitional assistance.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Enforce energy conservation and energy efficiency policy in development; allocate some spare lands for growing green plants which can also be used for renewable fuels, for example, algae. Algae are capable of sequestering a large amount of CO2 and capture other carbon sources.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

N/A

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

N/A

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

bonus allowances for selected agriculture and forestry activities is most effective because carbon emissions from agriculture and forestry are less compared with other industries and therefore many agriculture and forestry activities are likely to meet or exceed standards and receive incentives, especially if carbon tax is built into each product such as fertilizer and fuels and charged only once, the bonus allowances will really benefit the agricultural and forestry sectors. Although due to the increased prices of the fertilizer and fuels (because of the built-in carbon tax), there need to be some transitional assistances.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

N/A

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Yes.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Scheduled and random monitoring to verify.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Meeting the standards (limits) on schedule.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Have the regulating industry and agency create and implement standards and procedures, and report to the Congress.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Yes

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Pay for the difference between allowances and offsets

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Set a carbon reduction target within a time frame. Gradually reduce the allowance but ensure to meet the target within the time frame.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Gradually move the existing projects to the new program. Time should be negotiated between the project owners and carbon reduction program administrators.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Just like emissions not only from fossil fuels but also from other agricultural and forestry activities must be counted in the carbon reduction programs, other activities such as water quality conservation, wildlife habitat creation, etc., should receive credits towards carbon reduction program.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Same way as others by increasing or reducing government assistance as calculated considering the new programs.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A producer should return revenue if his project does not reduce emission as promised. Natural disaster should be treated as special case.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Should be done at agency levels. EPA, USDA, DOE are most appropriate.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Capital investment and operational costs and appropriateness of the technologies.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No, above programs will be helpful. And few technologies can be implemented on average size farms right now. Farms and agricultural and forestry production are widely distributed throughout the rural areas. Technologies must be developed or re-tailored for distributed production of foods and fuels.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Biofuel incentives are important to encourage agricultural and forestry sectors to move into renewable energy, chemical, and material fields. Emphasis should be given to activities that use less water, non-arable land, sequester large amount of carbons, use current unused or under-used byproducts, and generate good incomes for farmers. Some technologies such as algae farming and distributed production of renewable energy are appropriate.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
RURAL COALITION

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Susmita Pendurthi

Organization(s) you represent

I represent the Rural Coalition. Our members include: Federation of Southern Cooperatives; Rural Advancement Fund; Intertribal Agriculture Council; National Hmong American Farmers; Border Agricultural Workers Project; Land Loss Prevention Project; National Latino Farmers and Ranchers Trade Association; Operation Spring Plant; Mississippi Association of Cooperatives; Missouri Rural Crisis Center; Landowners Talk; Rural Development Leadership Network; Farmworkers Association of Florida; Concerned Citizens of Tillery; Oklahoma Black Historical Research Project; Organización en California de Líderes Campesinas, Inc.; American Indian Movement; North American Farm Alliance; and the Markham Center.

*The following comments do not necessarily represent the opinions of the individual organizations that belong to the Rural Coalition.

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Field Projects & Conservation Manager

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We believe that either a cap and trade program is the best option. A cap and trade program will set a target for carbon emitted, and allow the market to set the price for the carbon. It allows industry to find the best market-based approaches to emissions reductions. This is a clear way to ensure that our emissions reductions goals will be met. A carbon tax sets the price for carbon, and allows the market to decide how much carbon is emitted. While this might be a simpler method to administer, the amount of emissions reductions is not clearly mandated, which should be the goal for any emissions reductions program. Additionally, we also believe that a carbon tax will have the unfortunate result of disproportionately affecting low-income households. The Congressional Budget Office estimates that a US nationwide carbon price high enough to reduce greenhouse gas emissions by 15 percent would take about 3.3 percent of low-income families' after-tax money and, in contrast, only 1.7 percent of the richest households' income.[1]

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture contributes between 10 and 12% of global GHG emissions, so it should be a factor in any program that attempts to regulate GHGs. However, agriculture supplies such an essential need, that we do not believe it should be a regulated industry. Instead, there are many opportunities in agriculture for emissions reductions and mitigation options that should be accessed through offsets. The agricultural sector is uniquely qualified to provide quality offsets through appropriate manure management, decreased use of fertilizers, and improved cropping and grazing practices. Small-scale agricultural producers, especially, are excellent candidates for such offsets as they are already well-versed in the issues of environmental and agricultural sustainability, and often pioneer conservation agriculture practices. Additionally, small producers provide other social and economic co-benefits that cannot be understated.

Another possible method for involving forestry and agriculture in a carbon reduction program is through the use of set-asides, allowances that come from within the cap for uncapped sources. This is a potential alternative to offsets

where the problem of additionality doesn't exist, since the emissions reductions come from within the cap.

The technical mitigation potential of agriculture (considering all gases and sources) in 2030 is estimated to be between 4.5 Gt CO2 equivalent per year and 6 Gt CO2 equivalent per year. About 89% of this can be achieved by soil carbon sequestration through cropland management, grazing land management, restoration of organic soils and degraded lands, bioenergy and water management.[2] We believe that this climate change mitigation potential in agriculture should be tapped primarily through the provision of offsets.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Allowances should be auctioned in a cap and trade system. Auctioning will ensure that the revenues that come from the permits will be available for public uses. Giving permits at no cost to businesses is tantamount to subsidizing large greenhouse gas emitters. These revenues will trickle into the profits of these industries, rather than being used for the public good.

The Congressional Budget Office has already adopted this position, saying "if . . . all of the allowances were distributed for free to producers in the oil, natural gas, and coal sectors, stock values would double for oil and gas producers and increase more than sevenfold for coal producers, compared with projected values in the absence of a cap.[3]

Additionally, auctioning sets the precedent that everyone has to pay to pollute the air. Second, auctioning would forestall a battle royal among lobbyists over who should get free permits, on what grounds. Third, auctioning makes unnecessary the cumbersome step of setting an emissions baseline for each utility: utilities will decide for themselves how many permits to buy.[4]

Auctioning carbon permits will allow the accrual of tax revenues that can in turn be used to sequester yet more carbon through outside measures, such as reforestation and restoration of degraded wetlands.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes. A uniform cap and trade program is essential to promoting the maximum reduction of greenhouse gas emissions. Early actors in carbon reduction activities should be allowed to participate easily in a national system, rather than being confined to a regional cap and trade program.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

If a cap and trade program is established, we believe that a new agency should be created to regulate this industry. Cap and trade will be a politically-mandated industry, markets will essentially be managed by the government, the commodities traded will not be physical entities, and there are regulatory issues that are unique to this system. It is precisely these politically generated and managed facets of carbon trading that can make carbon markets especially vulnerable to lobbying and regulatory capture. For carbon trading to be successful from environmental, financial, and governance perspectives, policy makers and market regulators must be particularly insulated from corruption and political influence.[3] Additionally, the fact that this system will be designed to address an environmental good sufficiently complicates the issue. Any agency in charge of administering a cap and trade program will be responsible for multiple regulatory activities, and will need to consider both the environmental and economic factors involved. We believe that a new agency with significant resources will be required for the smooth functioning of a cap and trade program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

It is possible that, depending upon how the program and available offsets are implemented, small agricultural producers, especially minority and disadvantaged producers, could be either harshly penalized for agricultural practices, or be left out of carbon markets altogether. Because small producers have small acreages, their ability to generate offsets will be limited. They will likely have to rely on aggregators to bundle offset credits for the market. We strongly believe that, for cap and trade to be beneficial for small farmers, there must be programs that encourage community-based organizations and farmers cooperatives to take on the role of aggregating and bundling offset credits to sell. Securing the needs and opportunities for small, minority and disadvantaged producers is a major issue of concern for us, and we hope that all future carbon reduction legislation will keep their needs in mind. Small producers often provide larger social and economic co-benefits from farming practices, and their role in any carbon reduction program, especially concerning offset credits, should be appropriately weighted to keep that in mind.

We also believe that it is critical that the US government, and the entities developing and implementing any plan, have direct consultation with Indian Nations with regard to the potential costs and benefits to Indian people and communities, and how these can best be addressed in over-all policy and with respect to individual tribes.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

The best ways to use the revenue generated under a carbon reduction program would be to set up government funding for programs that further reduce major GHG emission areas in the agricultural sector. The following activities will be crucial: reducing emissions of methane from enteric fermentation through animal diet enrichment and increased pasture feeding for livestock; reducing methane emissions from the anaerobic decomposition of animal manure through composting, biodigesters, covered manure lagoons, and soil application of excess manure; reducing loss of soil carbon by promoting reduced soil disturbance, reducing the amount of N20-rich fertilizer applications, extending crop rotations, maintaining cover crops, and avoiding unplanted land; improving pasture management by producing more on land already in production, more efficient grazing rotations, crop rotations, and using more productive crops; regenerating forests and protecting them from conversion to other uses; promoting improved

agro-forestry systems including shelter belts and riparian zones; setting aside cropland to return to native vegetation; and restoring organic soils in wetlands.[6]

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

We generally don't believe that the regulated industries should be given transitional assistance. For a carbon reduction program to be effective, the regulated industries should be the ones that are most 'upstream'—i.e. closest to the point at which fossil fuels enter the economy. These particular industries will undoubtedly be major players in the market, and will be able to factor carbon reduction into their cost of doing business. If there are higher costs, they will be industry-wide and therefore, should maintain a level playing field. We believe that the businesses that will be affected will be large enough to have both the capital and resources to adapt on their own, and should not rely on transitional assistance from the federal government. However, if there are job losses associated with these higher industry costs, then transitional assistance should be provided to minimize unemployment.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Land-use changes are responsible for a significant amount of greenhouse gas emissions. Public lands should be managed sustainably, and encouraged to retain the maximum amount of biomass. Native forests should be preferred to tree plantations for their ability to both sequester more carbon, as well as to provide other environmental co-benefits for water sources, soil conservation, and wildlife. Protecting public lands, as well as reconverting cropland to native vegetation, will increase the amount of soil carbon stored, and will reduce emissions of nitrous oxide through lower fertilizer inputs. At the same time, traditional uses by socially disadvantaged producers and Indian Tribes should be preserved.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Price floors are an essential tool in achieving maximum emissions reductions within the market system. They provide market confidence in both buyers and seller of credits, and ensure that the price doesn't drop out of the carbon market altogether due to some unforeseen circumstance. The higher the price on carbon, the more attractive it is for producers to sequester it and, consequently, the more carbon is sequestered. For example, the UNFCC estimates the following for global reductions in 2030:

-1.5-1.6 Gt CO_2 eq per year if carbon price is \$20 USD per ton of CO_2 equivalent
-2.5-2.7 Gt CO_2 eq per year if carbon price is \$50 USD per ton of CO_2 eq

~~4~~4.3 Gt CO2 eq per year is carbon price is $100 USD per ton of CO2 eq[7]

That being the case, the carbon price should be managed to maximize carbon sequestration.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The Clean Development Mechanism allows offsets from reforestation projects. The main points to keep in mind when it comes to carbon reduction programs is to look at carbon emissions as system, paying extra attention to links when it comes to GHG emissions. Additionally, full GHG accounting, measurement of sequestration and emission rates, permanence and additionality of offsets, how to address early actors, and the impact of natural disasters upon GHG emissions accounting must all be considered.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

We believe that voluntary offsets are the most effective way to involve the majority of small-scale agricultural producers in a carbon reduction program. These producers are usually at subsistence level, and we would strongly oppose any actions taken by the federal government to force higher taxes or penalties on their ability to produce food—especially because these producers play a very small role in GHG emissions, but are capable of sequestering significant amounts of carbon. On the other hand, large agribusiness plays a significant role in GHG emissions, and should have performance standards for certain practices. For example, if the following activities were undertaken by agribusiness (especially those with livestock operations), they could significantly lower GHG emissions from the agricultural sector: reducing the storage of manure in pits, ponds and lagoons (which will reduce CH4 emissions); increase the use of grazing land for animal production, restricting grazing land to that already in use, and mandating more intensively managed grazing systems—which may mean an increase in biomass. Additionally, reducing the number of animals kept in CAFOs can reduce the amount of enteric fermentation produced (as they will now be pasture-fed). Finally, another opportunity would be to promote organic food production

that will increase the use of soil cover (through crop rotations and cover cropping), and organic soil amendments. Many co-benefits will arise from this, including improved soil and water quality.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Yes and No. Offsets, if measured and regulated properly, will be instruments with which to reduce our GHG emissions. Limiting the number of offsets issued will have the unfortunate result of limiting the number of sequestration options available for companies to reduce their GHG emissions. However, if there are too many offsets, regulated industries will not be forced reduce their own emissions, and might choose to buy only offsets as their contribution to carbon mitigation, which would prevent the development of new clean technologies in their industries.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

It is essential that a significant number of offsets go to small and socially disadvantaged agricultural producers. Community-based organizations and small farmer cooperatives should be prioritized and encouraged to bundle offsets. These actors already have experience in conservation agriculture, and also provide significant social and economic co-benefits. Available offsets should not prioritize large scale commercial agriculture to the detriment of small producers.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

The most important issue with offsets is to ensure that the GHG emissions are real, and don't serve to increase the amount of overall emissions. Reductions need to be additional, i.e. the emissions reductions would not have happened without the offset incentive. This needs to be considered in light of federal or state regulations that may limit emissions, irrespective of a cap and trade program. Additionally, the following should be considered for offset projects: real emissions reductions; realistic baseline establishments, monitoring plans, independently verified emissions reductions, and unambiguously owned offset credits.[8] Finally, the issue of natural disasters as they relate to real emissions reductions and offset legitimacy should be considered.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

The following are important issues to consider when approving offset projects.

- Saturation rates: At what point is maximum sequestration reached for each type of activity? (i.e. at what age does a mature forest stop sequestering carbon?)
- Leakage: Are GHG emitting activities being halted in one area, but increased in another to meet economic demand? For example, is deforestation halted in one state, but because demand for forest products remains constant, is another state increasing its rates of deforestation to meet increased economic opportunities?
- Permanence: How permanent is the sequestration activity? If it is in a cropping system, what happens if a farmer decides to change the management of that activity? How sure can we really be that this activity will be maintained, barring a weather-related disaster? How long will the activity have to be maintained before full sequestration benefits manifest?
- Co-Benefits: Are there other environmental co-benefits to sequestration activities that should be considered when approving an offset contract? Does the project improve soil and water quality, or improve degraded lands?

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

The Offset Quality Initiative has established a list of concerns for designing offset projects that we agree with. They are as follow[9]:

- Environmental integrity should be the basis of any offset design.
- Accurate accounting of baseline emissions and greenhouse gas sequestration and mitigation must be made.
- Offsets should not be double-counted.
- Offset programs should include multiple greenhouse gases, especially C02, CH4, N20, HFC, PFCs, SF6.
- Offset eligibility should not be restricted by geographical region. International offsets should be considered, especially those that halt tropical deforestation.
- A national cap and trade program should link with other GHG trading and offset programs for maximum efficacy.
- Offset programs should be transparent.
- A centralized offset program administrator is necessary for maximum ease in program implementation.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

It depends upon the type of offset. For the forestry sector, as there is well-established data for carbon sequestration rates for most types of trees, it might be worth considering approving offsets based on a standards-based approach. However, offsets related to agriculture are more problematic as an activity's ability to sequester carbon varies widely based on climate, soil type, and vegetation. Consequently, agricultural offsets might be better verified by project rather than by sector. A hybrid system might be the most beneficial to capture real emissions and decrease program costs.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

They should be such that offsets are viable secondary options for regulated sectors to decrease their GHG emissions, after they have already taken steps to decrease their industry emissions through clean technologies, decreased use of fossil fuels, etc. Offsets, especially ones in agriculture and forestry due to issues of permanence, should not be used by industries to meet all of their compliance requirements.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

It's the time-scale that matters in the permanence of agricultural and forestry offsets. For example, some estimates suggest that soils reach carbon sequestration rates at about 15 years, with some additional uptake of carbon after that time.[10] Forests, on the other hand, continue to sequester carbon until the trees have reached maturity—usually over 80 years after forest establishment, depending on tree and climate variations.[11] Flexibility is required in agricultural and forestry offsets – especially in regards to agricultural management activities.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

They should be re-verified under the new regulations. If they are deemed substitutable, regional offsets should have the capacity to be sold and traded in a national cap and trade program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

We believe that early actors that have undertaken activities to sequester greenhouse gas emissions should be considered and compensated in the offset system. This is very important to ensure that these early actors don't destroy natural vegetation, forest cover, or conservation farming activities in order to reinstate them for profit under the offset system. As the co-benefits of certain climate change mitigation activities have already been established as substantial, we believe that stacking credits for additional environmental markets is acceptable as long as there is sufficient oversight to prevent gaming.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

If government programs have already given financial assistance to activities specifically for climate change abatement, then these projects should not be considered desirable for offset credits. If government programs funded these activities for other environmental benefits unrelated to climate change mitigation, these activities should be eligible for carbon offsets.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes with qualifications. They only way that offset credits will reduce climate change emissions and be permanent is if the penalties for offset breach of contract are as severe as penalties under other government assistance programs. At the same time, smaller producers will need education and outreach in order to meet offset criteria. In the event of a federally designated natural disaster, producers should not be held liable for loss of carbon.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

General offset protocol should be detailed in legislation while specific regulations should be the purview of the regulating agency.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The principal obstacle faced in the adoption of new practices by agricultural producers, especially in terms of generating carbon offsets for sale, is that the data on emissions and sequestration is currently incomplete. Specific data on carbon sequestration potential for different regions in the U.S., as well as for different carbon sequestration practices, must be provided in order for transparency to exist in the carbon reduction process. Additionally, issues about the lengths of time involved in maintaining practices for optimal carbon storage, and saturation points in biomass and soils, should be considered.

The UNFCC identifies the following challenges to implementing policies in the agricultural sector:

1) capacity of soils to store carbon
2) risk of losing carbon stored due to soil management
3) difficulties in establishing a baseline
4) high uncertainty in emissions estimates and lack of information for their assessment
5) high transaction costs
6) concerns about competitiveness
7) high measurement and monitoring costs for emissions reductions
8) availability of investment capital[12]

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

While there are current federal programs that incentivize conservation and forestry programs, very few do so with an emphasis on climate change mitigation. More carbon sequestration practices should be imbedded into current federal programs such as EQIP, CSP, FLEP. These programs need more grant funds, as do transition to organics programs

that sequester land in soils, reduce use of chemical fertilizer applications, increase ground cover, and manage animal manure in aerobic environments.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

While this survey has covered activities that we wish to be considered in any carbon reduction legislation, we would like to take this opportunity to detail the carbon-sequestration activities that we consider unacceptable activities for a cap and trade program, especially as they relate to eligibility for offset credits.

- Increasing the mechanization of agriculture in order to increase yields (as increased biomass will increase carbon sequestration in the short term). This will correlate with an increase in fossil fuel consumption, and an increase in N20 emissions from fertilizer applications, both of which will increase GHG emissions in the long-term, especially in regards to land-use changes and loss of permanent vegetation.
- The same is true of increasing yields on smaller parcels of land. While this activity can reduce pressure to convert non-agricultural land to agricultural uses, it may also facilitate an increase in the emissions of N20 from increased fertilizer applications.
- The use of cloning or genetic manipulation techniques should not be used in order to produce types of livestock with decreased enteric fermentation emissions.
- GMOs that are bred for no-till systems should not be used as a method of sequestering carbon by reducing soil disturbances. For example, Monsanto has developed a no-till round up ready crop, which will be used to propagate GMOs as solutions for carbon sequestration. We do not consider this practice to be an acceptable solution to the issue of carbon reduction because of the attached implications for environmental and social sustainability.
- Increased concentration of animals in living spaces (CAFOs) should not be encouraged in order to facilitate the application of food additives for livestock that reduce enteric fermentation.

The critical issue that must be addressed in a cap and trade system is to ensure that all carbon sequestration practices have alternative environmental and social co-benefits—any carbon-reduction program should strive to meet the end goals of environmental stewardship and sustainability.

Please list specific types of forestry practices that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	Effectiveness at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	Ability to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	Cost for agricultural producers and private forestland owners to implement (High, Medium, Low)	Capacity of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)
Reforestation				
Preservation of native forests				
Agro-forestry systems				
Planting shelter belts, and riparian buffer zones				
Cropland set-asides				

Please list specific types of practices associated with livestock operations (e.g. manure management, grazing/pastureland practices) that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	Effectiveness at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	Ability to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	Cost for agricultural producers and private forestland owners to implement (High, Medium, Low)	Capacity of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)
Use of bio-digesters				
Improved animal feeding operations				
Improved grazing practices, and more efficient grazing rotations				

Please list specific types of crop production practices that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	Effectiveness at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	Ability to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	Cost for agricultural producers and private forestland owners to implement (High, Medium, Low)	Capacity of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)

Reduced soil disturbance				
Organic production				
Non-liquid aerobic manure use (composting)				
Permanent vegetation/cover crops; crop rotations				
Reducing fertilizer applications				

[1] Congressional Budget Office, Peter R. Orszag, "Approaches to Reducing Carbon Dioxide Emissions", November 1, 2007, www.cbo.gov/ftpdocs/87xx/doc8769/11-01-CO2Emissions.pdf

[2] United Nations Framework Convention on Climate Change, "Challenges and opportunities for mitigation in the agricultural sector," November 2008.

[3] Congressional Budget Office, Peter R. Orszag, "Approaches to Reducing Carbon Dioxide Emissions", November 1, 2007, www.cbo.gov/ftpdocs/87xx/doc8769/11-01-CO2Emissions.pdf

[4] Cap and Trade 101: A Climate Policy Primer, Alan Durning, with Anna Fahey, Eric de Place, and Clark Williams-Derry, Sightline Institute, January 2009, http://www.sightline.org/research/energy/res_pubs/cap-and-trade-101?gclid=CPTDLKQ5iKCFUpM5QodOXrsRA

[5] Friends of the Earth, "Subprime Carbon: Rethinking the World's Largest New Derivatives Market", http://www.foe.org/pdf/SubprimeCarbonReport.pdf

[6] United Nations Framework Convention on Climate Change, "Challenges and opportunities for mitigation in the agricultural sector," November 2008.

[7] United Nations Framework Convention on Climate Change, "Challenges and opportunities for mitigation in the agricultural sector," November 2008.

[8] Offset Quality Initiative, "Ensuring Offset Quality: Integrating high-quality greenhouse gas offsets into North American Cap and Trade policy, http://www.offsetqualityinitiative.org/pdfs/OQI_Ensuring_Offset_Quality_7_08.pdf

[9] Offset Quality Initiative, "Ensuring Offset Quality: Integrating high-quality greenhouse gas offsets into North American Cap and Trade policy, http://www.offsetqualityinitiative.org/pdfs/OQI_Ensuring_Offset_Quality_7_08.pdf

[10] Environmental Protection Agency, "Greenhouse Gas Mitigation Potential in U.S. Forestry and Agriculture", November 2005.

[11] Environmental Protection Agency, "Greenhouse Gas Mitigation Potential in U.S. Forestry and Agriculture", November 2005.

[12] United Nations Framework Convention on Climate Change, "Challenges and opportunities for mitigation in the agricultural sector," November 2008.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
TRUMAN T. SAGER
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name Truman T. Sager

Organization(s) you represent

myself (as a farm crop grain producer)

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Truman T Sager . March 28, 09

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

a cap and trade program is acceptable, but charges should be reasonable to get the program under way.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

yes, they are a substantial part of the problem, and can be part of the solution.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less. auction would probably be the most acceptable to society.

Agriculture and forestry must pay something to be acceptable to society. It would seem more fair.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

yes, either program, if chosen, should consider existing or emerging other carbon reduction programs. total carbon output of each industry or enterprise should be considere

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

It could be handled with a already existing agency, but that agency would have to have (gear up for) a department within to handle it.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Derivitives or futures markets should fall under new regulations, governing those segments, under the same rules as all derivitives & futures trading.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Regulared Transparent Futures markets accessible to anybody and everyone would be the most preferable. opaque over the counter markets by major market participants is a problem today.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less. It may hinder some, but pollution release must be considered by all of us.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

perhaps by then allowing Financial incentives (such as tax credits etc) for those doing more than their share and becoming community leaders on this aspect.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

It should be considered, yes.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands and forests should not be overgrazed by lease holders. The BLM should be very careful here, more careful than they have been. Barren soil allows more release of CO_2 from it, Reflects heat etc.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

market forces should be considered to be more acceptable.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

European research should be considered and their research results can be used.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less. a bonus allowance for selected agriculture and forestry activities would keep people and companies more interested. there should be at least a list of performance standards.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

probably not.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

By auction on the purchasing side.
By allocation when released to the market.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Scientific measuring and reporting, in order for there to be credability.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

mandatory reporting and some sort of measuring with spot checks on measuring accuracy.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Scientists + university researchers must be brought into this discussion. Science must be involved.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Either would be acceptable so long as science is involved and political lobbiosts kept totally out of it.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

1 for 1 or similiar.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Guielines and standards must be followed. but can be modernized with research results. Duration would be determined by auction. value and time.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

they should be considered as part of the over all picture. Leadership here should not be ignored.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Stacking should be limited to a small number. Some would be ok.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?

Please respond in 300 words or less.

these activities should be part of the overall program when it is finally fully modernized

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

No, the technique must be redesigned to sequester. If it cannot then it must be thrown out and replaced by a more modern method.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less. the responsible Govt. agency can the developing, and reported to congress. All agencies of the Government that have authority over carbon producing endeavors should be involved.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

expense to implement would be the greatest obstacle, but tax incentives for the first few years would make it more acceptable.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

present financial incentives are minimal. It might take more money for the first few years of implementation to get this important program under-way.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
modern manure handling	Should receive credit	excellent	high to medium	medium to low
	excellent			
grassland pasture	excellent	excellent	medium	medium

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Grass production/pasture	excellent	excellent	medium to low	medium
Legume production	excellent	excellent	medium	high
any perennial production	excellent	excellent	medium	high

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
MARK SCHONBECK
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Mark Schonbeck

Organization(s) you represent

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Cap-and-trade, or hybrid. Cap and trade has worked well for reducing sulfur and nitrogen oxide emissions, and will be more readily accepted by the US capitalist economy and culture. However, it may be appropriate to impose some carbon taxes or fees on the heaviest emitters, such as coal burning power plants, and to utilize revenues from these taxes to support research and/or entreprenecurial development of clean renewable energy.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes. The food and agriculture sector of the world's economy accounts for close to 20 percent of total carbon emission. Forestry practices can have major impacts on carbon balance, as sustainable harvest either maintains or rapidly restores the forested cover that sequesters carbon, whereas clear cutting releases substantial amounts of carbon as soil organic matter breaks down. Carbon losses are even greater if the residue from a logging operation are burned, rather than being allowed to return to the soil

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Generally, cap and trade allowances should be auctioned, and not provided free of charge. In the case of agriculture and forestry, this question will require additional research in order to develop a fair and effective system. Whereas the amounts of carbon emissions related to machinery and to the manufacture of synthetic fertilizers and pesticides can now be quantified, there are insufficient quantitative data on the impacts of different farming and forestry practices and systems on soil carbon balance to quantify emission or sequestration under each system. Thus it is not appropriate at this time to attempt to cover soil/vegetation management practices under an auctioned cap and trade system. Incentives (payments) for practices known to promote substantial carbon sequestration (such as resource conserving crop rotations, conservation tillage and organic with high biomass cover crops); and taxes or fees for practices known to cause substantial carbon releases (such as clearcutting and burning, or intensive tillage) may be warranted.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Any current regional or state carbon cap and trade programs should be incorporated into a future federal program in a way that is fair, i.e. does not penalize or under-reward industries or firms located within areas that are now participating in a regional program.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

I have no informed opinion (also true of any items left blank).

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

The role of derivative financial instruments in the recent stock market crash and ongoing recession should be evaluated carefully before any derivative market in carbon reductions is allowed; in any case it should be regulated to prevent speculative "bubbles" or costly scams.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

I am not qualified to answer this; however I do know that agricultural producers receive too little of the consumer's food and fiber dollar, with larger shares going to input, transportation, processing and retail parts of the food chain. Family farmers and ranchers, and populations served by USDA nutrition programs are among the nation's most economically vulnerable sectors. Therefore, the impact of any carbon reduction program on these sectors should be considered, and care must be taken to ensure that they do not bear a disproportionate share of the burden of the urgent need to cut carbon emissions throughout our society.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Invest the funds in energy conservation and renewable energy technology; pay rebates or otherwise offer relief if low income populations and/or economically strapped farmers and ranchers suffer adverse economic impacts as a result of the carbon reduction program.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Transitional assistance is appropriate in most cases. However it is important to avoid a situation in which large multinational corporations or very large farms collect large sums in "transitional assistance" while smaller businesses do not receive enough. In other words, be sure that a situation analogous to the loopholes in farm commodity subsidy programs that allow corporate enterprises to collect millions, doe not occur in carbon reduction transitional assistance program.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands can play a significant role, if they are left in their natural state and not exploited for lumber or mining. Recent studies have shown that forests reach their peak ability to sequester carbon at an age of 50-80 years, and that substantial carbon sequestration continues even in mature forests several hundred years old. Undisturbed wetlands also sequester considerable carbon. Thus, carbon balance should be taken into account in developing management policy and plans for public lands, with greater value placed on leaving them in their natural state rather than allowing lumbering or other exploitation.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

This question may require a great deal of additional research. In the long term, fair and science-based performance standards for each segment of agriculture and forestry may be the most appropriate and workable system.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

This will require substantial research into the actual degree of carbon sequestration realized through different practices or systems of agricultural production and forest management, or other practices for which offsets will be awarded.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

If practical, affordable means of field measurements of actual carbon sequestration or emission can be developed, the field measurement of results is far preferable. It is always hard to predict the actual carbon outcome of a given practice, as soil, climate, weather, management details and other factors can result in an actual carbon outcome very different from the average carbon outcome. Thus, a standards based approach with pre-calculated values may inadvertently reward a failure to sequester carbon, or penalize successful sequestration.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Duration of offsets must be related to the duration of effective carbon sequestration. For example, allowing a forest to grow to maturity over a 100 year period sequesters a lot more carbon than repeated cutting at 10-20 year intervals for pulpwood. In addition considerable carbon is lost after a clearcut, and it will take at least 10-20 years of uninterrupted tree regrowth to make up this loss.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Conservation practices and activities that effectively remove carbon from the atmosphere and/or cut other greenhouse gas emissions (nitrogen oxides, methane) and at the same time offer additional benefits to water quality and wildlife should be available for credits for each of these societal benefits. However, credits must be based on actual benefits measured or estimated through methods verified by sound science.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

The producer should be required to return revenue if and only if the failure to reduce greenhouse gas emissions or sequester carbon resulted from her/his negligence. In the event of a natural disaster for which there was no reasonable means to protect the offset project or its infrastructure, the producer should not be penalized in this way.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

There is a need for much more field research into the impacts of many different practices on carbon balance. For example, it has been assumed for some years that the best way to build up soil organic matter in annual cropping systems is continuous no-till, which relies on the use of herbicides and is therefore not accessible for organic producers. However, recent studies by the USDA at Beltsville, MD and by Rodale Research Center in Kutztown, PA have shown that organic production with reduced tillage and resource conserving crop rotations that include high biomass cover crops can sequester more carbon than continuous no-till with conventional inputs. Insufficient science-based information on the most effective and practical means to manage fields and other lands is the main obstacle at this time. Organic farmers face a second obstacle in that the benefits of organic practices are not as widely recognized as those of conventional conservation systems such as no-till. Fortunately, the 2008 Farm Bill has opened an opportunity to begin removing this barrier – and the degree to which this can happen may be determined in substantial part at the implementation stage.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

I do not have an informed answer, except that technical assistance for producers in implementing any carbon reduction management practices is *vital*, as it is for other conservation programs now offered through NRCS. Many of the current programs suffer from insufficient availability of technical assistance; it is important for future carbon reduction programs for farmers to avoid this pitfall, and budget sufficient funds for training and assisting producers in implementation.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Strong financial incentives and possibly technical assistance should be offered to farms for installation of wind turbines and (as technology improves and prices come down) solar-thermal or solar-photovoltaic energy generation. These effectively replace carbon fuel with entirely carbon-free energy sources, and can at least provide much of the energy requirement for the farm itself, if not also feed some back into the local grid. Biomass or biofuel energy crop production must be examined closely to ensure it is sustainable, and

does not degrade the soil resource. Even in the case of perennial crops, removal of aboveground biomass for fuel production reduces the amount of carbon returned to the soil. Only those biofuel systems that allow some soil carbon sequestration to continue [or at least high levels of soil organic matter (= carbon storage) to remain steady], should receive credit under a carbon reduction policy. Corn ethanol produces less than 2 calories of energy per calorie of fossil fuel consumed in crop production, and also tends to deplete soil carbon (releasing carbon dioxide), especially when fields are converted from resource conserving crop rotation to continuous corn in an effort to supply ethanol markets. In general, biofuel crops are most appropriate on a small scale, for on-farm or within-local-community consumption, and in any event must be truly sustainable (either perennial crops or crops grown as part of a resource conserving rotation) in order to receive carbon credits or offsets of any kind.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Sustainable selective forestry	Excellent	Good	Medium	High – tech. info widely available

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Management intensive rotational grazing	Good-Excellent	Good	Medium	High – technical info widely available

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Conversion of marginal lands to perennial crops or sod	Good	Good	Varies	High
Resource conserving crop rotations	Good	Moderate - more research needed	Medium	High
Organic + hi biomass cover crops	Good	Good	Medium	Medium - can be challenging

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
SIERRA BUSINESS COUNCIL
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name
Betony Jones

Organization(s) you represent
Sierra Business Council, Conservation Innovations
Vice President, Founder and CEO

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

   Please respond in 600 words or less.

A hybrid approach would be best. I believe cap and trade is the most economically palatable and politically feasible and would probably most efficiently achieve targets (depending on how the caps were set and what types of trading are allowed). However, because we need to see drastic short term results (to avert the pending climate crisis), a tax is an important first step, phasing into a cap and trade system. A carbon tax that is fairly high would result is relatively immediate GHG reductions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

   Please respond in 300 words or less.

Absolutely. These ecosystems are nature's only way to actually remove CO2 from the atmosphere through photosynthesis. Yes, the accounting is challenging, but all other approaches simply reduce emissions. Photosynthesizing landscapes, remove these gases. Furthermore, the co-benefits cannot be matched by any other sector. Water quality, food security, green rural jobs and economic development, scenic vistas, recreation, habitat, etc. etc. etc.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

   Please respond in 600 words or less.

   A combination is the only fair way to do it. Auctioning would benefit large established companies over smaller, more nimble, and innovative start-ups. Allowances to sectors that provide for a variety of sustainable social and environmental benefits could be no cost.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

   Please respond in 600 words or less.

   Attempting to create compatibility between state/regional and a national program would be a good goal. All state or regional programs are in some ways flawed. Linking to developing international policy (post-Kyoto) would be very valuable for all buyers and sellers of offsets.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

   Please respond in 300 words or less.

   Either way. I think the EPA makes the most sense.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

I think it makes sense for CFTC to regulate this.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

We need more transparency and accessibility and regulation. The goal of solving the climate crisis needs to remain in the forefront of all such structural decisions. What will create maximum impact for the atmosphere?

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

If Ag and Forestry is included in a meaningful way, and rural communities are given flexibility and options for participating, the impacts could be positive. If policy is cumbersome and complicated, rural areas will continue to be colonized for the lucrative climate benefits they provide without being afforded the self-determination to decide how to engage in these emerging markets. Rural communities need to be given the tools and resources to be agents of change in a positive and proactive way. Rural areas are the "resource sheds" for urban America. If climate policies are not structured in a way that benefits rural communities, the whole country's agenda for a green or sustainable economy is at risk of falling way too short.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenue should be reinvested to support stewardship and restoration of the nation's ecosystems, so they may continue supporting us and we can avoid the high costs of engineering replacement infrastructure to provide clean air, water, and other services we depend on. Additionally, revenue should be invested in R&D to invent new solutions to climate change. Finally, improving human and natural systems' abilities to adapt to change and ensuring climate justice around the country and the planet for people most negatively affected.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

No, such a subsidy would delay necessary action.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Finance management to return public lands to a more resilient state so they can provide valuable ecosystem services in perpetuity.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

High and low limits would limit market volatility and risk, which might also reduce investment.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

CDM projects exist for forestry, but the project types are limited. We need reforestation and avoided deforestation carbon reduction projects. Simple and accurate accounting is critical.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

A regulated offset program with higher incentives for agriculture and forestry projects. An offset market should ensure protection and enhancement of nature's inherent ability to

reduce atmospheric concentrations of CO2. Ag and forest projects should be paid for providing higher quality offsets (than other carbon reduction measures).

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Yes, but to encourage offsets from a variety of sources, offsets should be limited by project type, and for land use (forestry and ag) projects, as long as basic additionality requirements are met, limits should be high enough to encourage broad participation. Maintaining ag and forest land also addresses climate change adaptation (not just GHG emission mitigation).

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Auction—with some types of offsets (ag and forestry) made more valuable because of the multiple additional societal benefits they provide.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Quantification, verification, and monitoring should be simple and easy to implement. If these measurements are overly complex, most of the money goes to consultants, with little remaining to maximize climate benefits. Standard should be set based on pre-existing environmental regulations, and "business-as-usual" scenarios that are fairly generously interpreted based on patterns of land use change over the past 50 years.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Baseline, additionality, leakage, (NOT permanence)

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Reach out to individuals with experience in existing registration and verification systems. For example, SBC's experience with CCAR protocols for project development and verification of different types of forest projects gives us a unique perspective on systems that would work better. Simplicity is key, overly burdensome reporting and verification requirements put financial resources in consultants' pockets rather than into offset projects. Simple requirements will maximize climate benefits over the long term by encouraging

greater participation in the emerging carbon market by those landowners with the ability to positively or negatively impact the climate.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Standards-based approach based on forest or ecosystem type, activity, and region. Field measurements are way too expensive on a project-by-project basis and limits participation.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

GHG emission reduction targets should be met with a combination of offsets and allowances (and a carbon tax). Allowing entities exceeding their allowance the flexibility to choose their offset would be more popular with the business community (than a straight tax). A higher fee should be paid by specific companies meeting more than 20% of their targets through offsets. To maximize climate benefits, reducing emissions has to eventually be more technologically and financially feasible than purchasing offsets, but greater flexibility initially is important for getting buy in.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 500 words or less.

The most important issue is what happens in the atmosphere. Permanence within a particular project is unnecessary if overall concentrations of GHG's in the atmosphere decline (i.e. if the reduction are replaced by another offset project). "Renting" offsets decrease significant risk for landowners and ensure that reductions goals can be met most efficiently year after year. Rental terms also decrease market volatility (and ensure wider spread participation)

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Congress should set standards (in coordination with other nations)—for markets or systems that meet or exceed the standards, existing offset projects should count and be available for purchase in the regulated GHG reduction system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also

be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Yes, the ability to layer ecosystem services and engage in multiple markets is very, very important for environmental protection and stewardship, through leveraging private resources to protect the functions of nature on which we rely.

Additionally, layering or stacking multiple ecosystem services is the only way to ensure total ecosystem health rather than maximizing one ecosystem service (such as carbon sequestration) at the expense of other measures of ecosystem health (wildlife habitat, water quality, resilience to disturbance, erosion control, etc.).

Finally, it is important to allow those who have already been undertaking activities that reduce GHGs in the atmosphere to capture monetized benefits of doing so. To not extend financial incentives to people who have been "doing the right thing all along" would create a disincentive for early actors or adopters. No matter the primary goal of the activity, if the climate benefited, the steward of the land should be eligible for payments that arise through regulation.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Public funding used for land acquisition or easements should allow payments for other previously unspecified ecosystem services to be passed on the to the steward of the land. Public funding is limited and to the extent that private funding can be leverage to maximize conservation goals, policy should support it.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Often the devastation of a particular natural disaster can be minimized through effective land management and stewardship. To some extent the land owner should be held responsible and projects should have reasonable buffers to replace reductions lost to an uncontrolled disturbance. For example, if a landowner is paid for the carbon stored on his forest, and it burns to the ground, he should held partially responsible for not thinning the property to avoid the catastrophic effects of fire. This is less of a risk however, if you allow for "renting" offsets. Required buffers based on a standard risk analysis is an easy way to address this issue.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

EPA and USDA, in coordination with CEQ, and OSTP should develop regulations.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Protocols are complicated and reporting/registration requirements are too frequent (adding up to considerable expense). Project terms are too long, and consultants are too expensive. Risk of loss of permanence is too high.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No—landowners who steward the ability of their lands to provide ecosystem services need to be paid for the variety of benefits they provide. Carbon sequestration opportunities are not enough, and small (<1000 acres) landowners cannot participate in carbon sequestration projects because they do not have the economy of scale to make the projects pencil financially.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

-Aggregation of multiple projects needs to be explicit guidance.

-The climate value of wood products should be calculated based on the benefits to the atmosphere (i.e. energy generated from wood products has greater climate benefits than using wood products to replace more carbon intensive products, which delivers great climate benefits than simply storing carbon in a wood product.)

-Climate policy must be integrated between sectors and between rural and urban areas. For example, building codes requiring sustainable harvested, small diameter engineered wood products, would have more lasting impact on the role of working and healthy forests in the carbon cycle than forestry policy alone.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Avoided deforestation	Excellent	Good	High	Medium
Reforestation	Excellent	Excellent	High	Medium
Stewardship practices to reduce fire risk	Moderate	Moderate	Medium	Medium
Sustainable timber harvesting to produce wood products to replace other materials	Good	Excellent	Medium	Low
Biomass heat or electricity generation	Excellent	Excellent	Medium	Low

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Methane capture				

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Composting				
Low/No till practices				

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
SOCIETY OF AMERICAN
FORESTERS; MISSOURI SOCIETY OF
AMERICAN FORESTERS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Erica Rhoad

Organization(s) you represent

Society of American Foresters and Missouri Society of American Foresters

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director of Forest Policy, Society of American Foresters

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Thank you for the opportunity to comment. If a cap-and-trade program is implemented forest project types eligible to participate as offsets include: afforestation, reforestation, managed forestry, avoided deforestation, and harvested wood products. These projects can sequester carbon in a way that is additional and verifiable, but would also create an additional revenue stream for landowners as an incentive to keep forests forested. Domestic forests currently offset 10% of U.S. emissions, but forests, if not managed properly, could become a source of carbon, rather than a sink. Generally, one the largest source of emissions from forests is conversion to other uses, such as development. Further, some public forests in the West are net emitters due to emissions from catastrophic wildfires, the subsequent decay of those forests after wildfire, and mortality through increased insect and disease epidemics (generally due to both climate change and poor forest health).

Climate policy must also look at the other important aspects of forestry such as renewable biomass energy, the substitution of wood products for non-renewable building materials with a much higher carbon footprint, mitigation and minimization of catastrophic wildfire (through active management projects that improve forest health and vigor--this will also help forests adapt to climate change).

Finally, USDA and the Forest Service have done a great deal of research and work on forest management and climate change. Forest offset programs or other forest related programs should be administered by USDA, not other agencies or departments with far less experience in this area.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

If the Agriculture Committee defines a "carbon reduction program" as a meaning a "cap" under a cap and trade scheme, no, forestry should be maintained outside the cap to ensure that additional values can be created. A general principle that "keeps forests as forests" should be used. If a cap-and-trade program can create additional values, then more forests will be conserved, providing sustainable livelihoods as well as a suite of ecosystem services, i.e. clean water and biodiversity.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

Emissions markets are different from other commodities with respect to one main problem: there is no supply (of allowance) response when carbon prices rise or fall (like what we are seeing today). This inability of responding prices makes the carbon market more volatile than other commodity markets. Two ways to deal with this are carbon taxes and emissions trading. A carbon tax is easy to implement and provides price certainty, but the environmental outcome, i.e. the targeted climate mitigation, is uncertain. For emissions trading, the quantitative targets that are created through the political process sets the level of environmental integrity in the system. These work well with cap-and-trade (C&T) schemes and are compatible with the way the world is moving, i.e. the EU.

In a well designed C&T system, we need to worry about prices going too low and too high. If banking is a part of the C&T system, then prices will not go too low (since traders will bank credits until prices rise). If prices rise to high, then tools like a strategic reserve (like what is in the current draft Waxman-Markey bill) and offsets provide for means by which capped sectors can achieve the emission target at the lowest cost.

Now comes the question of whether allowances should be auctioned or free. The decision to allocate allowances based on 1) an auction or 2) for free has significant implications to manufacturers and other direct emitters. If allowances are auctioned, then the revenues generated from a cap-and-trade system will act as a tax to manufacturers and other direct emitters. The main reason for auctioned allowances in cap and trade systems (like the EU ETS) is so that revenues can be generated that the government can use to target low carbon investments, for example energy efficiency in the reductions in emissions in deforestation in tropical countries. That said, government will tend to take the auction proceeds and spend them in places that will not always make a significant change in behavior required to move to a low carbon economy. A transfer of wealth from the private sector to the public sector is inherently inefficient (generally) and could be wasteful. Further, the proposals to date have suggested not only transferring wealth nationally from private to public but then transferring U.S. wealth to other countries for projects that, again, may not result in significant climate benefits.

If auctioned, then a minimum price (called a reserve price) should be set for auctions. And auctions should be planned periodically and released into the market as needed. Auctioned allowances, over time, could create a perverse incentive to reduce production in the US and transfer this production to countries that do not have a C&T program. This could shift production to places like Mexico since the Kyoto protocol treats developing countries differently than the US and Canada.

If free, then two components could be designed into the system. A C&T system could 1) include benchmarking performance criteria using rolling average volumes of production, along with 2) performance criteria on emission targets. If so, then it has been argued that free allowances will not impact the cap or the carbon market price, and will reduce international leakage (emitters moving to another country where C&T targets do not exist).

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

No. Forestry needs only one set of offset rules that applies to all states. Forestry rules should be written by USDA and USDA should look at existing registries and markets to determine the best protocols for forestry.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

N/A

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

N/A

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

N/A

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

N/A.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Provide incentives to use best management practices, avoid forest conversion, and enhance forest carbon sequestration, storage, and substitution. In many states, programs such as FLEP have been very helpful in outreach to forest landowners to help improve forest management while also being efficiently administered.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

N/A

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Use practices that enhance forest health and lessen risk of wildfire and insect/pest outbreaks. Utilize thinnings to produce biomass for energy (with appropriate definition of "biomass"). Introduce higher timber harvests to offset current imports of about 40 percent of domestic consumption (thus lowering transportation costs, illegal logging, and foreign deforestation). We can produce many of our countries wood products in the United States while ensuring sustainable management and other co-benefits and climate benefits forests provide. We must, however, have the ability to manage forests.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

N/A

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Excessive permits should not be distributed. The European Union incorporates afforestation and reforestation, but not management. They need to incorporate harvested wood products and substitution of wood for products with higher carbon footprint. The EU also needs to develop protocols that adequately account for permanence, additionality, leakage, and track carbon in forest products, biofuels.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

N/A

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

If forest offset programs are designed correctly (in a way that's additional and verifiable), offsets should not be limited. If the goal of climate legislation is truly to reduce CO2 in the atmosphere, offset projects should be unlimited to allow the United States to meet its climate goals as quickly as possible. Forests, through forest offsets, but also renewable biomass energy, substitution of wood products in place of non-renewable products and reducing of catastrophic wildfire, can have immediate climate benefits NOW. Other technologies, though promising in the future, are still not feasible means of reducing GHGs. Alternatively, forests can be managed today, to provide climate benefits while also providing co-benefits such as clean water, wildlife habitat and aesthetics. Further, this can be done sustainably.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

N/A

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The Journal of Forestry, a peer-reviewed journal published by the Society of American Foresters, has published several articles on this topic. However, the length of the articles would exceed your word limit. We would be happy to provide you with these articles if you are interested.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Please refer to the answer above (17).

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Accreditation requirements for validation and verification bodies have been developed under the International Organization for Standardization (ISO), known as International Standard ISO 14065 (ISO, 2007) Greenhouse Gases – requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition. National standards setting bodies, i.e. the American National Standards Institute (ANSI) in the United States) provide accreditation to the ISO 14065 to validation and verification bodies that qualifies them to validate and verify GHG emissions under several voluntary forest offset project standards, e.g the CCX, CCAR, and the VCS standards.

The current draft Waxman-Markey bill has language about ANSI doing the accreditation, but leaves the door open to other ways to qualify third party verifiers. We would generally support ANSI accreditation. This accreditation requires that verification bodies ensure that they have auditors who are competent to conduct audits to the different project types, i.e. forestry.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

N/A

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

N/A

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

N/A

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

N/A

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

N/A

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

N/A

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

For forest offset projects, an ideal protocol would only count carbon that is already sequestered and would also 'set aside' a certain percentage of carbon for insurance, should there be a natural disaster that causes a reversal.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Legislation would ideally recognize the following offset projects: afforestation, reforestation, forest management, avoided deforestation and harvested wood products. If legislation does not recognize offset projects or only recognizes limited offset projects, legislation should allow USDA to create additional forest offset projects that are additional and verifiable.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Definitions of permanence, additionality, leakage, for example in draft legislation, would basically disallow forest landowners, especially those that actively manage their forests, to participate. Other issues that have not been addressed in draft climate bills are accounting for carbon flux in wood products, quantification of below-ground storage, quantitative assessment of risk of carbon loss due to fire, insects, wind, climate change, and societal reluctance to thin overstocked stands. All of the obstacles have solutions, but the political will to overcome these obstacles must exist.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No. We need incentives and legislation that allow thinning of over-stocked stands and promote best management. We also need policies that limit frivolous litigation related to thinning in the context of sustainable forestry practices. Finally, we must enhance State and Private programs of the US Forest Service that provide technical assistance (outreach) to private landowners.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Forests and forest management must be seen as part of the solution--particularly in avoiding fragmentation and conversion. The major role of forests (as demonstrated by current European emphasis) is in combining sustainable forest management with bio-energy production (lessening reliance on fossil fuels) and in substituting wood for other materials/products that use more carbon in manufacture and use. Though not included in most climate bills, biomass energy has a tremendous opportunity to displace fossil fuel energy. This can be done while complying with existing laws guiding the management and sustainability of federal and private forests while ensuring co-benefits. Policies must encourage, rather than discourage, this development.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	Depends on protocol	High
Reforestation	Excellent	Excellent	Depends on protocol	High
Managed Forests	Excellent	Excellent	Depends on protocol	High
Harvested Wood Products	Good	Excellent	Depends on protocol	High
Avoided Deforestation	Excellent	Excellent	Depends on protocol	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
SOUTH EAST DAIRY FARMERS ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Charlie Garrison

Organization(s) you represent

South East Dairy Farmers Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

First and foremost, the U.S. government, including both the Congress and the federal regulatory agencies, should not act unilaterally to enact a GHG reduction program. This is the concept of "leakage." Unless other countries are willing to take action at roughly the same time, industries in the U.S. will become uncompetitive in the global marketplace and meaningful reductions in worldwide GHG emissions will not have been achieved.

When it is clear our trading partners are ready to act, we believe that a cap and trade system that excludes agriculture from regulation can achieve meaningful GHG emissions reduction with minimal increase in costs to business and the general public. Agriculture can make significant contributions to carbon sequestration and income resulting from credits that are generated will help mitigate the potential impact on food production costs. Dairy farmers have already made great progress in reducing GHG emissions with sustained productivity gains over the past several decades. Income from the sale of carbon credits will only boost our efforts to implement advanced production practices and technologies that will enhance the pace of GHG reductions achieved by farmers in the future.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No. For two reasons. 1. Agriculture's share of GHG emissions is extremely small. There are far more urgent issues to address than the very small amount of emissions coming from farms. 2. Agriculture offers so many opportunities to permanently sequester atmospheric carbon that is already there and to prevent it from entering the atmosphere in the first place.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

With agriculture properly positioned as part of the solution and not the problem there should be no need for distribution of allowances to the industry. The majority of allowances must go to the capped industries. The difficult challenge will be to arrive at the right number of total allowances to allocate in order to achieve GHG reductions from the

capped industries at a rate that achieves the long-term goal without unnecessarily adding costs for basic goods and services for the public.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

The development of a cap and trade program should start with recognition of the expertise of current existing programs eventually looking to create a single national regulatory structure. Regional differences in the ability of some practices and technologies to reduce GHG emissions currently exist and will remain. While it will be tempting to use the "local is better" approach, the stability and continuity of a national program will be necessary to regulate what may eventually become an international carbon credit market.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

South East Dairy Farmers Association would prefer to see a regulatory structure develop at an existing federal agency; most preferably USDA. Each industry should be regulated by the corresponding federal agency. USDA's Natural Resources Conservation Service (NRCS) has the experience and network of field staff, including the State Conservationists, to create effective regulation of a carbon credit trading system that positions agriculture correctly as part of the solution to reducing GHG emissions.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

It will be far more efficient to have the CFTC continue in the role of regulator of the derivative carbon market than to develop a new structure. A developing market for carbon credits will most closely resemble the current commodity markets regulated by CFTC.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

With proper regulatory oversight to maintain the integrity and transparency of the market, yes.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

It seems a given that a system that adds costs to basic industry will affect nearly everyone. The effects will not, however, be uniform. If energy costs increase, every input purchased by a farmer will cost more. That will take money out of the pockets of farmers who are the economic backbone of rural communities in this country. Even the financial impact on farmers will not be uniform. Electricity costs already vary from region to region. If fuel prices rise, transporting bulky fluid milk to deficit areas of the country, like the Southeast, will become even more expensive than it is today.

Food processing will also be affected. The relative competitiveness of plants will change based on factors such as the age of the facility, energy costs and, in the case of the dairy industry, the distance to supplies of farm milk and distance the finished product must be shipped to customers.

From a societal standpoint, the impact of higher prices for basic goods and services will be felt most by those at the lower end of the economic scale, many of whom are currently served by USDA nutrition assistance programs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Dairy farmers, as raw product suppliers in one of the country's basic industries, will feel the affects of a GHG reduction program in higher costs for virtually every input they buy. At the same time, dairy farmers are excited about the opportunities that come with a cap-and-trade system. A system that exempts agriculture, as it should, will offer farmers the ability to market carbon credits developed from the implementation of new production practices and technologies. The income from those credits can be used to offset the increased costs associated with the new system.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes. While all farmers will experience increased costs due to implementation of a GHG reduction program, not all will be able to benefit equally. Few farmers will be able to benefit from carbon credit trading immediately. Some farmers won't be able to participate in generating carbon credits at all, and regional differences in the value of credits derived from similar practices will require transition assistance to keep the new system from negatively affecting the food supply in both the short- and long-term.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

While public lands are not a significant factor in milk production in the mid-Atlantic and southeast regions, it seems appropriate that farming on public lands can play a role in GHG reductions. With that goal in mind, it also seems appropriate that the benefits of any carbon credits generated on that land should go to the entity responsible for properly managing that land.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

The market sets the price for other major commodities and should be the price-setter in the carbon trading market as well. To add stability to the program, daily trading limits, both up and down, should become a feature of the carbon trading market as they are with other commodities.

Any discussion of a cap on the price of carbon credits should be accompanied by a discussion of a floor on same.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

It is our belief that the case-by-case evaluation of practices and technologies required in the EU is simply too cumbersome to be workable in a large-scale system in the U.S. Direct verification of each participant's GHG emissions reduction efforts adds undue cost and reduces the value of any carbon credits that are generated.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Given the variation in the ability of farmers to participate, a voluntary program is a necessity. A successful market for carbon credits will develop if reduction targets are applied appropriately to capped industries.

If technologies and practices are evaluated in aggregate for ability to reduce GHG emissions or to sequester carbon, it will be appropriate for bonus allowances for select activities to become a part of that equation.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

There should not be a limit on the number of offsets set by government as long as the technologies and practices that create them are science-based and the offsets verifiable.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The market should decide how science-based and verifiable offsets are to be distributed.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

For a sustainable carbon market, science-based criteria must be developed for evaluating, quantifying, verifying and periodically monitoring technologies and practices used to generate carbon credits. The measure that counts is the proven potential for a given technology or practice to reduce GHG emissions or sequester carbon.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Third-party audits, currently being used in some regional programs, are the preferred way to evaluate offset projects.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The assignment for designing a system to verify offset projects in agriculture should be handled by USDA.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

As stated earlier, project-by-project analysis is cumbersome and adds cost to the system. A standards-based approach, with random third-party audits, should be given a chance to work.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The number of allowances issued to capped industries will determine both the amount of GHG reduction that is achieved and the economic value of offsets and credits. The total number of allowances must be limited while the number of offsets should be determined using science-based criteria to evaluate practices and technologies and the value of offsets should be determined by the market.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

As the new program gets started, flexibility will be extremely important in establishing the degree of permanence that a given practice or technology will achieve. As much as possible, strong science-based evaluation should be applied. If permanence can be demonstrated, as it can be with methane capture using a digester on a dairy farm, the contract should be for a longer term.

In cases where practices and technologies are less well understood in terms of permanence, contracting parties should be given broad parameters that leave at least some flexibility for negotiation.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing projects should be allowed equal access to the new system if they can pass the same scrutiny for effectiveness of GHG reduction that will be given to new projects.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been

early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Yes, existing projects should be allowed access to the new system and yes landowners should be able to "stack" credits as long as the practice or technology implemented also provides GHG reductions. The overriding objective is environmental improvement. We have long advocated that water and air regulation regarding agriculture must be better coordinated because so many of the same practices and technologies that can be employed on farms impact both. Additional incentives, targeted at specific projects with scientifically verifiable benefits, should result in additional action in all areas of environmental mitigation, including GHG emissions reduction.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

It is our belief that singling out participants in previous cost-share programs for environmental mitigation for additional scrutiny in a new program will only impede progress toward the goal of GHG reduction.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

If a cap-and-trade system is to begin providing significant sources of income to farmers, it is time to begin consideration of the development of an effective economic safety net for those participating. That would include ways to mitigate the effect of a natural disaster on a farmer's ability to maintain a practice or technology that has been implemented to generate carbon credits for sale. It would also include some sort of insurance program that the farmer would be required to participate in to be eligible for disaster assistance.

Contingencies for projects that simply "fail to deliver" should be covered under terms of a contract.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The Congress should delegate authority to develop protocols and procedures to the appropriate regulatory agency. In the case of agriculture, that is USDA.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Cost, predictability, the development of criteria to determine the value of carbon credits and the impact of all of those factors on their customers.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing programs clearly do not offer sufficient incentives for farmers to implement climate change mitigation measures. When climate change legislation and/or regulation is adopted, the incentive programs currently included in farm program legislation should be reevaluated and retooled to take into account the contribution that agriculture can make to reducing GHG emissions and to overall carbon capture.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

As stated earlier, we believe leakage to be a real challenge to proceeding on reduction of GHG emissions. If the U.S. acts unilaterally, GHG emissions reductions will be minimal while the international competitiveness of U.S. industry is reduced.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Anaerobic digestion	Excellent	Excellent	High	High
Improved manure handling	Good	Good	Medium	High
Improved feeding practices	Excellent	Good	Medium	High
Feed additives	Good	Excellent	Low	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till Carbon soil sequestration	Excellent	Excellent	Medium	High
Precision agriculture	Good	Good	High	High
Pasture management	Good	Good	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
SUSTAINABLE NORTHWEST
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Martin Goebel

Organization(s) you represent

Sustainable Northwest

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

A carefully crafted and regulated cap-and-trade program, with an option for additional policy mechanisms, is preferable. A cap-and-trade approach provides certainty in the quantity of emissions from capped sectors, while a carbon tax/fee will provide certainty in the price of emissions. This is the trade-off: clear limits on emissions to prevent further environmental degradation or clear signals to the economy on the price of emissions. Considering the causes of climate change, the primary focus of any program should be strict and immediate emissions limits to ameliorate an urgent environmental problem and prevent catastrophic atmospheric change, a focus that favors a cap-and-trade approach. Carbon taxes do not guarantee any change in actual emissions.

Cap-and-trade programs to limit greenhouse gas programs are already being used internationally, allowing the U.S. to link with international efforts to address a global problem. The EPA has experimented with the use of cap-and-trade mechanisms through the authority of the Clean Air Act since the 1970's to reduce emissions of criteria pollutants, phase out lead from gasoline (EPA Gasoline Lead Phase-down), and regulate sulfur emissions from mobile source engines (EPA Averaging Banking and Trading Program). A domestic program to limit sulfur dioxide emissions illustrated the impressive results of a well-designed cap-and-trade system, achieving emissions reductions at levels greater than expected with costs below expected levels.

Carbon taxes/fees have a narrower historical track record and are currently used in a more limited context internationally. Even with implementation of a carbon tax in Norway, actual emissions under the carbon tax rose higher than pre-tax levels due to increases in energy demand. Carbon taxes may also need to be adjusted periodically in order to ensure environmental effectiveness of the carbon reduction program. It is not immediately clear what effect frequent changes in the tax rate would have on the efficacy of the carbon reduction program.

Still, cap-and-trade and carbon taxes/fees are not mutually exclusive options and should be seen as complementary mechanisms. A carbon tax can probably be implemented more quickly and more easily than a cap-and-trade system; and the proposed regional systems do not cap all sources at the outset (WCI won't include transportation fuels under a cap until 2015). Therefore, carbon taxes and other policy tools could be used as complementary instruments to provide a cost of carbon for emissions sources that will be, if not initially, included under a cap. Together, a combination of approaches including cap-and-trade, carbon taxes/fees, incentives such as tax credits, and renewable energy standards can provide a balanced approach to GHG reduction.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Agriculture and forestry should not be included as capped sectors under a carbon reduction program. Agriculture and forestry are natural resource industries with integrated impacts on ecosystem services, including the flux of atmospheric GHG concentrations. Ideally, the management decisions that produce positive GHG outcomes would also produce positive outcomes in other ecosystem services. However, due to the dynamism of these systems, management activities that maximize GHG reductions or sequestration may sometimes conflict with other natural system values, such as the preservation of a species, or water quality outcomes. The flux in these systems makes it difficult, and indeed undesirable, to manage for any one particular outcome – such as minimizing GHG emissions.

In addition, there are specific challenges associated with including agriculture and forestry as covered sectors in a cap-and-trade program including the difficulty of monitoring national level emissions from these sources. Including these sectors in a mandatory cap-and-trade program could impose burdensome reporting requirements for businesses in these sectors. Small farmers and forest landowners would likely be the most negatively impacted, as the scale and scope of their resources are easily overwhelmed. In the event that agriculture and forestry were determined to be covered sectors under cap-and-trade program, it is essential that small forest landowners and agricultural producers be exempt from regulation.

At the same time, agriculture and forestry do offer substantial carbon sequestration opportunities. These industries are better suited to incentive programs that will allow managers to maximize the benefits for multiple ecosystem values. The inclusion of forestry and agricultural offsets, with the appropriate monitoring protocol, would provide needed incentives to maximize carbon sequestration activities. These sectors should also be targeted for financial and technical assistance under a carbon reduction program to help address issues posed by changing climatic conditions, including opportunities to address adaptation.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

A substantial majority of allowances should be distributed through an auction. The distribution of emissions allowances will not affect the environmental integrity of a cap-and-trade program, but will have significant effects on distributional (i.e. regional, socioeconomic) equity of costs associated with a carbon reduction program. These distributional effects should be a primary consideration as policymakers craft their strategy for allowance distribution, and the goal should be a program that maximizes regional and socioeconomic equality in the face of a carbon reduction program. When determining the exact strategy form the distribution of allowances, policymakers should seek to ensure that

the costs of a carbon reduction program are not borne disproportionately by vulnerable populations, natural systems, and sectors or regions of the economy. Specifically, we recommend the following general investment areas for emission allowance auction proceeds: 1) minimizing impacts on vulnerable populations – especially rural, low-income communities and households, 2) financial assistance to programs that help natural ecosystems adapt to changing climates, 3) strategies to encourage clean energy and low-carbon industries, and 4) compensation for industries, and their consumers, that experience disproportionately higher impacts from the implemented regulatory system.

Studies have suggested that freely allocating allowances to covered entities increases the overall costs of a carbon reduction program by diminishing the capacity of governments to use new revenues to target those communities most affected by a cost of carbon ("Trade-Offs in Allocating Allowances for CO2 Emissions" Congressional Budget Office 2007). Evidence from the EU ETS, where allowances were freely distributed, has provided empirical support to these arguments as covered entities accrued windfall profits at the expense of energy consumers faced with increasing costs ("Cap and Trade 101: A Climate Policy Primer" Sightline Institute 2009). Additionally, a free distribution would shield emissions sources from a cost of carbon, clearly emasculating the primary market mechanism that cap-and-trade is intended to deliver.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Nearly half of all states have already agreed to develop and participate in regional carbon reduction programs through the Regional Greenhouse Gas Initiative (RGGI), the Western Climate Initiative (WCI), and the Midwest Greenhouse Gas Accord. Not all state and regional programs have progressed on identical timeframes and each program is currently at a very different point in its development. Regardless, state and regional programs represent early action to address climate change and should be given credit, subject to requirements that these programs produce real, verifiable, permanent reductions in GHG emissions or increases in biological sequestration. These programs have also produced consensus-based standards and protocols that may be valuable tools in the development of federal/national level methodologies.

The goal of federal legislation should be to create a cap-and-trade program that limits national GHG emissions while also linking to, or integrating, state and regional programs. This national program should avoid a patchwork of state and regional markets and move toward a common market framework with a fairly uniform price for carbon. To accommodate states that have already taken action on GHG regulation, national policy could include some process for state and regional systems to transition to the national framework, providing a reasonable timeframe for adjustment and recognition of, or credit for, early action. State or regional systems with weaker policies or standards would need to strengthen them over time to comple with federal regulations. Any national policy should allow for states to enact their own GHG regulations or incentives programs where those standards and protocols exceed those of the national program.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The federal government has experience implementing programs to reduce atmospheric pollutants that will prove useful in the regulation of GHG emissions. The Environmental Protection Agency (EPA) has implemented various market-based emissions reduction programs since the late 1970's. Although the EPA may have the most familiarity with the administration of an emissions trading scheme, it may not have the necessary expertise to formulate the regulations for all sectors affected by a cap-and-trade program including any potential offset programs. Agency expertise and relationships within particular sectors will be critical to establish successful approaches. For example, the Department of Agriculture (USDA) must take an active role in determining specific implementation actions that will succeed in the agriculture and forestry sectors.

Since the primary economic argument for cap-and-trade over command-and-control methods is the increased efficiency of a market-based program, the agency or agencies that administer any cap-and-trade program should be capable of efficiently and effectively maintaining a functioning market. If interagency cooperation cannot meet this need, then creation of a new agency may be justified. Regardless of whether a new or an existing agency regulates a cap and trade program, there should be clear oversight and monitoring of the program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The entity responsible for regulating the market is not necessarily as important as the methods by which that regulation is instituted and adequately enforced: the regulator must have the capacity and inclination to set ground rules, provide oversight and exert power to achieve these aims. The CFTC and the Securities and Exchange Commission have been successful, and the Environmental Protection Agency runs a successful sulfur dioxide trading system. The individual institution responsible for regulating the derivative carbon market is not as important as having stated goals, transparency and oversight, and the mechanisms to be successful.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

In order to address the potential negative impacts of speculation, while also fostering the development of a strong carbon markets, markets created by a cap-and-trade program should be sufficiently regulated to ensure that the access to the market and uncertainty in the cost carbon does not undermine the environmental integrity of the program.

The influence of financial intermediaries and derivatives in future carbon markets could cause disruptive uncertainty in the cost of carbon. This may prove to be a major issue in protecting the efficiency of a cap-and-trade program as speculation could produce wild fluctuations in the cost of carbon, independent of any genuine scarcity created by a cap-and-trade system, that send artificial signals to the economy on the price of GHG emissions.

Some fluctuations in the cost of carbon are appropriate and will be inevitable in a cap-and-trade program. However, carbon markets that are too unpredictable may stifle investment as businesses will not invest in mitigation or sequestration projects if there is too much risk or a lack of clarity about investment options. Conversely, only financial intermediaries provide some of the mechanisms that cushion this uncertainty for businesses and others; hedging, lending and insurance that make uncertainty and long-term investment palatable are major drivers for the financial sector.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Rural populations will be disproportionately affected by both climate change and climate policy for two important reasons. First, the ecosystems on which many rural households rely for their livelihood are being adversely affected by changing climatic conditions. Second, rural populations generally lead more energy-intensive lifestyles and have higher incidence of poverty. Households and people in poverty will likely be more severely impacted by raising energy and commodity pricing ("Incidence of U.S. Climate Policy" Resources for the Future 2008).

The true impacts of GHG reduction policy on rural populations will depend primarily on the structure and implementation of the policy. It is critical that policymakers reach out to rural constituencies throughout the policy development process to fully understand and consider the particular impacts of different program options on rural communities. Outreach opportunities that seek input and information from rural constituencies, such as this survey, are vital to ensure that negative impacts in rural areas

are minimized. Opportunities that allow for an even broader spectrum of rural public participation in the policy making process for GHG reduction should be pursued.

General policy actions that can help mitigate the negative impacts of climate related policy on rural communities, include 1) redistributive mechanisms for compensation of affected regions and populations that specifically target rural populations and needs, 2) incentives for forest and agriculture mitigation opportunities, such as biological carbon sequestration, and 3) financial and technical assistance to help implement adaptation strategies for ecosystems affected by a changing climate. These elements should be included as part of any federal GHG reduction program in order to produce the greatest environmental benefits with the least cost to our rural communities, agricultural and forestry sectors, and society in general.

9) How might revenue generated under a carbon reduction program be best used to offset any negative
Please respond in 300 words or less.

The following are suggested general investment areas for revenue generated through a federal carbon reduction program: 1) minimizing impacts on vulnerable populations – especially rural, low-income communities and households, 2) financial assistance to programs that help natural ecosystems adapt to changing climates, 3) strategies to encourage clean energy and low-carbon industries, and 4) compensation for industries, and their consumers, that experience disproportionately higher impacts from the implemented regulatory system.

A GHG reduction program focused on the energy, transportation, and industrial sectors will effectively place an additional cost on production and distribution of every-day goods and services that will be passed on to consumers. This will have a regressive effect, disproportionately affecting low-income households due to the larger percentage of their incomes spent on energy and commodities. The costs of climate policy will be exacerbated for rural communities because much of their livelihoods rely on natural systems that will experience significant adjustments as a result of climate change. By capturing the value generated by a cost of carbon through an auction and redistributing the revenues strategically, a well designed a cap-and-trade program could dampen the regressive effects of a carbon reduction program.

Generally, these revenues can be directed towards priorities that will lessen the negative impacts of both climate policy and the biophysical impacts of climate change: transforming the nation's businesses and workforce to support a low-carbon, clean energy economy, particularly in rural communities; facilitating the transition for individuals, businesses, and communities most affected by climate change policies; and helping human communities and natural ecosystems adapt to the biological impacts of a changing climate. Targeted investments should include financial incentives and technical assistance for business innovation and workforce training, financial assistance to low-income households in rural areas, and programs that promote sustainable and adaptive agriculture and natural resource management and ecosystem services.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

. The opportunities to assist affected businesses must not deter investments intended to help cushion the impacts of a carbon reduction program for vulnerable communities. Nonetheless, revenues generated from the auction of emissions allowances should generate sufficient revenue to provide opportunity to provide transitional assistance for affected businesses. This assistance should not be restricted to those businesses affected by the costs of climate policy, but should also include businesses affected by the biophysical changes associated with climate change. Revenue distribution decisions should be based less on the overall costs to business, and more so on the impacts to national and regional economies and how costs may be passed on to consumers.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands offer significant opportunities for carbon sequestration and reducing GHG emissions (through wildfire reduction, active management, etc.). Land management agencies should be included in a range of activities.

First, public land management agencies should establish and maintain climate change mitigation and adaptation plans -- to expand and enhance carbon sinks through stewardship activities on public land -- that are integrated with their overall mission and goals. Second, public lands can be used to study and demonstrate how ecosystems may be effectively managed to adapt to climate change and sequester carbon --providing expertise and technical assistance to other landowners and managers. Third, federal land management agencies should engage directly in the development of forest, range and/or watershed restoration based carbon offset markets -- the technical expertise of agency staff will prove useful in developing standards and protocols for biological sequestration offset projects. Line level staff should also receive training to understand how the effects of traditional activities, such as conservation and best management programs, translate into carbon benefits and market opportunities for the landowners they serve. Fourth, public lands should be able to capture some financial benefits from the carbon sequestration taking place on federal lands, in order to reinvest this revenue in active management -- either by active participation in carbon offset markets established under a cap and trade system or through some other mechanism that allows them to capture this economic value. Existing state and regional protocols (i.e. CCAR) now allow offset projects from public lands and values from trading qualified offsets have the potential to increase investment in ecosystem services and land management activities. Additionally, other opportunities to foster public land activities that sequester carbon or reduce GHG emissions should be pursued, including investing auction revenue in federal land management.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

A substantial cost of carbon is the primary mechanism of either cap-and-trade or a carbon tax, and while an excessively high cost of carbon is undesirable, a price that is too low should be of primary concern. "Safety valves" and other mechanisms designed to provide greater price certainty (i.e. price floors and ceilings, strategic allowance reserves) should not prohibited, but if used, they must not compromise the implementation of a cost of carbon, the central tool of climate policy, and should only be used in the case of excessively high allowances prices.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Agriculture and forestry should be active participants in a carbon reduction program through both a voluntary offsets program and the allocation of allowance proceeds. .

A voluntary program for qualified offsets should be included within a cap-and-trade framework to provide incentives for emissions reductions and increases in biological sequestration from economic sectors that are not within the established caps, such as agriculture and forestry, and to provide opportunities for entities in the capped sectors to acquire emissions reductions from credible and cost-effective carbon offset projects. Activities under a voluntary offsets program should seek to provide emissions reductions or increases in biological sequestration that are credible, quantifiable, and verifiable, meeting standards that ensure the equivalence of offsets from different sectors and project types.

The financial incentives backing qualified offsets can stimulate entrepreneurial activity and encourage investment in watershed restoration and forest-sector projects that provide credible and verifiable carbon benefits, while also providing co-benefits, including ecosystem services and economic development opportunities for rural communities. To ensure that the benefits of a voluntary offsets program are available at a variety of scales, such a program should encourage broad and diverse participation and provide access and

opportunity for rural communities. In addition to a voluntary offsets program under a federal carbon reduction program, climate policy should maintain voluntary over-the-counter market opportunities in addition to formal, qualified offset markets guided by regulatory standards and protocols.

It is important to note, however, that many worthy watershed restoration and forestry projects will not meet rigorous standards for offsets established under a cap-and-trade system, yet will provide multiple values including absorbing and storing carbon. Rather than relaxing standards to get greater participation in offset programs, a cap-and-trade program should support alternative means to provide incentives for beneficial, non-offset, projects. A federal carbon reduction program should provide incentives for land management activities that produce real climate benefits, if not able to satisfy the rigorous protocols necessary under an offset definition. These incentives can be supplied from the allocation of allowance proceeds generated from an allowance auction. Alternatively, these projects could receive "bonus allowances" under the cap, which are then sold to covered entities. This would provide financial incentives to beneficial forestry products while also providing additional carbon reductions under the cap.

15) Should the total number of offsets issued annually by the government be limited? If so, how much? *Please respond in 300 words or less.*

When making the determination whether or not to limit the total number of offsets issued, policymakers should consider offset quality as the primary issue. By establishing appropriately rigorous standards and protocols for offset projects, a carbon reduction program will have established adequate limits to offset quantity by prohibiting excessive participation from less-than-qualified projects. The criteria for offsets and other tradable commodities representing environmental benefits are well understood and should be used to determine offset quality: additionality, permanence, market shifting (or "leakage"), monitoring and verification, etc. In short, rather than starting from some overall limitation as a share of planned reductions, a carbon reduction program should focus on offset quality.

Additionally, some share of offsets should capture other economic and environmental benefits that only some offsets projects will generate. Forest ecosystem restoration - as opposed to mere tree farming - is a good example. Such projects might also deliver higher quality offsets. For example, a restored ecosystem might have a more legitimate "permanence" claim than a tree farm.

Some observers fear that an excessive supply of offsets will present a dangerous escape hatch that could violate a cap by allowing covered entities to fund alternatives to their own necessary action to reduction GHG emissions. The extent of this danger rests on parameters of the system - the ultimate goal is lower atmospheric CO2. If a cap is sufficiently strict and offsets are of sufficient quality, then the mix of regulated emissions reduction and offsets shouldn't matter. In practice, it seems unlikely that so many high-quality offsets will be available that we will be able to avoid reductions in fossil fuel use.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

In considering the distribution of offsets under a cap-and-trade program, we are assuming that the question is referring to the potential percentage of compliance able to be fulfilled with offsets and the division of these offsets between particular sectors, international projects, etc. We would support a strong (large percentage or supply) option for domestic offsets from forestry, rangeland and watershed restoration activities, with provisions that identify the crucial role of offsets in preventing deforestation internationally.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Criteria for measuring and accounting for the legitimacy of offsets should be based on a balance of environmental integrity and economic viability, to ensure that offset markets are accessible for both large and small-scale landowners. Existing protocols like CCAR, the Voluntary Carbon Standard (VCS), and the American Carbon Standard provide guidance on how to maintain legitimacy of offsets and should be considered as resources in the process of creating national-level standards. The VCS even addresses projects scale by allowing alternative verification options for small-scale projects. So long as these requirements maintain the environmental integrity of projects, they will allow greater participation at the small scale, an important proviso for rural communities and small landowners.

In terms of accounting and measurement, forest offset projects may cause changes in a number of different carbon pools. Although measuring all carbon pools affected by an offset project may enable more complete emissions accounting, the cost of measuring changes in all carbon pools may be prohibitive. Potential increases in accounting accuracy should be considered along with the cost of measuring and monitoring affected pools, to be reviewed and updated regularly over time using the best available information. All carbon pools to be claimed for credit should be measured and monitored. The inclusion of carbon pools that may increase over time but are not financially feasible to measure and monitor should be optional (unless they are being claimed for credit).

Third-party verification of reported amounts of carbon should be completed before they are registered for offset credits. A set of standardized tools to help determine which carbon pools will require measurement would mitigate costs for landowners and project developers, and should be developed based on local/regional data.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

To satisfy the necessary environmental integrity of offsets, potential forest projects should be required to address major criteria including permanence and leakage; baselines and additionality; aggregation; transaction costs; measurement and quality uncertainty; and monitoring and verification. All statistical approaches to estimating carbon storage and

fluxes should apply conservative estimates to minimize the risk of overestimation. Forest offset projects have the potential to generate significant social and ecological co-benefits beyond carbon, as well. These benefits should be documented and considered for prioritization under a carbon reduction program. The assessment of offset projects should maintain environmental integrity, while also providing economic viability that encourages participation from a broad scale of landowners and managers, and project developers.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Existing protocols like CCAR and VCS provide direction to Congress and federal agencies in the design of a system to verify offset projects. Verification represents a cost to project developers and landowners. While stringent verification is necessary to maintain the environmental integrity of the carbon reduction program, Congress and federal agencies should seek to mitigate this cost to facilitate landowner participation at varying scales. The government may certify verifiers to ensure they meet a standard set of verification guidelines. Verification should be conducted by independent, non-governmental, third parties that do not have a conflict of interest in approving the offset project.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

These two options should not be considered as mutually exclusive and there is no reason why alternative options for compliance via project-based and standards-based accounting should not be available. Providing both options may allow a broader array or offset types and landowner participation that may not be easily accounted for using only one of these approaches.

A standards-based approach could mitigate costs to project developers and landowners by assuming stated carbon benefits of particular activities and eliminating the need for costly monitoring and verification of particular carbon pools while a project-based approach may allow landowners flexibility in designing offset projects. Agriculture and forestry projects, unlike industrial projects, will be highly varied, reflecting particular local and ecological conditions. Allowing both standards- and project-based approaches to satisfy measurement requirements will provide flexibility and encourage innovative offset types.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Emissions allowances and qualified offset credits issued under a cap-and-trade program should be equivalent in terms of environmental benefits and considered as fully interchangeable for the purposes of complying with emissions limits. Properly designed offset markets will ensure this equivalency through adequate measurement and verification

of carbon benefits. Some legislative proposals have proposed a system of discounting to limit the use of offsets for compliance purposes. Discounting undermines measurement mechanisms and standards, questions the utility and enforcement capacity of verification mechanisms, and could result in unintended consequences like inflated accounting by project developers.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Establishing a definition of "permanence" will be important. This issue is critical for credible and uniform carbon offset projects, but it poses particular challenges for rangeland, watershed restoration and forest-sector projects. Key factors for these projects include the length of time (e.g., 50-80 years) over which many forest projects sequester and store carbon, the risks and uncertainties associated with natural systems over such long periods of time, and the social and economic changes over long periods that might affect landowner behavior.

Existing offset programs have been exploring mechanisms to deal with these issues, such as insurance policies and clear policies to deal with reversals. Forest, rangeland and watershed restoration carbon sequestration projects should assign clear obligation for reversals. Withdrawal of an offset project may be acceptable so long as the carbon storage associated with that project is fully compensated for by registration of another project with at least as much carbon storage or through the payment of an "exit fee" equivalent to the value of the carbon represented by that project.

Additionally, the likely length of time required to sufficiently address issues of permanence in forestry projects will mean that projects may involve multiple landowners. There may need to be provisions in an offset standard for transfer of title, etc in order to facilitate this process. Obtaining and enforcing long-term commitments may be difficult, and allowing shorter-term contracts may provide for greater landowner participation, provided that such contracts maintain the necessary degree of environmental integrity. Clear rules should be established for replacing shorter-term credits so that environmental integrity is maintained, and contracts of varying duration should be standardized to allow them to remain equivalent in offset markets.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The goal of an offset program within a national carbon reduction strategy should be to integrate state and regional, or other voluntary systems that wish to transition their projects or credits to the national program. In principle, transition policies should seek to reward or credit early action and require timely action to transition to the national standards, assuming that national standards outperform existing standards. Assistance for this effort to bring projects up to standard may be an important federal role, recognizing that early-actors might receive some benefit for early entry. There might also be carbon

offset markets, often referred to as over-the-counter markets, which continue to function with looser standards for carbon offset projects. Such markets might serve unique client niches outside of the national cap-and-trade system and should be allowed to function alongside a cap-and-trade system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Producers and landowners who have been early actors should be recognized and given opportunity to participate in national offset programs, and perhaps given assistance in bringing their projects up to the standards of the new program. The national program should not simply provide full credit to early-actors who have put together projects under lesser standards.

The second question addresses the issue that we refer to as "co-benefits." If a landowner develops a project, such as reforestation, to sequester and store carbon, and the landowner meets additionality requirements by establishing a baseline against which additional carbon benefits are measured, that project is likely to provide a variety of "co-benefits" in addition to carbon, such as water quality, wildlife habitat, forest products, etc. These are clearly significant environmental and social benefits beyond carbon.

If one assumes that other markets for environmental services will develop the issues arises of whether a landowner can claim credit in water or habitat markets for the co-benefits provided by the same activities implemented for the carbon offset project. In this scenario, landowners should receive credit for all of the co-benefits that their management activities provide; well-designed natural resource management activities take into account an array of environmental factors and seek to provide a number of co-benefits. It will be difficult to separate and identify the specific activities and costs associated with each of the project co-benefits.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The federal government has played a significant role in helping foster projects that may have significant GHG reduction benefits, regardless of whether programs were designed explicitly for that purpose. Existing projects funded with federal program dollars may have trouble passing what's referred to as a financial additionality test, as these projects did not require the revenue generated from the sale of offsets to make them economically viable, a traditional test for measuring additionality. If existing programs are used in the future to engage in offset markets, they will likely need to be redesigned to

comply with offset protocols and these protocols will have to detail how these sorts of projects are treated (i.e. is there a cost-share threshold past which a landowner would fail a financial additionality test?). Beyond offsets, there is a critical role for federal investments in an array of landowner and community assistance programs, as well as public lands programs for strategies to adapt to and mitigate climate change.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

To partially address the issue of reversals, credits for offset activities should only be generated ex-post (i.e. after the emissions reduction or sequestration has been measured and verified). Utilizing ex-post crediting inhibits project owners from fraudulently claiming emissions reductions or sequestration. If credits are issued this way, there are a variety of approaches for risk management that may be implemented and several methods should made be available to manage these risks and may provide a first line of control over the potential for negative environmental results. Buffer pools and insurance policies to cover the stored carbon or its market value are two of the most discussed approaches in current protocols to manage the risk of reversals.

The risk of reversals owing to natural disturbances should be managed through appropriate buffer pools that hold carbon benefits in reserve, insurance policies, or other tools that may be established in contractual arrangements that stipulate the particular details of assigning liability based on risk. The minimum requirements for insurance should be clearly outlined in any protocol and the contractual arrangements for insurance should be left to private parties. Although biological sequestration projects have the potential for impermanence (or reversals) of stored carbon, the mere existence of risk should not disqualify these project types.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

A properly designed offset program will require a considerable amount of detail, informed by experts from a broad community (i.e. science, policy, economics). The degree to which Congress could adequately address the level of detail required of an offset program is limited (i.e. politics, timing). Congress should provide direction, however, through principles that guide the establishment of an offset program including ensuring quality offsets, a system in which small scale businesses can easily participate, and procedures and protocols that value a full range of ecosystem service benefits from natural systems even as it maintains a focus on GHG reduction.

The details of an offset program will benefit from the expertise of federal agencies and the public comment period provided through an interagency federal rulemaking process. For agriculture and forestry offsets, the Department of Agriculture (USDA) should play a significant role due to the department's knowledge of agriculture and forestry practices, as well as its history of involvement with landowners. Particularly, the Forest Service should be engaged in the design of forestry offsets. The Office of Ecosystem Services and Markets within the USDA has a distinct mission that includes facilitating the creation of these markets. This office should play a lead role in the development of protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Knowledge is a critical barrier; a significant amount of educational outreach to explain best management practices for carbon sequestration and emissions reduction should be pursued. It will be essential to train local and regional agency offices to effectively assess the carbon sequestration impacts of traditional conservation and management programs. Private landowners will also need education about the benefits and costs associated with these practices, to include an explanation of public financial assistance programs available for landowners, along with a clear explanation of the contractual obligations and tax liabilities for landowner participation including land-use restrictions on current and future owners. To succeed in the above it will be essential to train local and regional agency offices to have the skills to assess the carbon sequestration impacts of "traditional" conservation and management programs, such as wetlands restoration or rotational grazing practices, in order to help landowners capture carbon mitigation revenue opportunities and further incentivize landowner participation.

Cost of measuring some carbon pools (especially soil carbon) may be prohibitive. The costs of measuring, monitoring, and verification should be considered and designed to enable the participation of small and micro-scale projects through appropriate aggregation or specially-designed approval programs. The Kyoto Protocol's Clean Development Mechanism has designed a special pathway for micro-projects to cut down on verification and compliance costs and could be used as guidance.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Current conservation and forestry programs do not provide sufficient guidance on strategies and actions to adapt to and mitigate climate change, systems for monitoring and measuring the climate change benefits of such strategies and actions, financial investment

in federal and state agency capacity to effectively implement such programs, or financial incentives for landowners to participate in such programs. Congress needs to address these, beginning with investments in applied research and capacity to transfer information to landowners and communities.

If forestry carbon projects are expected to be competitive with timber values, the price of offset credits will likely need to be higher than the prevailing market prices. To further incentivize adoption of conservation projects with carbon benefits, a supplemental tax benefit or subsidy may encourage these activities. The USDA's Conservation Reserve Program is an example of such a program. Federal private lands technical assistance providers (NRCS, USFS, CRSEES, etc.) could provide modeling in relation to baseline and additionality services to private landowners, cutting costs and providing a layer of validation.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Sustainable Northwest is non-profit organization headquartered in Portland, Oregon that helps people and communities restore and maintain ecological health, balance diverse interests, and promote economic opportunities. Through collaboration, we bridge rural and urban interests, encourage entrepreneurship, and build trust in sustainable natural resource management and utilization in the Western U.S. Sustainable Northwest concentrates on community-based, self-empowering initiatives that:

- Restore and maintain ecological health,
- Promote economic opportunities,
- Develop and share innovative solutions,
- Build trust in sustainable natural resource utilization, and
- Promote public policy and institutional reforms.

One of our projects is coordinating the Rural Voices for Conservation Coalition. The Rural Voices for Conservation Coalition (RVCC) is comprised of western rural and local, regional, and national organizations that have joined together to promote balanced conservation-based approaches to the ecological and economic problems facing the West. RVCC is particularly concerned with how climate change will impact rural communities in the Western U.S. and the forests, watersheds and rangelands that dominate this landscape. RVCC The following is an excerpt from the 2009 RVCC Climate Change issue paper (http://www.sustainablenorthwest.org/quick-links/resources/rvcc-issue-papers):

"National policy addressing climate change will have dramatic effects on rural communities and landscapes. Specific components of national climate change policy, such as how resources are prioritized, credit allocation or distribution, offset eligibility, or the opportunity to participate in emerging markets will affect rural communities and landscapes. Therefore, rural communities should have a role in the collaborative

development of national climate change policies. RVCC believes several key principles for rural communities and landscapes should guide how climate change policies are developed and adopted in the U. S.

1) Federal and state governments should foster the development and dissemination of reliable climate change information and tools to help build public understanding of climate change issues. Governments should assist rural communities in developing climate change assessments, strategies, and plans, and monitoring strategies to enhance collaborative learning and adaptive management.

2) Federal and state climate change policies must include strategies to ensure that low-income and other vulnerable populations receive assistance with climate change impacts. The needs of these populations in rural areas may be significantly different than those of urban low-income and vulnerable populations.

3) Federal and state strategies for public and private natural resource management should integrate climate change considerations within collaborative, landscape-scale forest restoration efforts.

4) Markets for forest, range and watershed restoration-based carbon-offsets and ecosystem services should encourage broad and diverse participation, provide access and opportunity for rural communities, and clearly address issues related to project scale, sustainability, and benefits to local communities.

Federal and state climate change policies should provide technical and financial assistance to rural communities for capacity building and workforce training to implement both adaptation and mitigation strategies."

As an alternative to completing the following table, we would like to provide some broad recommendations on forestry practices for participation in offset markets and associated issues.

Forest related activities commonly cited as pertinent in relation to the verifiable sequestration of carbon for offset credits include:

- afforestation/reforestation
- avoided conversion/deforestation
- improved forest management

Each of these areas reflects a range of challenges and opportunities related to sequestration effectiveness, verification, and costs and capacity related to project implementation.

Afforestation/reforestation quickly sequesters carbon, but may need to offer assurances related to permanence. Site preparation and planting costs vary widely, but can be achieved by project developers at many scales.

Avoided deforestation offers a verifiable demonstration of reduced emissions through carbon storage in forest preservation and conservation, particularly in tropical forests. However, it remains to be seen if carbon markets in themselves will be sufficient to engage project developers when other high return land-use options may exist. This realm commonly will require participation by broad-ranging and large-scale partners.

Improved forest management has been shown to be effective in sequestering carbon through, for instance, longer rotations and reduced impact forestry, and often generates addition ecosystem benefits and can play a role in ecosystem adaptation measures. However, verification costs can make project development less than cost-effective and difficult for small producers.

Each of these activities can play an effective, verifiable, cost efficient role in offset generation, able to be utilized by project developers at various scales. However, federal policy discussions should recognize the distinctive contributions and challenges related to these various activities, and promote flexibility in policy design in order to maximize adaptation and mitigation contributions.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
SUSTAINABLE LIVING SYSTEMS
Committee on Agriculture
U.S. House of Representatives
Biographical Form
Climate Change Questionnaire

(the questionnaire can be mailed or faxed to the Committee office, or emailed as an attachment to [Redacted] due April 10.

Name

Jill Davies -- Director

Organization(s) you represent

Sustainable Living Systems

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am the Director of this civil society, grassroots organization.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

I think carbon taxes are the way to go. Carbon Trading, with its huge government subsidies, is just what corporate interests wanted. It's not going to do a thing about climate change, but it'll make a lot of money for a lot of people and postpone the reckoning. It is the corporate minded, free market minded fix – with its focus on money to be made while saying, "we can all make a difference and help combat climate change at almost no cost to our lifestyle." The only way we are going to prevent having an amount of CO2 that is far beyond the dangerous level is by putting a price on emissions. In order to avoid economic problems, it had better be a gradually rising price so that the consumer has the option to seek energy sources that reduce his requirement for how much fuel he needs. And that means we should be investing in energy efficiency and renewable energy technologies at the same time. The result would be high-tech, high-paid jobs. And it would be very good for our energy independence, our national security and our balance of payments.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes, all sectors should be required to reduce carbon emissions. And for agriculture, all the 'hidden' carbon costs must be considered, including the energy use and carbon emissions from making pesticides and artificial fertilizer, from tilling the soil, from the long distance transportation of inputs and foods. Our industrial agriculture and food system is not sustainable and must undergo radical changes. The effort must be to re-localize food systems and move toward more organic methods.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

We should not choose cap and trade as a solution. The global warming problem has brought into focus an overall problem: the pervasive influence of special interests on the functioning of our government and on communications with the public. It will be difficult to solve the global warming problem until we have

effective campaign finance reform, so that special interests no longer have such a big influence on policy-makers.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Carbon tax – not linked.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

No to cap and trade.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

No to cap and trade.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

No cap and trade. This questionnaire seems to be biased toward cap and trade.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

It depends on what carbon reduction program is enacted. Under decades of farm bill rules, we have lost 2/3 of our farmers and now find ourselves under an agri-business, corporate owned system that is totally dependent on fossil fuels. We need to re-localize our food systems and do creative planning for how to feed our cities in a carbon neutral manner. The NM Carbon Neutral Foodshed Alliance is a good model to follow, their website: http://www4.unm.edu/sust/index.php?page=food-security. We just need to create new models for food systems and bypass the old industrialized system - it cannot be fixed.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Here is an idea for you....Community Land Trusts to be set up in all communities to gain title to prime ag lands, save them from development and lease them at low rates to farmers who will grow food for that community....a return to the 'commons'. See www.smallisbeautiful.org for info on the Community Land Trust model.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

It depends whether they are necessary for the good of the community or not. We must harness the power of the corporations and banks to serve the public interest. Corporate charters should be re-visited to see if the corporation's activities serve the public interest. If they do not, the charter should be revoked and the corporation dissolved.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

We should grow trees on them. We should stop cutting trees for paper and instead use hemp. Farmers should be encouraged to grow hemp for paper. Also, each ag community should grow a crop to produce its own biodiesel to be used in farm tractors and trucks, and to be owned by the community, not large corporations. Setting up biodiesel processing plants would be another use of revenue generated by carbon tax.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

You are talking cap and trade again, right? Just use carbon taxes, phased in. And - we need energy-efficiency standards. The biggest use of energy is in buildings, and the engineers and architects have said that they can readily reduce

the energy requirement of new buildings by 50 percent. That goal has been endorsed by the US Conference of Mayors, but you can't do it on a city-by-city basis. You need national standards. The same goes for vehicle efficiency. We haven't had an improvement in vehicle efficiency in twenty-five or thirty years. And our national government is standing in court alongside the automobile manufacturers resisting what the National Research Council has said is readily achievable -- a 30 percent improvement in vehicle efficiency, which California and other states want to adopt.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
SUSTAINUS, INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Kyle Gracey

Organization(s) you represent

SustainUS, Inc.

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Chair

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

Most draft legislation introduced in this and the past Congresses defines a cap and trade system. Cap-and-trade is also the program for active emissions reductions programs in other nations and in regional U.S. initiatives, the structure of voluntary emissions reduction programs such as the Chicago Climate Exchange, and is similar to the structure under negotiation at the United Nations for a successor to the Kyoto Protocol. Thus, a cap and trade system could most easily integrate with existing emissions reduction schemes, and allow included sectors of the economy to save money by trading emissions permits with the least-cost emitters. Further, because emissions targets are set directly under a cap-and-trade system, such a program would more easily allow Congress to directly achieve emissions reductions that climate science indicates are necessary to avoid accelerated and increasingly costly climate change. The alternative, a carbon charge or hybrid system, requires setting charges and then adjusting price levels in later years to attempt to achieve the necessary reductions. Simply setting emissions targets would more directly communicate to firms the level of reductions necessary and would potentially achieve reductions faster since the emissions level would be clear. Cap and trade is also likely more politically palatable to consumers, and would likely be similar in complexity of implementing language to a charge.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Yes. Globally, agriculture practices account for up to 30 percent of emissions, and 413 trillion grams carbon dioxide-equivalent emissions in the U.S. (by comparison, the Industrial Processes sector contributes 328 trillion grams, according to the Environmental Protection Agency), making agriculture a necessary component of an emissions reduction program. Agriculture also contributes at least 52 percent of global human emissions of methane and nitrous oxide - potent greenhouse gases stronger than carbon dioxide. The use of forestry and agricultural practices to conserve or capture carbon could allow the agricultural and forestry sectors to reduce U.S. emissions by up to 25 percent, depending on the types of forestry- and agriculture-related activities covered under an emissions program. Voluntary programs like the Chicago Climate Exchange already include payments to farmers for soil carbon sequestration in their emissions reductions portfolio, as do carbon offset programs and the Clean Development Mechanism of the Kyoto Protocol. Thus, agriculture plays a role both as a notable source of emissions and as a potential recipient of funds for

projects to reduce emissions. Excluding agriculture and forestry would distribute emissions reduction expectations unequally to other sectors of the economy for their given contribution to emissions, and would make it more challenging for firms to achieve necessary reductions, while also excluding agriculture and forestry from their important role in contributing to emissions decline. Agriculture and forestry are playing an increasing role in the post-Kyoto Protocol negotiations, so the role of these sectors in the U.S. in an emissions reductions program should match international activity, to allow agriculture and forestry to connect to a global trading regime.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

A substantial portion of the allowances, preferably a majority, ought to be auctioned. Allowances that are freely distributed or subsidized ought to be distributed in such a way as to avoid windfall profits for firms, reward early adopters in energy efficiency technologies to create further incentives for future action, and avoid barriers to future market entrants by providing larger distribution to existing polluters. Allowances given to states may be used to reduce the burden on low-income households, support technology funds and renewable energy and efficiency programs, and to support public transit. Auction revenues may also be used for these causes. The provision of no-cost allowances directly to the private sector should be sharply limited. Auction revenues can be wielded by the national government or states in a more focused way to support market participants unduly impacted by the cap-and-trade system, and can systematically target supporting the transition of certain sectors of the economy to lower-impact methods.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

A hybrid approach, such as that advocated by the World Resources Institute, is best positioned to maximize consistent national practices with minimum expectations, and yet permit policy innovation and more aggressive action at the state level, while supporting efforts by states to engage in targeted support of further reductions. The flexibility of a national cap-and-trade system linked to existing and potential new state and regional systems allows the states to leverage their policy experience with certain kinds of regulation, including energy efficiency, transit development, and land-use planning, while yielding the ability

to meet national standards in a lower-cost way, tailored to the advantages of the state or region. States ought not be given the ability to interfere directly with allowances, but may be permitted to expand national requirements. It is important that federal policy expressly permit this ability, or federal preemption will interfere with state programs. Harnessing existing systems can help to minimize some of the uncertainty of building a new system from the ground up. One option for state-level control is allowing states some measure of control over local allowance budgets. To avoid the difficult process of setting a total emission credit budget for each state, the federal government can use baseline information to set aside a certain portion of the credits, based on existing emission levels or population levels, to be given to states. States or regional systems can choose to auction these credits, retire them, or use them to cushion certain industries. The total state budget should not be larger than 15% of the national cap, and the amount that can be given away should be tightly limited.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

The Environmental Protection Agency (EPA) is the agency most capable of administering a cap and trade program. EPA already operates a climate change division that is responsible for administering the United States's agreed responsibilities under the United Nations Framework Convention on Climate Change, such as conducting national emissions inventories, as well as administering voluntary carbon reduction programs. EPA has already indicated that it possesses the necessary technical skill to administer a carbon cap and trade program. Further, EPA has administered other cap and trade programs, notably the sulfur permitting scheme, for more than 15 years. EPA has experience administering emissions programs that cover large portions of the economy. Creating a new agency to administer the program would create complicated jurisdictional issues that an assignment to EPA would avoid. However, the administration of agriculture and forestry reduction programs should rest with the Department of Agriculture, since it possesses the necessary technical skill to manage these projects.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Given the recent impact of derivatives trade in the mortgage market, care should be taken in the extent to which carbon derivative trading is permitted. However, trade in carbon futures could be managed by the CFTC, as the similarity in likely markets for carbon futures will allow the Commission to effectively manage them alongside more traditional futures markets.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

To ensure confidence in and verification of emissions reductions and the trading of credits, option c) should not be permitted. We defer commentary on options b) and a) to other submissions.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Failure to enact a carbon reduction program will have negative impacts on agriculture's constituents. Increasing drought from changing weather patterns will stress crop production and irrigation systems. Increased flooding in other areas will disrupt infrastructure used by food producers to transport agricultural goods to market. While global warming may increase growing seasons for some crops, it will also increase creeping desertification into some fertile lands and increase the likelihood or severity of damaging weather such as hail, hurricanes, heat waves, and unexpected frosts, despite the overall average increase in temperatures. Thus, increased variability in the climate is predicted to lead to increased variability in dangerous weather events, making it harder to predict and protect crops from damage. Warmer temperatures will also allow for the further spread of invasive species, especially northward and to higher elevations, such as for the emerald ash borer, which could lead to increased damage to the forestry sector and new pest threats to crops. While these sectors may incur some increased costs as a result of climate legislation, an auctioned permit system, as per Question 3, that redistributes some of the auction funds to consumers and businesses, could avert some costs of compliance with a carbon reduction program.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

As stated in Question 8, returning some of the revenue to consumers and businesses as compliance payments would allow for the diminishing of costs

incurred in an emissions reduction program. Remaining portions of the auction revenue should go toward investments in technologies that allow greater carbon reduction at lower cost. This could include traditional renewable energy technologies such as wind and solar, but could also include next generation biomass technologies, or research into improved soil management or plant breeding that allow for greater carbon capture or breed resilience to extreme weather and higher heat tolerance.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes. As per Questions 8 and 9, some funds from an auctioned permit system should go toward businesses and consumers who are affected by the a carbon reduction program, such as help in transitioning to lower emissions technologies or habits, and payments for the costs of compliance with an emissions reduction scheme.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The conservation of public lands can help to sequester carbon. Intact forests are significant stores of carbon, and their existence requires protection to ensure that degradation or deforestation does not lead to increased emissions. Further, regrowing forests can store carbon during their growth, helping to reduce emissions. While carbon capture and greenhouse effect reduction is stronger for tropical forests, temperate forests in the United States can still sequester some carbon. Care should be taken to support the preservation and restoration of intact forests over mono culture "tree farms", as the latter do not carry the same carbon capture potential. Even grasslands and peat marshes can help to sequester carbon and should be protected and restored, and their destruction can also lead to greater emissions.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Market forces, as in other markets in the world, allow for the most cost-effective allocation of resources, or, in this case, emissions. The trading of a fixed supply of permits will highlight sectors with the highest emissions and the lowest capacity/highest cost of reductions, and allow these sectors to trade with sectors who have low-cost emissions reduction capability, thus allowing the least-cost reducers to manage a greater share of emissions reductions and keep costs down.

Further, free floating prices will induce the highest cost emitters to invest in more numerous and greater efficiency reduction technologies to save money and meet their emissions allowances, thus incentivizing the creation of lower cost emissions reduction technologies and greater dissemination of them throughout the economy. Even if prices become high, this will simply create a faster conversion to lower cost technologies, meaning that even if higher prices persist, the actual cost to firms will be lower due to their investments in better technologies and operating practices. Setting a fixed price ceiling will be incompatible with achieving the necessary reductions, since they will not create the necessary incentives for sectors to reduce their emissions or invest in better technologies, and will distort the cost-minimizing permit market.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Evidence from the first round of emissions trading in Europe shows that the allocation of too many free permits will disrupt the market signals discussed in Question 12 and lead to ineffectively low prices for emissions permits. Auctioning a fixed set of permits that is capped at the emissions reductions called for at that particular stage in the emissions trajectory will allow for the setting of accurate prices in the market, and the stabilization of prices necessary to achieve that level of emissions reductions. Evidence from the second period of European trading shows that, when permits are allocated in the correct number, prices are more stable and are set by market participants at levels that effectively reduce overall emissions. The key is to truly cap emissions permits, avoid the free distribution of allowances by countries, and ensure that loopholes, such as over reliance on offsets, or safety valve provisions in emissions limits, are not used, so that markets can function in their normal manner to keep costs low.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Agreed upon performance standards would most effectively allow the agriculture and forestry sectors to contribute to emissions reductions. Evidence from voluntary emissions reductions schemes has shown that emissions reductions are fairly limited under these systems, and nowhere near the level called for under proposed legislation, nor close to the levels that climate science indicates will be necessary to avoid accelerated and costly global warming. Bonus allowances would effectively function much like a voluntary system and would not contribute significant reductions. Performance standards should form the core of an emissions reduction program. The technical capacity exists with the agriculture and forestry sectors, and within the Departments of Agriculture and the Interior, to assess emissions reduction performance of various agriculture and forestry activities. While an additional bonus and/or voluntary program could complement the main performance standards and thus reap modest but additional emissions reductions, some form of mandatory performance standards or other emission reduction scheme must play the central policy role if the contribution of emissions from agriculture and forestry is to be included in overall U.S. emissions reductions.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Yes. Offsets are less valuable in terms of emissions reduced than from direct action by emitters to reduce their own emissions, and will distort the price of emissions permits, since offsets will in some respects operate outside of the emissions reduction market. Over reliance on offsets will delay significantly the actual reduction of U.S. emissions and the necessary investments in lower cost technologies. If offsets are to be used initially to help firms ease into an emissions trading regime, they should be limited in size - perhaps no more than 10% of emissions reductions per firm on average - and be phased out on a graduated scale until they are no longer part of qualified emissions reductions.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Offsets should be prioritized to those sectors that face the highest costs of emissions reductions and for those types of offsets that will yield the greatest total reductions in emissions. In no situation should a firm be able to meet all of its emissions reductions through the purchase of offsets, since all covered firms will need to begin taking steps to discover the most effective and least-cost emissions reduction methods for their industry, especially, as recommended in Question 15), when offsets are eventually phased out of the emissions reduction program.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Congress should establish a comprehensive registry for reliable pre-cap-and-trade system commencement. The baseline data provided by such a registry would be invaluable for determining business-as-usual levels and additionality screening, as well as provide necessary data for sector-level analysis and cap level. Offsets should be mandatorily measured on a site-level basis, using direct measurement where possible, and careful estimation when the relevant agency determines direct measurement is impossible, unduly burdensome, or unnecessary due to the accuracy of an estimation method. Where emissions can be easily estimated from input levels of standardized fuels, direct measurement may not be necessary. The relevant regulatory agency should either directly conduct the verification process, or verify post-project emission levels through tightly-monitored private contracts. Monitoring should continual on an annual basis. Verification data should be publicly accessible, to ensure smoothly functioning market, allow regulators and academic researchers the ability to assess and improve operations, build transparency to hinder manipulation, and influence the behavior of firms whose behavior can be easily analyzed by the public. All credits must be registered, serialized, and carefully tracked. Clear proof of ownership will help to prevent double-counting and related issues.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The primary criterion for offset project assessment is that of additionality, a test that operates at several levels; at minimum, the project must pass financial and regulatory additionality tests. The offset provider must firmly demonstrate that the project would not occur under a business-as-usual scenario, and meticulously substantiate the claim that the offset sale is that which enables project feasibility. If the project is financially viable, statutorily required, or otherwise feasible prior to offset sale potential, the offset fails the additionality test. Offsets must originate from sites or facilities at which an accurate determination of baseline emission levels have been made, and at which an accurate determination of new, post-project emission levels can be made. The offset provider must demonstrate that the project does not cause leakage, the phenomenon that reduces emission at the site but causes a corresponding increase of emissions elsewhere, thus failing to account for a verified net total emissions reduction. Offsets may be sold commercially on a projected long-term basis, but must only be verified on an annual or short-term regulatory basis for the quantifiable emissions reduction occurring during the year. Potential failure by the project operator to continue to achieve expected abatement levels may be dealt with through insurance markets, appropriate costs accounting for future uncertainties, and legal mechanisms for compensation. Permanence, or demonstrated likelihood that the project does not suffer from unacceptable risks of failure, releasing emissions supposed to be eliminated. Finally, one criterion should account for the creation of perverse

incentives or unforeseen negative externalities, allowing the verification body the adaptability necessary to eliminate those projects with highly undesirable impacts.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should design a verification system that first establishes a comprehensive registry for reliable pre- cap-and-trade system commencement. The baseline data provided by such a registry would be invaluable for determining business-as-usual levels and additionality screening, as well as provide necessary data for sector-level analysis and cap level. Early findings of emissions help to limit price volatility, and ensure that the cap level is not set so high as to undermine an offset market. Offsets should be mandatorily verified on a site-level basis, using direct measurement where possible, and careful estimation when the relevant agency determines direct measurement is impossible, unduly burdensome, or unnecessary due to the accuracy of an estimation method. Where emissions can be easily estimated from input levels of standardized fuels, direct measurement may not be necessary. The relevant regulatory agency should either directly conduct the verification process, or verify post-project emission levels through tightly-monitored private contracts. Verification data should be publicly accessible, to ensure a smoothly functioning market, allow regulators and academic researchers the ability to assess and improve operations, build transparency to hinder manipulation, and influence the behavior of firms whose behavior can be easily analyzed by the public.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

As discussed under Question 18, in-field calculations should be used whenever possible to provide verified emissions reductions, as is the case for certified emissions reductions for carbon offsets. For projects that cannot be verified in the field, previous field projects and estimates from research studies should form the basis of any pre-calculated values for particular types of projects. Congress or agencies should establish a scientific committee to oversee standards for offset credits.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Per Question 15, offsets should form only a small contribution to meeting emissions allowances or permits, perhaps no more than 10% on average for each

firm in the economy subject to emissions reductions, with a graduated reduction in the contribution of offsets to meeting emissions allowances or permits. Offsets are not a substitute for actual emissions reductions by firms, will only delay emissions reductions by them, and will not spur innovations in emission- and cost-reducing technologies the way that emissions permits/allowances will.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

See responses to Questions 18 and 19. Additionally, contracts for protection of offsets for the preservation of intact forests, peat lands, and other carbon sinks should extend at least through 2050 to ensure that emissions are prevented through the majority of the period when the U.S. and world will likely achieve most of their emissions reductions. Contracts should ideally last as long as possible to ensure permanence of emissions reductions. Contract flexibility should allow for projects to adjust for changes in emissions reductions data, unintended social and environmental consequences, and changes in costs of projects and materials, without allowing for projects to be extended indefinitely, delaying emissions reductions, nor reduced in size and emissions achievements after projects have already been initiated, committed to, and, especially, funded.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing offsets should be considered to the extent that they represent verified emissions reduced on or after the baseline emissions period. For example, if the baseline for emissions reductions is 2005, offsets achieved on or after 2005, or that are in process, should count toward the contribution of offsets achieved in that particular reduction year, or for projects in 2005, toward reductions in the emissions baseline. Existing offsets or credits prior to the baseline year, or for projects not verified by third-party certifiers, should not count.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Stackability of environmental benefits from emissions reductions activities should be permitted, as many emissions reducing activities, for example forest preservation, will have additional biodiversity, water quality improvement, or other benefits that producers

and landowners should receive credit for. Ensuring the additionality of emissions reductions is critical, as discussed under Question 18.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The fraction of the activity financed by the producer or land owner should count toward the same fraction of emissions reduced from the project that are credited to the producer or landowner. If the producer contributes 10% of the funds, they should receive 10% of the reduction credit for the emissions reduced from that project. Regardless of whether the project was specifically implemented to reduce emissions, if verified emissions reductions occurred during or after the baseline, they should count toward the producer's or land owner's emissions reductions during those periods.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

If offsets are to be a fundamental part of achieving global emissions reductions, permanence of sequestration or abatement claimed by an offset project is at the crux of its legitimacy. Failure to live up to the standards claimed by the offset project developer, for whatever reason, is grounds for a requirement that the project owner return revenue to the offset purchaser. The offset will no longer be adequate for the requirements of the purchaser with regards to its emissions under a national cap-and-trade law, and it ought to be the responsibility of the seller of this service to refund this now-inadequate purchase. The credit should be canceled, requiring the purchaser to seek credits elsewhere to attain compliance under the system. Building functional insurance markets will be a crucial aspect of minimizing uncertainty around both the buying and selling of offsets. These markets, ideally, will cover each phase of the offset process, from pre-project implementation to final sale, allowing market participants to hedge costs and minimize risks of project or purchase failure.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

While offset work should not form the major effort in emissions reductions, authority for developing an offset program should be established within legislation and then developed in detail through promulgation of regulation, most likely through an inter-agency task force headed by EPA, with the actual regulation issuing from EPA after extensive inter-agency consultation, in the manner typical of other environmental regulations such as for air quality.

> 28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
>
> *Please respond in 600 words or less.*

Generally, these include costs, lack of knowledge about emissions reduction potential for particular practices and technologies, or even the existence of specific technologies, technical capacity to implement particular practices and technologies, and lack of knowledge of how much emissions reductions credit, technical assistance, and financial assistance will be offered to producers and land owners desiring or needing to implement practices and technologies.

> 29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
>
> *Please respond in 300 words or less.*

Some existing programs do contribute to emissions reductions, but by themselves are not sufficient to reduce emissions from the agriculture and forestry sector sufficiently. Useful existing programs that would benefit from further support and funding from Congress include the Conservation Reserve Program, organic farming, soil conservation and possibly no-till farming (assuming that care is taken to deal with extra fertilizer inputs), breeding strategies to reduce fertilizer inputs, renewable energy production on farms and ranches (particularly through generating fuel from waste), and policies easing the sale of intact forest lands to the public and conservation organizations, or that promote the sustainable harvesting and preservation of diverse forest lands, especially over mono cultures.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Incentives for the production of biofuels should be geared toward the development of next-generation biofuels, especially cellulosic, and not the continued production of ethanol based on current technologies, since the carbon

reduction benefit is minimal and perhaps negative in some cases. A renewable fuels standard based on current ethanol production technologies should shift more toward one based on next generation, especially cellulosic, biofuels, and ideally should be eliminated in favor of policies that more directly promote the financial viability and cost reduction of biofuels production, especially for using waste agricultural products and not encouraging the conversion of additional land for agriculture or the conversion of food crops, since these will have negative social, environmental, and emissions implications. Life-cycle analysis of emissions from a variety of agricultural and forestry practices (in addition to practices and products in all other sectors of the economy) will be a key quantitative tool in assessing the emissions reduction potential of various activities. As discussed previously, policies that guard against leakage in emissions reduction projects and offset purchases are crucial to ensuring real emissions reductions.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)*	**Ability** to *verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
We defer detailed descriptions to other commenters				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)*	**Ability** to *verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
We defer detailed descriptions to other commenters				

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)*	**Ability** to *verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
We defer detailed descriptions to other commenters				

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE FERTILIZER INSTITUTE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Ford B. West

Organization(s) you represent

The Fertilizer Institute

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

The Fertilizer Institute (TFI) is the leading voice in the fertilizer industry, representing the public policy, communication and statistical needs of producers, manufacturers, retailers and transporters of fertilizer. Issues of interest to TFI members include security, international trade, energy, transportation, the environment, worker health and safety, farm bill and conservation programs to promote the use of enhanced efficiency fertilizer. As president of TFI, I am submitting this completed questionnaire on behalf of our membership.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

   Please respond in 600 words or less.

We recognize that there are several approaches to controlling emissions of greenhouse gases (GHGs). In large part, we defer to policymakers to select the best policy approach and evaluate the underlying evidence to decide upon schedules and goals for reductions. Both carbon taxes/fees and a cap-and-trade program have benefits and drawbacks associated with them. A carbon tax could be clearer and a more efficient means of reducing GHG emissions. Under this scenario, Congress would set the appropriate level of the tax, which would increase the price of the product to end users, reducing overall demand and leading to reductions in use and associated emissions. The entire process could rely on existing federal agencies, without the creation of any new instruments (such as "emissions allowances") or any enormous new bureaucracy to supervise and regulate the allocation, trading, banking and borrowing of those instruments. A carbon tax could also provide greater clarity, which is necessary for business planning and could make it easier to design a system that ensures equivalent treatment of imported products.

However, the current weight of opinion both in the United States and globally seems to favor some version of a cap-and-trade system to limit emissions. Such an approach could have some benefits in terms of flexibility, while creating sufficient incentives to achieve policy goals. A cap-and-trade system in the United States could also make it easier to integrate with other global climate change systems, which could then benefit from global reduction and emission offset efforts, thereby lowering the overall cost of implementing the reduction requirements for industries in the United States. Several states have begun implementing some form of cap-and-trade program, and a federal system could benefit from the lessons learned under these programs. Among other things, many of these programs recognize the unique role that agriculture can play in creating opportunities for offset projects. See response no. 2.

Under either a carbon tax or cap-and-trade proposal, it is important to ensure that measures are taken to protect those industries vulnerable to "leakage"—the relocation of industries to countries without comparable emissions restrictions. See response no. 10. Leakage could potentially increase total global GHG emissions, as well as cause a loss of jobs and economic output in the United States.

Another alternative approach that has not received consideration in the United States would be to focus directly on the concept of emissions intensity. The Canadian province of Alberta has chosen this approach, defining a baseline level of emissions intensity for each covered facility (in tons of GHG per unit of product) and then requiring a schedule of percentage reductions/improvements in that figure over time. Any facility that fails to improve its emissions intensity in accordance with

the prescribed schedule must make a contribution to a technology fund, in an amount based on the extent of its shortfall. The overall theory behind this approach is to encourage improvements in emissions intensity, using market incentives for energy efficiency, while providing room for continued economic growth.

Regardless of the program enacted, Congress should have the flexibility to recognize that the goal of any climate change regime is not to achieve the desired emissions level at all costs, by destroying the American economy and forcing American businesses to shut-down; rather, the goal is to achieve the desired emissions level by encouraging American businesses to reduce their emissions intensity – their GHG emissions per unit of product. In other words, the goal is not to reduce industrial output, but to reduce the level of GHG emissions associated with each unit of output. Any climate change regime must be fully compatible with continued growth in the American economy.

> TFI does not support any one program over the other but urges the Committee to closely review the benefits and drawbacks of all the options and ensure that American jobs are not compromised by climate change legislation.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

All of the various bills seem to agree that the agricultural and forestry sectors should remain outside of the covered economy, and should be addressed through an offset program. As a vital part of the agricultural community, we look forward to the potential growth of our customer base.

The measurement and enforcement issues associated with GHG emissions in the agricultural and forestry sectors are complex and must be accounted for under any offset program. When compared to an industrial facility that emits CO2 from an exhaust stack in a measurable way, it is extraordinarily difficult to gauge the emissions of a farm. These depend on the number, type and size of livestock; the management of manure; the type of crops; the type and use of fertilizer; the tillage practices that are employed; and the waste and refuse disposal practices that are used. Two farms of the same size may have very different GHG emissions levels. Similarly, two forests of the same size also may have different levels, depending on the amount of decaying wood, forest fires and the like. The solution to this problem is to leave agriculture and forestry outside of the covered economy – so that they are not required to buy emissions allowances – but to encourage them to reduce their GHG emissions by making them eligible for an offset program provided that the technical and scientific issues surrounding measuring reductions can be resolved.

Under such a program, a farmer can receive saleable offset allowances if he or she is able to isolate and measure emissions from a particular source on the farm (e.g., livestock, manure), and then institute a practice that reduces those particular emissions in a measurable, verifiable and non-reversible way. An offset program can produce

significant reductions in agricultural and forestry emissions, even though those sectors are outside the covered economy and are not part of the cap-and-trade system.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Because a cap-and-trade program will involve considerable complexity, it will be important not to add to that complexity in the allowance allocation process. Accordingly, the available emissions allowances for a given year should be allocated in just two steps: (1) industries that are eligible for transition assistance because they sell energy-intensive commodity products in a global market and face both significant cost increases as a result of compliance AND exposure to international competition from countries not subject to comparable GHG reduction requirements should receive a sufficient number of no-cost allowances to shield them from the net incremental costs of the cap-and-trade program (see response no. 10); and (2) the remaining allowances for a given year should be sold at an auction in which each covered entity is allowed to bid for a number of allowances no greater than the number required to cover its own emissions in the prior year. A single market-clearing price should be established, and all of the auctioned allowances will sell at that price. No speculators will be permitted to participate in the auction, and no covered entity will be permitted to buy an excess quantity with the intention of trading.

This allocation system will limit complexity and reduce opportunities for fraud and profiteering. It will provide emissions allowances to those who need them for compliance purposes. It will assure that 100 percent of auction revenues flow to the U. S. Treasury and it will lead to an open debate on the use of auction proceeds. If Congress wishes to use those proceeds to assist low-income consumers or sponsor low-carbon energy projects, it will remain free to do so – but the financing will occur in the normal appropriations process. This, of course, is far more honest and straightforward than providing those groups with their own separate allocation of saleable emissions allowances.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Any federal program should include language that specifically preempts all other state or regional GHG emissions programs in the United States. Given the immense complexity of this issue, covered entities will have enough difficulty maintaining compliance with a federal program – and they should not have to separately monitor and comply with an

overwhelming array of state and regional programs on the same issue. This burden to industry would have a direct impact on trade and competitiveness.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Yes, enactment of a carbon reduction program of any kind will produce significant increases in costs for the farm community. To take just one example, a $30 per ton charge for CO2 would translate directly into a $49 increase in the production cost of nitrogen fertilizer (see response no. 10). But even apart from the potential impact on the price of fertilizer, the program also will directly increase the price of gasoline and diesel fuel used in farm machinery; natural gas used for drying and heating; and electricity used throughout the farm – as well as the price of propane, heating oil and any other fossil fuel

that may be used. These direct impacts are in addition to the many indirect impacts that will certainly occur, as manufacturers of farm supplies and equipment attempt to pass through their own cost increases. In short, a carbon tax or cap-and-trade program will impose a heavy burden on the farm community. The attached 2008 report from Doane Advisory Services documents and explains these cost burdens in specific detail.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Any carbon reduction program will operate as a tax on the economy. When a "covered entity" pays the government for an "emissions allowance" that entitles it to emit one ton of CO2, it is paying a tax to the government – regardless of whether people wish to use that terminology or not. All of the revenues received by the government from a carbon tax or cap-and-trade program will be in addition to normal tax revenues. Accordingly, the government should use these new revenues to reduce other taxes, so that the overall tax burden on the economy does not increase. This means that the government should not keep and spend the new revenues, but it should continue its existing support of energy efficiency programs, renewable energy, CCS technology and smart-grid development, insofar as these programs are financed from existing tax revenues. Moreover, this support should be extended to industries – such as the fertilizer industry – that have been early adopters of carbon reduction programs through best practices in environmental stewardship. Additional research on potential agricultural offset projects is particularly important.

In considering which taxes to reduce, the government should determine who has borne the greatest burden from its carbon reduction program. As a general rule, this group will consist of those fossil fuel end users who do not have the ability to pass increased costs along to a downstream customer – in other words, manufacturers of energy-intensive commodities whose price is determined in a global market. These businesses will deserve assistance to ensure that there is a level playing field for these products. See response no. 10.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, energy-intensive industries that sell commodity products in a global market will suffer a severe impact. These industries – iron, steel, aluminum, fertilizer, cement, glass and certain basic chemicals – will incur dramatically increased costs (through either a carbon tax or an emissions allowance requirement) and face significant international competition from countries that do not have similar climate change programs in place, but they will have no ability to pass these costs through to their customers because the price of their products is set in an international market. Accordingly, if the domestic manufacturers are saddled with an additional cost disadvantage, they will face pressure to

either close their operations or move them abroad. In either case, the domestic production will be replaced by imports from other countries, and there will be no net reduction in global GHG emissions.

Nitrogen fertilizer is a classic example of the problem. The basic building block of all nitrogen fertilizers is ammonia (NH3), which is produced in a chemical reaction involving nitrogen from the air and hydrogen from the methane (natural gas) molecule (CH4). Because natural gas is used as the essential chemical feedstock in the process, it represents an enormous share of the overall production cost – somewhere between 70 to 90 percent, depending on the current gas price. Policies that increase the domestic price of natural gas (or that charge for the emissions from natural gas) therefore produce a significant impact on domestic nitrogen fertilizer manufacturers. However, these manufacturers have no ability to pass their increased costs to their customers, because they face competition from international suppliers who do not face similar costs. The United States currently imports approximately 55 percent of its nitrogen fertilizer needs and 82.7 percent of these imports come from countries with no climate change policies.

Transition assistance is necessary to level the playing field. Congress must ensure that energy-intensive commodity industries do not incur a cost disadvantage that could force them to move or shut-down. The amount of assistance should equal the net incremental costs that are attributable to climate change policy, including (1) the additional costs associated with the increasing price of electricity and natural gas as a result of fuel switching; and (2) the direct costs incurred in paying carbon taxes or purchasing allowances related to fossil fuel use. If assistance is not provided and U.S. fertilizer manufacturing is reduced as a consequence, additional imports will become necessary to fill the deficit – increasing GHG emissions from the U.S. transportation sector and displacing U.S. jobs.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

One of the greatest dangers associated with a cap-and-trade system is that the economy-wide caps will be set too low, with too few emissions allowances available in the annual auctions, so that allowance prices begin to skyrocket toward ruinous levels that force American businesses to shut-down or move abroad. To address this danger, some of the early cap-and-trade bills contained a "safety-valve," which assured that covered entities could pay a fixed price per ton of CO2 equivalent in the event that the price of emissions

allowances soared above this level. These "safety-valve" provisions are very important to the continued health and growth of American industry, and they should become a part of any cap-and-trade program.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The single clearest lesson that emerges from the European experience is that cap-and-trade programs are enormously complex endeavors that do not always produce the desired results. In the case of Europe, problems with the allocation of emissions allowances caused the price and value of those allowances to precipitously decline, and there is now a serious question as to whether the program has actually produced any reduction in GHG emissions. While it is unlikely that these exact same problems would reoccur in the United States, the European experience does confirm – once again – how difficult it is to predict the behavior of complex systems.

If Congress decided to proceed with a cap-and-trade approach, the European experience would have value in one other way – by illustrating the importance of a staggered implementation schedule. Because unexpected issues and problems always emerge during the implementation of complex systems, it makes sense to provide a schedule for periodic review and modification prior to full-scale implementation. The European Union had the foresight to do this, and they now hope to correct the deficiencies of their original program.

Finally, it is important to note that the Canadian experience also provides lessons. Policymakers in Canada have instituted agricultural offsets, created exemptions for process gas, and encouraged carbon capture and sequestration (CCS) technology – all of which should be considered as part of any U.S. program.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

As long as the offsets are scientifically-verified and professionally-audited, there should be no limit on the number issued. The purpose of climate change legislation is to reduce GHG emissions – and if offsets are actually doing that, then there is no logical reason to limit their number. Moreover, as successful offset projects come on stream and receive offset allowances from the government, the project developers can sell those allowances into the market as an alternative to the government-issued "emissions allowances." This will help reduce prices and limit the overall cost of the climate change program.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Because there should be no limit on the issuance of offset allowances (see response no. 15), there should be no need for any prioritization. All eligible and qualified projects should receive them. In the event that some limit was required, projects from the agricultural sector should have the very highest priority, because that is the best way to secure reductions in GHG emissions from the sector (see response no. 2).

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

An offset project should earn an "offset allowance" for each ton of CO2 equivalent in GHG emissions that is sequestered or reduced by the project. The developer of the offset project can then sell these "offset allowances" to covered entities under the cap-and-trade system, and the covered entities will use the "offset allowances" in lieu of "emissions allowances" to cover all or part of their GHG emissions. Offset allowances and emissions allowances have a one-to-one relationship, with each covering one ton of CO2 equivalent. Covered entities should be free to use them, without limit, to cover GHG emissions which are not otherwise covered by emissions allowances purchased at auction or received as transition assistance.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

The Fertilizer Institute

Nourish, Replenish, Grow

Ford B. West
President

April 10, 2009

The Honorable Collin C. Peterson
Chairman, U.S. House of Representatives Committee on Agriculture
Room 1301, Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Peterson:

The Fertilizer Institute (TFI) would like to commend you for your leadership in identifying how climate change legislation will affect U.S. agriculture by initiating information gathering through this questionnaire. TFI thanks you for the invitation to participate in this process.

The fertilizer industry has concerns regarding previous legislative initiatives, as well as recently introduced legislation. Fertilizer is a strategic commodity which needs special assistance due to its essential contributions to world food production. Experts estimate that fertilizers are currently responsible for 40 to 60 percent of our food supply. Before considering the design of a carbon reduction program, Congress should carefully assess whether such a program is necessary or justified. These programs will impose significant additional costs on a struggling U.S. economy, but they may produce few genuine benefits. Indeed, without coordinated action on an international level, the programs may produce no benefits at all. The costs, however, are very real – and they will fall most heavily on the energy-intensive industries of the U.S., including the nitrogen fertilizer industry. This could threaten the health of the entire agricultural sector and jeopardize its ability to meet the nutritional needs of a growing world population. Accordingly, Congress should proceed with caution as it considers a carbon reduction program, making sure that it protects U. S. agriculture from unwarranted new burdens.

The fertilizer industry has taken early and independent action to address climate change. It remains one of the most energy-efficient industries in the United States and is using innovative technologies to capture greenhouse gas emissions. This early action should be recognized. Given the global characteristics of the fertilizer market, the industry is subject to competition from producers in countries with less stringent environmental regulations, and Congress must avoid creating an even greater competitive disadvantage that could damage the U.S. economy and destroy U.S. manufacturing jobs.

Per your direction, we have answered only the questions that pertain to the fertilizer industry. We have also enclosed supporting documents to our responses. Again, thank you for your leadership on this issue. We welcome the opportunity to work with you and members of the committee in the future on this important issue.

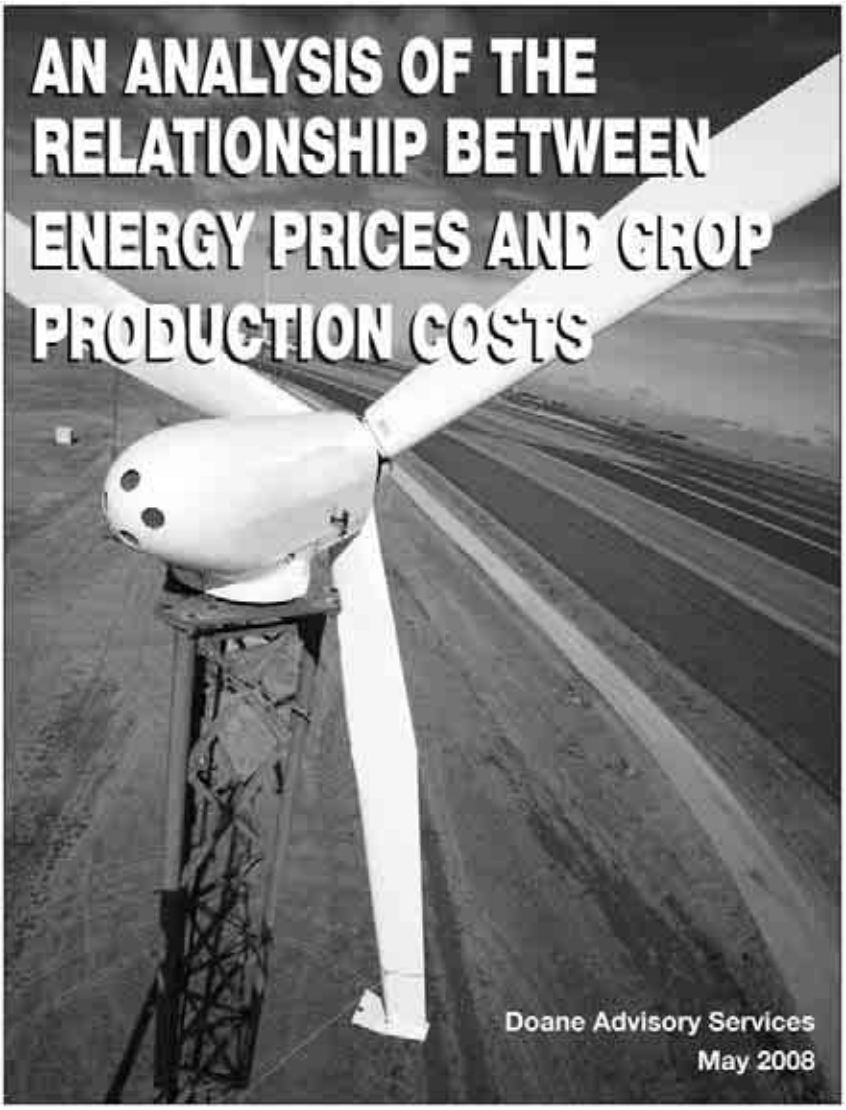
Sincerely yours,

Ford B. West

Ford B. West
President

[Redacted]

www.tfi.org


AN ANALYSIS OF THE RELATIONSHIP BETWEEN ENERGY PRICES AND CROP PRODUCTION COSTS
Doane Advisory Services
May 2008

DOANE

Copyright © 2008 by Doane Advisory Services
A division of Vance Media Corporation
77 Westport Plaza, Suite 250, St. Louis, MO 63146

Information contained in this publication is believed to be accurate, but is not guaranteed by the publisher. The publisher assumes no responsibility or liability for any actions taken as a result of any information or advice contained in this report, and any action is solely at the liability of and responsibility of the user.

Vance

AN ANALYSIS OF THE RELATIONSHIP BETWEEN ENERGY PRICES AND CROP PRODUCTION COSTS

May 2008

BACKGROUND

Energy prices are a key factor in the cost of producing crops. The cost of energy affects all aspects of crop production, directly through the costs of fuels, lube, and electricity; and indirectly through the cost of producing and transporting inputs, especially fertilizers. Based on USDA's estimates of per acre corn production costs, fertilizer and fuels account for more than half of total operating expenses. Clearly, any development that drives up energy prices will have an impact on crop production costs and farmer profitability.

Congress is considering a bill that would establish a mandatory greenhouse gas allowance program and one of the consequences of this legislation would be to drive up energy prices. The impact of the proposed law on energy prices was one of the issues addressed by a study conducted by the U.S. Environmental Protection Agency (EPA). The study, titled, *EPA Analysis of the Lieberman-Warner Climate Security Act of 2008, S. 2191 in the 110th Congress*, was published in March 2008 and updated in May 2008. The results of the EPA study form the parameters of energy price increases evaluated to estimate the impact of the proposed legislation on the variable costs of crop production. The impact of three of the scenarios are evaluated here.

While most of the studies published so far focus on the impact of the legislation on energy prices and on the effect on the overall U.S. economy, our mandate is to trace the impact of higher energy prices on crop production costs. The effects of the legislation will build over time, and for our analysis we compared the per acre production costs for eight major crops estimated with no change in policy to costs with higher energy prices. The comparisons were made for 2020 to give time for the legislative changes to have an impact.

METHODOLOGY

The first step in evaluating the impact of changes in energy prices on production costs is to establish a baseline. This serves as a reference point to measure changes in the various cost components when energy prices change. Crop production costs vary widely among U.S. agricultural producers and across regions, making the identification of a benchmark data series critical to the analysis. USDA provides annual estimates of average production costs per planted acre for agricultural crop enterprises in the United States. These data are published in late fall of each year for the prior year. Historical data for the series are available back to 1975 for most field crops. These data may be accessed at *http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1525*. In order to develop a representative set of production costs, these USDA data were used to standardize cost categories and provide average cost benchmarks for this study.

In addition to the historical data series, USDA has also developed production cost estimates for 2007 and forecasts for 2008 and 2009 for the major field crops. These 2007 through 2009 USDA forecasts were adopted as part of the baseline for this study and were used as a jumping off point for extending the study's baseline out through 2020.

Major crop production enterprises identified for this study include the eight primary field crops: Corn, soybeans, wheat, cotton, rice, sorghum, oats and barley. These crops account for more than three-quarters of the 320 million acres devoted to crop production in the United States. When hay is excluded from the total cropland, these eight primary field crops account for more than 95 percent of the 258 million acres of crop area under cultivation.

Total crop production costs include a combination of operating costs and fixed costs. Operating costs are those directly attributable to the crop production enterprise such as seed, fertilizer, fuel, repairs and chemicals. In contrast, fixed costs are not directly related to the annual production decisions and include items such as land and machinery ownership costs, taxes, interest and family labor. The focus of this study is on the operating costs and there are no efforts to measure the impact of higher

energy prices on the fixed costs. However, over a long period of time, the fixed costs would be affected by higher energy costs as well.

From the USDA crop production cost data series, eight operating cost categories were identified. These costs items are seed, fertilizer, chemicals, custom operations, fuel and related energy items, repairs, interest on operating capital, and other variable expenses. Those production cost categories are summarized into annual total operating expenses per planted acre for each of the major crop enterprises.

The most energy sensitive operating expense categories are fertilizer and fuel costs. The impact of rising energy prices on fuel costs is very direct. Farmers have to buy fuel for their equipment to produce crops. The energy impact on fertilizer costs is more indirect, but is extremely critical for crop production. The production of fertilizer is very energy intensive. Fuel is also a major factor in the cost of custom operations, but larger equipment, changes in cultural practices and improving efficiency have dampened the impact of rising energy prices in this expense category. Agricultural chemical expenditures were also evaluated for sensitivity to energy costs. Industry sources suggest that energy comprises about 3 percent of the direct cost of agricultural chemical production. However, dynamic changes in the industry due to the adoption of biotechnology have limited the ability of agricultural chemical producers to pass along energy cost increases.

Other operating expense categories were determined to have limited direct exposure to energy cost changes. Of the other expense items, seed is perhaps the item that seems most likely to be influenced by energy costs. However, industry sources suggest that other factors overshadow the influence of energy costs. Further, the farm level production cost of seed is reflected in the expenditures for fertilizer and fuel since acreage devoted to seed production is included in the total crop acreage. For those reasons, seed expenditures were not included among the crop production expenses directly linked to energy costs.

EXTENDING THE BASELINE

Each of the expense categories for each of the eight crops was extended to cover the 2010 to 2020 period. The baseline costs are based on projections of crude oil prices and natural gas prices provided by government agencies and assume no additional impact from carbon credit legislation. Crude oil price forecasts from USDA were used for the baseline, along with forecasts for natural gas prices from the Energy Information Administration.

A detailed statistical model was developed to relate energy costs to crop production costs. Relationships between energy and crop production costs were determined from a combination of feedback from industry experts and statistical analysis. The operating costs were projected out through 2020 using the baseline crude oil and natural gas prices.

Fertilizer costs are greatly influenced by energy costs. Prices for nitrogen, phosphate, and potash were regressed against the annual index of prices paid for fertilizer as reported by USDA. In turn, the index of prices paid for fertilizer was regressed against annual fertilizer expenditures for each of the eight field crops included in the analysis. Based on data from 1996 through 2007, the correlation between the prices paid for fertilizer and fertilizer expenses for each of the crops exceed 90 percent, reaching a high of 98 percent for corn. Because of the strong fit between the prices paid index and the fertilizer expenses, application rate information was not expressly necessary for the study. Instead, historical trends in application rates and the relative usage of the three primary fertilizer nutrients are inherently embedded in the modeled equations.

To develop an equation to extend the index of prices paid for fertilizer, the individual prices for nitrogen, phosphate, and potash served as independent variables in a regression equation. Three forms of nitrogen: anhydrous ammonia, 28 percent nitrogen solution (UAN), and urea were weighted in proportion with their estimated contribution to total nitrogen usage. The average prices paid by farmers as reported in the *Agricultural Prices* report were converted to a price per nutrient pound. Similarly, prices for phosphate and potash on a nutrient pound basis were included in the regression equation. Using the r-squared statistic, these fertilizer prices explain 99 percent of the variability in the index of prices paid.

Nitrogen prices are closely tied to natural gas prices. Prices paid by farmers for the three nitrogen products for 1990 through 2007 were regressed against

the cost of natural gas to derive forecasting equations. According to the analysis, natural gas costs explain on average about 77 percent of the variation in nitrogen prices. The statistical fit is in line with estimates furnished by industry sources with anhydrous ammonia exhibiting the strongest relationship with natural gas, followed by UAN and urea. Statistical relationships for each of the three nitrogen products were linked to the changes in projected natural gas prices through 2020 to drive nitrogen price forecasts.

Costs for potash and phosphate were determined to relate strongly to crude oil prices. Using a linear regression analysis, crude oil explained nearly 93 percent of the variation in prices paid for muriate of potash. The statistical fit for superphosphate dipped, but the r-square of 76 percent remained highly significant.

Once these relationships were developed and determined to be statistically valid, fertilizer expenditures per acre for each of the eight field crops were projected from 2010 through 2020 using the baseline energy price assumptions. USDA's 2009 fertilizer expense projections served as the starting point for measuring annual changes. After the baseline projections were in place, projected changes in energy prices in conjunction with S. 1766 were incorporated in the equations to project a corresponding set of fertilizer cost projections through 2020.

Crop production expenses for fuel, lube and electricity were examined next. Intuitively, that expense category could be expected to correlate quite strongly with the price of crude oil. However, in practice the relationship was not quite as positive as anticipated. Changes in crop production practices since the mid 1990s have reduced per unit expenditures for fuel. Adoption of biotech seed traits — particularly Roundup Ready production systems — and increasing use of conservation tillage have allowed growers to reduce tillage operations, helping to offset rising fuel prices.

Multivariate equations were developed for soybeans, wheat, rice and sorghum using the combination of crude oil and natural gas prices as independent variables. That procedure produced an exceptionally strong fit for wheat, boosting the r-square for the equation to 99.5 percent. The equation yielded a 97.3 percent r-square for soybean fuel expenditures. For rice, the two variables explained 92 percent of the variability, but the fit slipped to 78 percent for sorghum.

For cotton, oats and barley, fuel expenses per acre were regressed against the diesel fuel price to develop estimation equations. Diesel fuel explained most of the variability in fuel expenditures, while natural gas did not show up as a statistically significant independent variable for these crops.

The corn fuel expenses forecast was a bit more difficult. Regression equations explained only slightly more than half the variability. To improve the forecasting methodology, a February 2006 USDA publication, *Characteristics and Production Costs on U.S. Corn Farms, 2001*, provided helpful insight. Survey data in that report was used to quantify the various units of energy used for corn production. Using those quantities for diesel fuel, gasoline, natural gas and LP gas, a mathematical model of calculated energy cost for corn production was constructed. The mathematical model was used to project the impact of changes in energy prices through the forecast horizon.

Chemical costs were estimated based on the prices paid index for agricultural chemicals as reported in the *Agricultural Prices* reports from USDA. Empirical data show that expenditures for agricultural chemicals have been relatively flat since 1996. The researchers postulate that the minimal increase in the agricultural chemical expense category is due in large part to competitive forces in the industry resulting from the adoption of biotechnology, with emphasis on the widespread usage of Roundup Ready crop production systems.

Industry sources suggest that energy costs account for about 3 percent of the production costs for agricultural chemicals. The statistical analysis suggested a 2.3 percent response in agricultural chemical costs with respect to the change in crude oil prices. That relationship was incorporated in the forecasting model, resulting in only slight upward pressure on agricultural chemical costs through the 2020 forecasting horizon.

Custom farming operations comprised the remaining expense category linked to energy costs. For most crops, the relationship with crude oil prices was relatively strong, with r-square values ranging

from about 50 percent for cotton to 92 percent for soybeans. For wheat, the yield per planted acre was included in addition to crude oil prices, to explain about 78 percent of the variability in custom farming expenses. Prices charged by custom harvesters for wheat usually increase when yields exceed a certain threshold, usually about 20 bushels per acre.

Developing equations for the custom farming expense category for corn was challenging from a statistical standpoint. Rather surprisingly, there has been a slight downward trend in custom farming expenses for corn despite recent steep increases in fuel costs. After several attempts to fit equations, the researchers defaulted to use the average coefficient for several other crops linking the projections to crude oil prices. The assigned coefficient was 0.1013, suggesting that about 10 percent of any subsequent change in crude oil costs will be passed on to corn producers who use custom farming in their operations.

Forecasts for the other operating expense items including seed, repairs, interest and other variable costs were adjusted in line with increases in the baseline consumer price index released by USDA in February 2008. Projected annual increases in the CPI from 2010 through 2017 are 2.5 percent. We extended the CPI through 2020 using the same rate of increase. The model allows different CPI assumptions to be used in the case of S. 1766. However, the researchers maintained the same rate of increase in the CPI for the baseline and the alternate scenarios.

EVALUATING ALTERNATIVE SCENARIOS

The development of the structural model provides a framework for determining the impact of changes in energy costs on the costs of production for each of the eight major crops. Changes to key energy prices, specifically crude oil prices and natural gas prices, will flow through to the various production expense categories. The energy price changes are introduced into the model as percent changes from the baseline. The resulting new expenses can then be compared to the baseline to determine the impact of the energy price change. The model is flexible enough to evaluate a wide range of changes in energy prices, not just those outlined in the EIA's study of the impacts of the *Low Carbon Economy Act of 2007*. The forecast for crude oil prices was provided by USDA, while the forecast for natural gas is from the Energy Information Administration of the Department of Energy.

The purpose of the development of the model was twofold. First, we needed a way to extend the baseline forecast out beyond 2009, the last point available in the USDA forecasts. We wanted to base the baseline forecasts on the government forecasts for the critical energy inputs. The development of the structural model allows us to change assumptions and project a new baseline if the energy inputs change substantially. Second, the structural model allows us to make projections for the key production costs using alternative energy price scenarios. The objective is to measure the magnitude of the changes in production costs under the various energy price scenarios.

Crude oil prices have soared over the past year or so, with the increases generally exceeding the forecasts. However, the USDA forecast used as the basis for the baseline forecast projects declining crude oil prices during the forecast period. The crude oil price provided by USDA rises through 2009, then declines modestly from 2010 through 2014 before turning higher again. Nominal natural gas prices from EIA rise over the forecast period, but at a rate below the rate of inflation. As a result, increases for operating costs that are closely related to energy prices generally rise less than costs increased by inflation. The assumptions about the rate of increase in energy costs may be suspect, but for this analysis the objective is to find out how changes in energy prices impact production costs, and the assumptions about energy prices do not prevent that evaluation. The assumptions used for crude oil prices and natural gas prices are outlined as follows:

	2007	2014	2020
Crude Oil Price ($/barrel)	$67.00	$60.70	$60.00
Natural Gas ($/MBTU)	$11.90	$12.64	$14.63

The first step in the process was the development of the baseline forecast. Table one shows the USDA forecasts for production costs for 2007 compared to the projections through 2020 based on the baseline energy price assumptions.

TABLE 1: Baseline Cost Of Production Estimates

CORN

Operating Costs	USDA 2007 estimates	Baseline 2020 estimates	Change $/acre
Seed	48.93	67.19	18.26
Fertilizer	93.96	115.08	21.12
Chemicals	24.67	27.08	2.41
Custom operations	10.93	13.11	2.18
Fuel, lube, and electricity	30.98	39.03	8.05
Repairs	14.89	20.47	5.61
Other variable expenses	5.12	5.17	0.05
Interest on operating capital	5.16	7.62	2.46
Total, operating costs	229.61	289.75	60.14

SOYBEANS

Operating Costs	USDA 2007 estimates	Baseline 2020 estimates	Change $/acre
Seed	38.27	52.66	14.39
Fertilizer	13.94	17.00	3.06
Chemicals	14.79	16.49	1.70
Custom operations	7.23	8.31	1.08
Fuel, lube, and electricity	16.98	24.22	7.24
Repairs	11.93	16.43	4.50
Other variable expenses	0.15	0.21	0.06
Interest on operating capital	2.37	3.46	1.09
Total, operating costs	105.68	139.60	33.92

WHEAT

Operating Costs	USDA 2007 estimates	Baseline 2020 estimates	Change $/acre
Seed	9.61	13.06	3.96
Fertilizer	33.33	40.09	6.76
Chemicals	9.23	10.13	0.90
Custom operations	6.93	7.80	0.87
Fuel, lube, and electricity	19.20	25.32	6.12
Repairs	12.78	17.60	4.82
Other variable expenses	0.34	0.47	0.13
Interest on operating capital	2.14	3.16	1.02
Total, operating costs	93.46	117.63	24.17

COTTON

Operating Costs	USDA 2007 estimates	Baseline 2020 estimates	Change $/acre
Seed	69.31	95.18	25.87
Fertilizer	52.21	61.85	9.64
Chemicals	65.79	72.21	6.42
Custom operations	27.54	32.45	4.91
Fuel, lube, and electricity	47.05	53.54	6.49
Repairs	23.16	31.90	8.74
Other variable expenses	115.09	166.00	50.91
Interest on operating capital	9.11	13.46	4.35
Total, operating costs	404.76	524.09	119.33

RICE

Operating Costs	USDA 2007 estimates	Baseline 2020 estimates	Change $/acre
Seed	39.63	54.43	14.80
Fertilizer	86.35	104.29	17.94
Chemicals	59.84	65.77	5.93
Custom operations	81.92	97.70	15.78
Fuel, lube, and electricity	132.71	169.51	36.80
Repairs	24.58	33.94	9.16
Other variable expenses	12.30	17.95	5.65
Interest on operating capital	10.14	14.62	4.48
Total, operating costs	448.55	558.21	110.36

SORGHUM

Operating Costs	USDA 2007 estimates	Baseline 2020 estimates	Change $/acre
Seed	6.04	8.31	2.27
Fertilizer	30.24	36.75	6.51
Chemicals	18.87	20.72	1.85
Custom operations	10.24	12.38	2.14
Fuel, lube, and electricity	37.16	46.69	9.53
Repairs	18.27	25.15	6.88
Other variable expenses	0.11	0.16	0.05
Interest on operating capital	3.77	4.92	1.15
Total, operating costs	123.70	154.38	30.68

BARLEY

Operating Costs	USDA 2007 estimates	Baseline 2020 estimates	Change $/acre
Seed	10.34	14.20	3.86
Fertilizer	32.93	39.42	6.49
Chemicals	13.73	15.07	1.34
Custom operations	7.83	9.43	1.60
Fuel, lube, and electricity	20.91	25.44	4.53
Repairs	17.05	23.49	6.44
Other variable expenses	2.46	3.42	0.96
Interest on operating capital	2.48	3.63	1.17
Total, operating costs	107.71	134.10	26.39

OATS

Operating Costs	USDA 2007 estimates	Baseline 2020 estimates	Change $/acre
Seed	12.49	17.14	4.65
Fertilizer	38.24	47.32	9.08
Chemicals	2.40	2.64	0.24
Custom operations	11.05	13.63	2.58
Fuel, lube, and electricity	21.81	28.69	6.88
Repairs	14.26	19.63	5.37
Other variable expenses	3.36	4.67	1.31
Interest on operating capital	4.71	6.33	0.62
Total, operating costs	108.31	138.44	31.13

SUMMARY

	USDA 2007 estimates	Baseline 2020 estimates	Change $/acre
Corn	229.61	289.75	60.14
Soybeans	105.68	139.60	33.92
Wheat	93.46	117.63	24.17
Cotton	404.76	524.09	119.33
Rice	448.85	558.21	110.36
Sorghum	123.70	154.38	30.68
Barley	107.71	134.10	26.39
Oats	108.31	138.44	31.13

MEASURING THE IMPACT OF HIGHER ENERGY PRICES

The structural model provides a solid basis for evaluating a wide range of different energy prices. The way the model is structured, higher energy prices impact fuels, fertilizers, chemicals and custom operations. Interest, seed and other variable costs increase at the rate of inflation and the rate of increase is not impacted by changing energy prices. A further refinement of the model could measure the impact of higher energy prices on inflation and the higher inflation could feed back through the model to impact these non-energy related costs. However, the overall impact on the results would probably be very small.

The EPA study referenced at the beginning of this study found that natural gas prices would be about 39 percent higher in 2020 with the legislation in place than they would have been otherwise in their scenario 2. In scenario 2 the EPA assumed substantial growth in nuclear power and widespread international action. In this scenario, the increase in crude oil prices is around 27 percent according to the study. The energy price changes to the end user include the cost of the carbon content, which is defined by EPA as the product of the physical carbon content of the fuel and the allowance price. The effects of energy price increases of this magnitude are shown in the following set of tables.

The increases in energy prices such as those suggested by the EPA scenario 2 study have significant impacts on per acre production costs. The cost of producing one acre of corn increases about $40, or about 14 percent. Per acre cotton production costs go up the most in absolute terms, rising by $79.50 over the baseline, an increase of about 14 percent. The increase for soybeans — which require significantly less fertilizer — is just under 8 percent compared to the baseline by 2020. The total increase in production costs for the eight crops in this scenario is $6 billion, using USDA's forecast of crop acreage in 2017.

TABLE 2: Impacts of EPA Scenario 2 — Crude Oil Prices Increase 27.2% and Natural Gas Prices Rise by 35.2%

CORN

Operating costs	Baseline 2020	High energy 2020	Change $/acre
Seed	87.18	87.18	0.00
Fertilizer	113.08	140.81	25.73
Chemicals	27.08	28.18	1.10
Custom operations	13.11	15.70	2.60
Fuel, lube, and electricity	38.03	48.87	10.84
Repairs	20.47	20.47	0.00
Other variable expenses	0.17	0.17	0.00
Interest on operating capital	7.62	7.62	0.00
Total, operating costs	289.75	330.09	40.33

SOYBEANS

Operating costs	Baseline 2020	High energy 2020	Change $/acre
Seed	57.55	57.55	0.00
Fertilizer	16.79	20.03	3.25
Chemicals	18.24	18.93	0.70
Custom operations	8.07	8.72	0.65
Fuel, lube, and electricity	22.16	28.08	5.93
Repairs	16.43	16.43	0.00
Other variable expenses	0.21	0.21	0.00
Interest on operating capital	5.46	5.46	0.00
Total, operating costs	139.90	146.42	10.52

WHEAT

Operating costs	Baseline 2020	High energy 2020	Change $/acre
Seed	13.06	13.06	0.00
Fertilizer	40.09	47.76	7.66
Chemicals	16.13	16.57	0.43
Custom operations	7.80	8.30	0.50
Fuel, lube, and electricity	23.27	31.04	7.77
Repairs	17.60	17.60	0.00
Other variable expenses	0.47	0.47	0.00
Interest on operating capital	3.18	3.18	0.00
Total, operating costs	117.63	133.98	16.33

COTTON

Operating costs	Baseline 2020	High energy 2020	Change $/acre
Seed	95.18	95.18	0.00
Fertilizer	61.86	71.90	10.05
Chemicals	73.21	76.31	3.10
Custom operations	30.40	37.95	5.54
Fuel, lube, and electricity	50.54	66.74	6.20
Repairs	31.90	31.90	0.00
Other variable expenses	188.50	188.50	0.00
Interest on operating capital	13.40	13.40	0.00
Total, operating costs	574.09	548.97	24.88

RICE

Operating costs	Baseline 2020	High energy 2020	Change $/acre
Seed	64.43	64.43	0.00
Fertilizer	104.29	124.98	20.69
Chemicals	65.77	68.64	2.86
Custom operations	97.70	116.20	18.50
Fuel, lube, and electricity	169.31	206.96	37.44
Repairs	33.54	33.54	0.00
Other variable expenses	17.95	17.95	0.00
Interest on operating capital	16.02	16.02	0.00
Total, operating costs	568.21	628.71	79.50

SORGHUM

Operating costs	Baseline 2020	High energy 2020	Change $/acre
Seed	6.31	6.31	0.00
Fertilizer	36.15	43.87	7.72
Chemicals	20.72	21.61	0.89
Custom operations	12.39	14.99	2.60
Fuel, lube, and electricity	40.69	51.71	11.02
Repairs	25.10	25.10	0.00
Other variable expenses	5.16	5.16	0.00
Interest on operating capital	4.17	4.17	0.00
Total, operating costs	154.29	176.51	22.24

BARLEY

Operating costs	Baseline 2020	High energy 2020	Change $/acre
Seed	14.20	14.20	0.00
Fertilizer	39.42	46.58	7.16
Chemicals	15.07	15.71	0.65
Custom operations	9.42	11.35	1.93
Fuel, lube, and electricity	25.44	29.06	3.62
Repairs	23.49	23.49	0.00
Other variable expenses	3.42	3.42	0.00
Interest on operating capital	3.63	3.63	0.00
Total, operating costs	134.10	147.46	13.36

OATS

Operating costs	Baseline 2020	High energy 2020	Change $/acre
Seed	17.14	17.14	0.00
Fertilizer	47.32	59.38	11.86
Chemicals	2.64	2.75	0.11
Custom operations	13.63	16.89	3.26
Fuel, lube, and electricity	28.69	36.14	7.45
Repairs	19.63	19.63	0.00
Other variable expenses	4.67	4.67	0.00
Interest on operating capital	2.55	2.55	0.00
Total, operating costs	136.44	158.12	22.67

SUMMARY

	Baseline 2020	High energy 2020	Change $/acre
Corn	289.75	330.09	40.33
Soybeans	139.90	146.42	10.52
Wheat	117.63	133.96	16.33
Cotton	624.09	548.97	24.88
Rice	568.21	628.71	79.50
Sorghum	154.29	176.51	22.24
Barley	134.10	147.46	13.36
Oats	136.44	158.12	22.67

The second scenario studied to evaluate the impact of higher energy prices on crop production costs, is scenario 6 from the EPA study. This EPA scenario estimates the increase in energy prices based on the assumption that nuclear power and biomass power do not exceed the growth recorded in the base case, scenario 1. Under this scenario, prices for crude oil are up 36.6 percent over the base case by 2020 and natural gas prices are almost 50 percent higher. Such large increases in energy prices would have significant cost implications for U.S. crop producers.

With the large increases in crude oil prices and natural gas prices U.S. crop producers would face much higher production costs. The energy price increases outlined in EPA scenario 6 would add more than $59 to the costs of producing an acre of corn and more than $100 an acre for rice producers. For most crops the per acre production costs increase by around 20 percent compared to the baseline. The increases in energy prices outlined in this scenario would add more than $8 billion to total production costs for the eight crops studied using USDA's 2017 expected crop acres.

TABLE 3: Impacts of EPA Scenario 6 — Crude Oil Prices Increase 58.8% and Natural Gas Prices Rise by 49.4%

CORN

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	67.19	67.19	0.00
Fertilizer	119.08	150.43	35.35
Chemicals	27.08	28.64	1.56
Custom operations	15.11	18.60	3.49
Fuel, lube, and electricity	39.03	53.87	14.85
Repairs	20.47	20.47	0.00
Other variable expenses	0.17	0.17	0.00
Interest on operating capital	7.62	7.62	0.00
Total, operating costs	299.75	345.00	45.26

SOYBEANS

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	32.55	32.55	0.00
Fertilizer	16.79	21.23	4.45
Chemicals	16.24	17.17	0.94
Custom operations	8.07	8.94	0.87
Fuel, lube, and electricity	22.16	30.21	8.06
Repairs	16.43	16.43	0.00
Other variable expenses	0.21	0.21	0.00
Interest on operating capital	3.48	3.48	0.00
Total, operating costs	135.90	150.23	14.33

WHEAT

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	13.06	13.06	0.00
Fertilizer	40.09	50.62	10.53
Chemicals	10.13	10.72	0.58
Custom operations	7.80	8.45	0.65
Fuel, lube, and electricity	25.37	35.37	10.00
Repairs	17.60	17.60	0.00
Other variable expenses	0.47	0.47	0.00
Interest on operating capital	3.16	3.16	0.00
Total, operating costs	117.63	140.00	22.36

COTTON

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	95.18	95.18	0.00
Fertilizer	61.80	75.60	13.81
Chemicals	72.21	76.38	4.17
Custom operations	32.45	39.90	7.45
Fuel, lube, and electricity	50.54	58.88	8.34
Repairs	31.95	31.95	0.00
Other variable expenses	166.50	166.50	0.00
Interest on operating capital	13.46	13.46	0.00
Total, operating costs	574.09	607.86	33.77

RICE

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	54.43	54.43	0.00
Fertilizer	104.29	133.72	29.43
Chemicals	66.77	70.63	3.86
Custom operations	97.70	122.68	24.98
Fuel, lube, and electricity	169.51	229.04	59.53
Repairs	33.94	33.94	0.00
Other variable expenses	17.90	17.90	0.00
Interest on operating capital	15.02	15.02	0.00
Total, operating costs	559.21	666.91	107.70

SORGHUM

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	8.31	8.31	0.00
Fertilizer	36.75	47.36	10.61
Chemicals	20.72	21.92	1.20
Custom operations	12.38	15.88	3.50
Fuel, lube, and electricity	46.69	61.91	15.22
Repairs	25.15	25.15	0.00
Other variable expenses	0.18	0.18	0.00
Interest on operating capital	4.12	4.12	0.00
Total, operating costs	154.29	184.81	30.53

BARLEY

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	14.20	14.20	0.00
Fertilizer	39.42	48.26	8.84
Chemicals	15.07	15.94	0.87
Custom operations	9.43	12.00	2.58
Fuel, lube, and electricity	25.44	30.31	4.87
Repairs	23.49	23.49	0.00
Other variable expenses	3.42	3.42	0.00
Interest on operating capital	3.03	3.03	0.00
Total, operating costs	134.10	152.26	18.17

OATS

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	17.14	17.14	0.00
Fertilizer	47.32	63.61	16.29
Chemicals	2.04	2.19	0.15
Custom operations	13.63	18.01	4.38
Fuel, lube, and electricity	28.69	39.71	10.02
Repairs	19.03	19.03	0.00
Other variable expenses	4.67	4.67	0.00
Interest on operating capital	2.33	2.33	0.00
Total, operating costs	136.44	167.29	30.85

SUMMARY

	Baseline 2000	High energy 2000	Change $/acre
Corn	299.75	345.00	45.26
Soybeans	135.90	150.23	14.33
Wheat	117.63	140.00	22.36
Cotton	574.09	607.86	33.77
Rice	559.21	666.91	107.70
Sorghum	154.29	184.81	30.53
Barley	134.10	152.26	18.17
Oats	136.44	167.29	30.85

The final scenario evaluated for this study is scenario 7 in the EPA study of energy price impacts of the Lieberman-Warner Climate Security Act of 2008. This scenario assumes that nuclear power and biomass power do not exceed the growth in the base case and that carbon capture and sequestration technology does not become commercially available until 2030. Without the sequestration and carbon capture technology, prices for crude oil and natural gas are significantly higher than in the base case. Crude oil prices are up 52 percent over those in the base case and natural gas prices are almost 71 percent higher. These price levels would substantially increase production costs for all eight major crops evaluated.

The higher energy prices indicated in scenario 7 would boost per acre corn production costs by almost $80, an increase of more than 27 percent over the baseline. Production costs for all crops would rise significantly with costs to produce an acre of rice up more than $130 compared to the base case. The impact on total crop production expenditures would amount to almost $12 billion, using USDA's acreage estimates.

TABLE 4: Impacts of EPA Scenario 2 — Crude Oil Prices Increase 52.5% and Natural Gas Prices Rise by 75.8%

CORN

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	67.18	67.18	0.00
Fertilizer	110.08	160.53	50.45
Chemicals	27.08	29.30	2.22
Custom operations	13.11	18.07	4.96
Fuel, lube, and electricity	39.03	60.20	21.17
Repairs	20.47	20.47	0.00
Other variable expenses	0.17	0.17	0.00
Interest on operating capital	7.62	7.62	0.00
Total, operating costs	289.75	365.55	75.80

SOYBEANS

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	32.55	32.55	0.00
Fertilizer	16.79	23.16	6.37
Chemicals	16.34	17.37	1.03
Custom operations	5.07	6.31	1.24
Fuel, lube, and electricity	22.16	33.63	11.47
Repairs	16.43	16.43	0.00
Other variable expenses	0.71	0.71	0.00
Interest on operating capital	3.46	3.46	0.00
Total, operating costs	135.90	156.31	20.41

WHEAT

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	13.06	13.06	0.00
Fertilizer	40.09	55.12	15.03
Chemicals	10.13	10.96	0.83
Custom operations	7.80	8.68	0.88
Fuel, lube, and electricity	25.32	40.44	15.13
Repairs	17.08	17.08	0.00
Other variable expenses	0.47	0.47	0.00
Interest on operating capital	3.16	3.16	0.00
Total, operating costs	117.63	149.50	31.87

COTTON

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	95.18	95.18	0.00
Fertilizer	61.88	81.58	19.71
Chemicals	73.21	78.13	5.92
Custom operations	32.45	43.04	10.59
Fuel, lube, and electricity	50.54	62.38	11.84
Repairs	31.90	31.90	0.00
Other variable expenses	168.50	168.50	0.00
Interest on operating capital	13.46	13.46	0.00
Total, operating costs	524.09	573.18	48.09

RICE

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	64.43	64.43	0.00
Fertilizer	104.39	144.88	40.58
Chemicals	66.77	72.25	5.47
Custom operations	97.70	126.07	28.37
Fuel, lube, and electricity	169.51	241.34	71.83
Repairs	93.54	93.54	0.00
Other variable expenses	17.35	17.35	0.00
Interest on operating capital	16.02	16.02	0.00
Total, operating costs	608.31	715.45	103.34

SORGHUM

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	8.01	8.01	0.00
Fertilizer	36.75	51.89	15.14
Chemicals	20.72	22.42	1.70
Custom operations	12.38	17.36	4.98
Fuel, lube, and electricity	46.69	68.44	21.75
Repairs	25.15	25.15	0.00
Other variable expenses	0.16	0.16	0.00
Interest on operating capital	4.10	4.10	0.00
Total, operating costs	154.28	197.84	43.56

BARLEY

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	14.20	14.20	0.00
Fertilizer	39.42	53.46	14.04
Chemicals	15.07	16.30	1.24
Custom operations	9.42	13.11	3.68
Fuel, lube, and electricity	25.44	32.36	6.92
Repairs	23.49	23.49	0.00
Other variable expenses	3.42	3.42	0.00
Interest on operating capital	3.63	3.63	0.00
Total, operating costs	134.10	159.97	25.87

OATS

Operating costs	Baseline 2000	High energy 2000	Change $/acre
Seed	17.14	17.14	0.00
Fertilizer	47.52	70.77	23.25
Chemicals	2.64	2.89	0.22
Custom operations	13.03	19.66	6.63
Fuel, lube, and electricity	28.69	42.93	14.24
Repairs	19.63	19.63	0.00
Other variable expenses	4.87	4.87	0.00
Interest on operating capital	9.58	9.58	0.00
Total, operating costs	136.44	180.37	43.93

SUMMARY

	Baseline 2000	High energy 2000	Change $/acre
Corn	289.75	365.55	75.80
Soybeans	135.90	156.31	20.41
Wheat	117.63	149.50	31.87
Cotton	524.09	573.18	48.09
Rice	608.31	715.45	103.34
Sorghum	154.28	197.84	43.56
Barley	134.10	159.97	25.87
Oats	136.44	180.37	43.93

CONCLUSIONS

Based on studies by government agencies, legislation designed to limit carbon dioxide emissions will raise prices for most forms of energy. These higher prices for energy will, in turn, raise production costs for the major U.S. crops. These higher production costs will at least partly offset any economic benefits that may result from the proposed legislation.

Higher energy costs will impact crop production costs in a variety of ways. Farmers use fuels directly to operate equipment and run irrigation wells. These direct energy impacts are most closely related to prices for crude oil. Higher prices for energy in general, and specifically for natural gas and crude oil, will indirectly drive up production costs by boosting prices farmers pay for fertilizers, chemicals and custom operations.

To estimate the impact of higher energy prices on production costs, we estimated structural models that link energy prices to per acre costs for eight major crops. We developed a baseline forecast through 2020 based on energy price forecasts from government sources. With the model in place, we could measure the impact of changes in energy prices on per acre production costs for each of the crops.

The structural model was used to measure the impact of higher energy prices on per acre production costs using the results of three scenarios from an EPA study of the implications of the legislation under consideration. There are clearly a wide range of possible outcomes from the proposed legislation, depending primarily on assumptions about the technology that will be available to deliver clean energy. One scenario indicated energy price increases of around 25 percent to 35 percent by 2020. Another measured the energy impact of the legislation at around 35 percent to 50 percent. The third scenario we used as the basis for analysis indicated a 71 percent increase in natural gas prices and a 32 percent increase in crude oil prices. The impact on crop production costs vary widely depending on which of these energy price outcomes emerges.

The legislation, if passed, will have implications for the energy sector and for agriculture far beyond 2020. Many of the studies see the increase in energy prices continuing through at least 2030, while others see the sector adjusting, with energy prices falling back. The future that far out will depend on technological developments and economic adjustments that are difficult to predict. However, there is no doubt that if the energy price gap between the baseline and the low carbon dioxide emissions scenarios expands beyond 2020, the impact on production costs will also increase.

The higher per acre production costs will add significantly to total expenditures for crop producers. Even the relatively modest changes in energy prices implied by Scenario 2 of the EPA study add $6 billion to total production costs in 2020, using the assumption that the crop acreages projected by USDA for 2017 are still valid for 2020. The EPA scenario study, calling for a 49 percent increase in natural gas prices, combined with a 37 percent increase in crude oil, results in a total increase in expenditures for the eight crops of more than $8 billion in 2020. This is at least a partial estimate of the impact on net cash farm income if we assume that crop yields and prices are not impacted by the higher energy costs.

TABLE 5: SUMMARY OF PRODUCTION COST IMPACTS OF HIGHER ENERGY PRICES IN 2020

Crops	Baseline $/acre	EPA Scenario 2 $/acre	EPA Scenario 6 $/acre	EPA Scenario 7 $/acre
Corn	289.73	330.08	349.00	368.30
Soybeans	125.80	145.42	156.23	166.31
Wheat	117.65	133.98	143.00	149.56
Cotton	524.09	546.87	557.86	572.19
Rice	568.21	638.71	666.51	712.45
Sorghum	154.78	176.61	184.81	197.84
Barley	124.10	147.46	152.26	159.97
Oats	136.44	158.12	167.29	182.37

TABLE 6: CHANGE IN COSTS FROM THE BASELINE

Crops	EPA Scenario 2 $/acre	EPA Scenario 6 $/acre	EPA Scenario 7 $/acre
Corn	40.35	59.25	78.60
Soybeans	19.62	14.33	20.41
Wheat	16.33	22.37	31.87
Cotton	21.88	33.77	48.06
Rice	70.50	107.70	153.24
Sorghum	22.03	30.03	43.06
Barley	13.35	18.16	25.87
Oats	22.68	30.85	45.93

OTHER ISSUES OF INTEREST

The study was designed to evaluate the impact of higher energy prices on per acre production costs for major crops. However, the higher energy prices would affect the agriculture sector and specifically crop producers in other ways as well. One of the biggest impacts on crop producers would be related to the costs of transporting crops to market. Costs for trucking, rail, and barge freight rates would rise, lowering the local basis and the market price for the crops farmers produce. This impact would be smaller for producers with local markets, such as ethanol plants, livestock operations, or processing plants. However, for producers that ship their crops long distances to export terminals or other facilities, the impact of the higher transportation costs could be significant.

The higher energy prices would also affect the cost of producing and transporting other products that are important to farmers. For example, it would cost more to produce and transport farm equipment and those costs would probably be passed on to the buyers. Food processing and distribution costs would rise and some of those costs would probably show up as lower bids to farmers for their products.

Higher production costs for farmers, coupled with lower output prices that may result from the increase in energy prices, would cut into crop production profits. This would tend to have an adverse impact on land prices. The value of land is generally related to the profit generating potential, and if the profits are reduced farmers should be willing to pay less for the land. Real estate is the largest source of wealth for the agriculture sector.

Higher energy prices would impact the farm sector in many ways, and most of them would have an adverse impact on crop production profits. This study evaluates the impact of energy prices on per acre production costs, but the actual impacts would be much bigger. However, the total magnitude of the impact of higher energy prices is probably impossible to determine.

REFERENCES

EPA Analysis of the *Lieberman-Warner Climate Security Act of 2008, S. 2191 in the 110th Congress*, U.S. Environmental Protection Agency, Office of Atmospheric Programs, March 14, 2008 (updated May 5, 2008).

Energy Information Administration, *Energy Market and Economic Impacts of S. 1766, the Low Carbon Economy Act of 2007*. U.S. Department of Energy, Washington, D.C., January 2008.

Energy Information Administration, *Supplement to Energy Market and Economic Impacts of S. 280, the Climate Stewardship and Innovation Act of 2007*. U.S. Department of Energy, Washington, D.C., October 2007.

Economic Research Service, USDA, *U.S. and Regional Costs and Returns Estimates*.

Economic Research Service, USDA, *Agricultural Prices*.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE JOHNS HOPKINS CENTER
FOR A LIVABLE FUTURE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Roni Neff, Keeve Nachman, Jared Margulies

Organization(s) you represent

The Johns Hopkins Center for a Livable Future

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

There is an urgent need to improve policy responses to addressing greenhouse gas emissions. Developing policies to address the carbon footprint of agriculture represents a powerful opportunity to promote methods that "get it right" for the environment, farmers, and public health. We emphasize the need to avoid promoting short-sighted incentives that may temporarily reduce greenhouse gas emissions, but that increase other negative impacts. These include incentives that promote increased agricultural chemical use and expanded CAFOs and increase exposure inequalities.

Further, policy must recognize what is realistically measurable under currently available technology and what is not. A hybrid of programs may be recommended, dominated by regulations and financial incentives and other transition support.

In terms of cap and trade, while direct measurements of carbon reductions may be feasible in some sectors, issues of ownership (who owns the offset?) and measurability will exclude some carbon reductions from entering into a cap-and-trade program. In general, carbon reductions that can be easily measured where ownership of the reduction is clear (for example, a farmer uses less fertilizer on his field), and where distributional impacts are less likely to be a concern, may be more appropriate for cap-and-trade programs, should they be implemented. By contrast, less reliable and/or difficult to quantify reductions (such as carbon soil sequestration via tillage techniques), and other interventions should be managed through government regulations, financial incentives, and government research and other support for transitioning farmers.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

According to the Intergovernmental Panel on Climate Change, agriculture and forestry account for 31% of global anthropogenic GHG emissions (2007). Agriculture is responsible for 60% of anthropogenic emissions of N_20 and 50% of CH_4 emissions, in addition to CO_2 emissions totaling 10-12% of total anthropogenic GHG emissions (2007). Additionally, agriculture N_20 and CH_4 emissions have

increased 17% from 1990 to 2005 (2007). For these reasons, it is imperative that the agriculture and agroforestry sectors be covered under a carbon reduction program. Fortunately, there is growing consensus that agricultural GHG emission mitigation strategies are as cost-effective as other GHG reduction programs, and the technologies to implement these reductions already exist. The mitigation potential of GHG emissions in agriculture is significant. If the United States is to achieve any measure of success in reducing our carbon footprint, agriculture will be part and parcel to this endeavor.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants. Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

This question raises the critical concern about how carbon reduction programs may affect different stakeholders in agricultural communities. Inevitably, communities will be affected in a number of ways, with the potential for both positive and negative outcomes.

The tool of public health impact assessment is being increasingly used as a counterpart to environmental impact assessment, to determine how policies may impact the health and well being of communities. Given the range of potential impacts of these policies, public health impact assessment by neutral parties should be included as part of greenhouse gas mitigation policy.

The *regulation* of greenhouse gases, particularly in agricultural communities, may be expected to improve rural livelihoods. Noxious gases from open manure lagoons (including ammonia), fertilizer and pesticides/herbicides from overspray and water runoff, as well as increased particulate matter from unsustainable cultivation techniques make America's agricultural communities some of the more dangerous public health environments. Agricultural techniques aimed at reducing green house gas emissions across the board frequently portend improvements in public health outcomes, particularly interventions aimed at improving soil and reducing chemical use.

Cap and trade programs, on the other hand, may have significant distributional concerns, and might even worsen both corporate concentration and health/other impacts in poor communities.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

It would be prudent to establish an independent expert panel to evaluate proposals for use of revenue generated under carbon reduction programs. The panel should be to directed to ensure that generated revenue be applied to activities that have either been clearly demonstrated to mitigate GHG emissions or show promise in reducing carbon outputs. It should be stressed that generation of revenue under a carbon reduction program in and of itself does not constitute a solution to the problem, and that poorly administrated funds from reduction programs are incapable of reducing or eliminating negative impacts.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes, it would be highly beneficial to support transition from less carbon-emitting to more sustainable production methods. However, in doing so, it is essential to develop strong criteria and oversight to assure that the transitions supported are actually leading to emission reduction and improved environmental practice. Funds should be focused on transition to forms of agriculture with the strongest benefits, and cooperative extension should be highly engaged in encouraging and supporting such transitions. In particular, we feel it is essential to have more government support for those moving to organic and other soil-enriching forms of agriculture, and finding ways to do no-till on a large scale while minimizing usage of agricultural chemicals.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Prairies, forests, wetlands and other natural landscapes are effective carbon sequestration sinks. Wetlands restoration and protection, including tidal and salt marsh wetlands may significantly increase the carbon sequestration potential of public lands. It is worth noting, however, that sequestration of carbon via biological mechanisms is finite and impermanent. As organic matter degrades, stored carbon is released back into the atmosphere. Nevertheless, biological sequestration is one of several useful techniques in reducing atmospheric carbon and buying time for other climate change mitigation techniques to work.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Effective reductions in agricultural greenhouse gas emissions will require mandatory compliance and agreed upon performance standards as designated by governmental regulatory agencies. While standardized sector regulations may be feasible for some reduction measures, climactic, biological and geographic variability inherent to agriculture will also necessitate regional and/or site specific recommendations and regulations.

Bonus allowances should be promoted for particularly environmentally sound practices such as organic farming, practices involving diverse cropping and pasture combinations, and transition to conservation tillage with low usage of agricultural chemicals.

Offsets, often considered the most economically viable choice for carbon reduction programs, can be troublesome in the agricultural sector. While "real" offsets may be calculated based on easily quantifiable data (e.g. reduced fertilizer use), biological offsets are unpredictable and variable, and not fit for cap-and-trade programs. For instance, soil sequestration of carbon varies greatly based on soil type, climate and weather. Recent literature has shown that many "proven" carbon sequestration methods, such as no-till agriculture, do not always show net reductions in atmospheric carbon, although it is highly beneficial for a variety of other reasons, particularly when performed with minimal chemical use

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

It may be reasonable to limit the issuance of offsets to any single entity, to minimize a disproportionate distribution of burden of GHG emissions on populations directly impacted by entities with sufficient resources to afford relatively larger numbers of offsets. Further, it is arguable that offsets create disincentives for development of technologies to reduce GHG releases; accordingly, the pricing of offsets in relation to anticipated costs should be considered when valuing offsets, and absolute limits should be placed on the number of offsets purchased over time by any given entity.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Only offsets which are directly measurable, where ownership of the offset is clear (for example, the fuel saved by a farmer by switching to no-till agriculture) should be considered for government offset programs. This presents several challenges to policy makers. Oftentimes it is unclear who owns the rights to an offset and thus policy makers must create rules and regulations for every industry that wishes to be considered for offset programs.

Additionally, indirect and/or impermanent carbon reductions should not necessarily be considered for offset programs. This includes many biological offsets which are generally both 1) impermanent and 2) difficult to measure. Policy makers should be wary of including these types of offsets, as there is no reliable measurement for the effectiveness of such systems due to differences in seasonality, climate, impermanence, location and other biological particularities. While government agencies should enforce the implementation of agricultural practices which have been shown to reduce greenhouse gas emissions (including better management of pesticides, herbicides and fertilizers; use of no-till, low-till and conservation tillage; and improved water management), these practices may not be suitable for offset or cap-and-trade programs.

Attempting to define the legitimacy of offsets will be a particular challenge for government regulators of certain types of offsets, although not impossible. For instance, while no-till agriculture reduces use of fossil fuels by tractors, reduces erosion, and may help sequester carbon, conventional agriculture practitioners often rely on heavier applications of herbicides (which require carbon emissions to produce) on no-till fields. These increased levels of herbicides enter waterways, disrupting ecosystems, and additionally can end up in the food on grocery store shelves. The changes we make today will have tremendous ramifications for the shape of agriculture and its level of sustainability into the future.

Providing offsets that result in encouraging these practices can lead to long term public health and environmental problems, and is thus a highly questionable use of policy tools despite the GHG emissions reductions that may occur. Wherever possible, an emphasis should be placed on truly sustainable farming techniques, including organic farming practices, for mitigating GHG emissions.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

As noted above, the ability to directly measure and ensure ownership of offsets is of greatest importance to assessing offset projects. In addition, public health impact assessments should be included in general offset assessments.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Input from local public health officials, environmental and community groups and additional stakeholders engaged in offset projects should be considered a crucial component of offset verification. The process for designing a verification program for offsets should be as diverse as the many groups impacted by offset projects. To ensure equitable treatment of offset stakeholders, a diverse coalition of opinion and backgrounds will be necessary.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Pre-calculated values will only be applicable for certain offsets, such as reduced farm fuel consumption, and reduced chemical inputs. Other measures, such as soil carbon sequestration may necessitate a project-based approach. However, it should be noted that truly accurate and effective measurements for this type of biological sequestration can be prohibitively expensive- a better allocation of resources could be to focus on setting government and industry standards in these less-quantifiable sectors.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Liability is an important factor in ensuring compliance and creates incentive for following through on offset projects. Of course, because of the inevitability of natural disasters or other uncontrolled events, an offset insurance program or similar program will be necessary to protect landowners/producers from unwarranted financial damages should an offset project fail. These regulations will need to be designed carefully to protect landowners from dubious or flawed GHG reduction programs—strict oversight of GHG reduction program approval will be of vital importance.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress should set out broad goals in the legislation, and the relevant agency should be tasked with developing regulations, protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

In addition to transition assistance grants, we recommend:

- **An integrated educational campaign engaging those who are successfully using the lower carbon methods**
- **Expanded cooperative extension services specifically targeted to these issues**
- **Increased agricultural research funds on methods, ways to reduce costs, and documenting the benefits of these transitions**
- **Insurance**
- **Assistance with the labeling and/or marketing of products in compliance with GHG emission reduction programs**

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Developing policies to address the carbon footprint of agriculture represents a powerful opportunity to promote methods that "get it right" for the environment, farmers, and public health. We emphasize the need to avoid promoting short-sighted incentives that may temporarily reduce greenhouse gas emissions, but that increase other negative impacts. These include incentives that promote increased agricultural chemical use and expanded CAFOs.

One of the great challenges facing agriculture in the United States is how to address the growing concerns of climate change, increasing oil prices (and future scarcity) and public health concerns while feeding a growing population. While many of the techniques discussed in this questionnaire, such as conservation tillage and integrated pest management help reduce American agriculture's carbon footprint, these techniques do not address many of the deeper, vitally flawed aspects of current industrial agriculture.

For instance, methane capture systems have been promoted as a solution for reducing waste-borne GHG emissions from industrial food animal production. However, this practice is ineffective in solving a number of environmental and public health issues associated with food animal production, including increases in outbreaks of antibiotic-resistant infections, Methicillin resistant Staphylococcus aureus (MRSA), and salmonella and E. coli outbreaks. Moreover, interventions aimed at reducing GHG emissions do not inherently address the varied ills stemming from industrial food animal production, such as nutrient overload and subsequent eutrophication of the Chesapeake Bay and the Gulf of Mexico.

In much the same way, while no-till agriculture is an improvement over conventional tillage, it does not address the ecosystem stress and public health concerns of the increases in mobile pesticides and herbicides that are often used in such systems. These are

damaging to humans via the food we eat and pose threats the workers who apply them and their families, as well as threatening the environment where they can disrupt fisheries and other aquatic life.

In considering long term strategies for ensuring America's food security while reducing agriculture's carbon footprint and public and environmental health consequences, it is time greater incentives be given to farmers to transition towards truly sustainable agricultural practices. Intensively managed, small scale sustainable agriculture practices have been shown through an increasingly rich literature to produce pound for pound, acre for acre, equal or greater quantities of food which is environmentally sustainable, significantly reduces GHG emissions while maximizing soil carbon sequestration, and oftentimes nutritionally superior to conventionally farmed goods. By designing farms as intelligent closed nutrient systems, soil management becomes a practice in soil enrichment rather than depletion, thereby increasing its carbon sequestration potential. In part due to conventional agriculture practices, the earth is currently losing arable land at a rate of 10 million hectares per year, and has lost 1/3 of all arable land in the last 40 years. Sustainable agriculture addresses this issue not through mitigation strategies but through concerted efforts to enhance and improve land quality. Sustainable agriculture is the most effective response for dealing with the oncoming climate and subsequent food crises. While there may be a place for cap-and-trade programs in GHG emission reductions, regulation and setting of performance standards for GHG emissions, and use of other financial and informational tools, and increased research, would be more effective mechanisms for enabling these important changes in American agriculture.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (*Excellent, Good, Moderate*)	**Ability** to verify carbon sequestration or GHG emission reductions (*Excellent, Good, Moderate*)	**Cost** for agricultural producers and private forestland owners to implement (*High, Medium, Low*)	**Capacity** of agricultural producers and private forestland owners to implement immediately (*High, Medium, Low*)

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pasturelund practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (*Excellent, Good, Moderate*)	**Ability** to verify carbon sequestration or GHG emission reductions (*Excellent, Good, Moderate*)	**Cost** for agricultural producers and private forestland owners to implement (*High, Medium, Low*)	**Capacity** of agricultural producers and private forestland owners to implement immediately (*High, Medium, Low*)
Land set aside (as wetlands, forests, etc.)	Excellent	Moderate	Medium	Medium

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (*Excellent, Good, Moderate*)	**Ability** to verify carbon sequestration or GHG emission reductions (*Excellent, Good, Moderate*)	**Cost** for agricultural producers and private forestland owners to implement (*High, Medium, Low*)	**Capacity** of agricultural producers and private forestland owners to implement immediately (*High, Medium, Low*)
Integrated Pest Management and reduced chemical/fertilizer use	Excellent	Excellent	Low	High
No-till Cultivation	Moderate	For fuel consumption-excellent, not for soil sequestration	Medium	High
Cover cropping and crop rotation	Good	Moderate- reduced fertilizer applications, etc. not for biological offsets	Low	High
Organic Agriculture	Excellent	Good-quantifiable offsets in use of fossil fuel based chemicals	Medium	Medium
Land set aside (as wetlands, forests, etc.)	Excellent	Good	Medium	Medium

2003

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE LAND IMPROVEMENT
CONTRACTORS OF AMERICA
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name: John W. Peterson

Organization you represent: The Land Improvement Contractors of America (LICA)

LICA Address: [Redacted]

My address: [Redacted]

Email: [Redacted]

My capacity: LICA Director of Government Relations

Description of organization: For over 50 years, the members of the Land Improvement Contractors of America (LICA) have paved the way for our nation's growth and expansion. Our member contractors can be found in every state. In our early years, our contractors were the ones who more than likely helped install the conservation practices that USDA encouraged farmers and ranchers to install; practices such as diversions, terraces, waterways, drainage, farm ponds, etc. Today our contractor and associate members provide a wide range of services from grading, excavating, drainage, landscaping, paving, highways, wetland development, site preparation, materials and equipment, etc. LICA encourages its members to adhere to high standards of workmanship in resource management and the installation of land improvement practices, and promotes private enterprise in the profession of land improvement contracting. LICA has about 1800 independent Contracting Company Members and 30 Associate Members. Associate members are consultants, equipment and materials manufacturers and consultants. LICA is dedicated to professional conservation of soil and water.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

LICA has not developed policy regarding a cap and trade program or a carbon tax to address climate issues, and we will be doing that at our summer meeting. We just learned of this opportunity to share our views with the House Committee on Agriculture on April 8th, and while this response will not be as detailed as we would like, we hope it will serve to keep LICA on your list of organizations interested in the topic. We appreciate the opportunity to provide brief comments at this time and will participate in the future.

No. Many of our members believe that while the climate will and has always changed, human influence has very little effect on the process. The Science and Public Policy Institute (SPPI) has reported "there is mathematical proof that there is no climate crisis" in a major, peer-reviewed paper in *Physics and Society*, a journal of the 46,000 – strong American Physical Society. The detailed arguments in this paper, and in a large number of other scientific papers, point up extensive errors, including numerous errors of climate models, as well as misleading statements by the IPCC. Consequently, SPPI says there are no rational grounds for believing either the IPCC or any other claims of dangerous anthropogenic 'global warming.' The correct public policy approach to this non-problem many of our members believe would be to have the courage to do nothing. Today's global warming scare is devoid of cold facts. Temperatures were supposed to keep increasing, but they haven't. None of the alarmist climate models predicted recent trends in which global temperatures have either fallen or remained unchanged over the last decade. The existence and dangers of global warming or climate change are unproven.

Our LICA Executive Committee and membership hope to address this issue and develop specific policy during our summer meting.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

LICA believes that we do not need a carbon reduction program, however if Congress passes such legislation, there should be an opportunity for the agriculture and forestry sectors to provide off-set credits. As minor sources of greenhouse gases, agriculture and forestry should not be covered entities under a carbon reduction program.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

Allowances should be provided to the U.S. Department of Agriculture to provide assistance to early actors in carbon sequestration and other greenhouse gas emission mitigation efforts, and to assist with research into new practice standards and adaptation efforts (research, etc)

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

LICA would still prefer no program, but yes, any federal program should allow existing carbon reduction programs to participate, if they meet or exceed the federal standards.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

USDA should be charged with the development and oversight of agriculture and forestry practices eligible for greenhouse gas mitigation through an offsets program. The Natural Resource Conservation Service (NRCS) should provide assistance in developing appropriate practice standards for carbon sequestration. The Office of Ecosystem Services and Markets, recently established at USDA after the 2008 Farm Bill could coordinate theses efforts based on the mission established in the Farm Bill.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Haven't we had enough of derivatives markets? LICA would prefer no regulator. None is needed.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

LICA has no position on this question at this time.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

LICA believes there is a potential for increased utility, agricultural input and transportation costs as a result of a carbon reduction program and recommends a robust program to mitigate some of those increased costs to agriculture and forestry. We would also expect similar increased costs to other rural residents and economic impacts to rural communities; and possible increased food prices and increased federal spending on nutrition programs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

With regard to agriculture and forestry, if there is such a program LICA recommends an off-set to allow agricultural producers and forest landowners to receive payments for their carbon credits or greenhouse gas mitigation efforts. These payments would assist in off-setting any increased costs or negative impacts associated with a carbon reduction program. Investment should also be made into research for new technologies and adaptation strategies for forestry and agriculture.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Producers and forest landowners should have the option of participating in any offset program. Allocation of allowances should also assist in addressing increased costs, if provided in a manner that transitions over time.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

There is a potential role for public lands. One idea would be to include public land restoration and subsequent carbon sequestration into a strategic reserve. This reserve would be available if there is a natural disaster or other adverse impact that is beyond the control of the producer or forest landowner's control.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Carbon prices should primarily be determined by market forces.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

A combination of a voluntary offset program based on practice standards, and allowances for agricultural activities.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Free market.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

There should be verification of contracts. The quantification of emission reductions should be established based on conservation practice criteria established by USDA taking into account practice, soil type, moisture, etc.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

NRCS should establish practice standards for carbon sequestration efforts and the mitigation of greenhouse gases.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

A system for verifying offset projects should ensure that third-party verification of reported amounts of carbon be completed before they are registered for offset credits

Under Chicago Climate Exchange (CCX) practices today, verification is undertaken on about 10% of contracts, and carbon content is measured. Land is also inspected to verify that proper management practices are being performed by the landowner that holds the credit. Rates of carbon sequestration in the U.S. generally range from 0.2 to 0.6 metric tons per acre per year for conservation tillage, grasslands are at a rate around 1.0 metric ton per acre per year, and forestry is generally higher than 1.0 metric ton per acre per year.

As carbon credit markets form, and climate change legislation is considered, it is essential that one set of standards for carbon sequestration be established that can be applied universally. The United States Department of Agriculture's Natural Resource Conservation Service (NRCS) worked with CCX in setting up the pilot agricultural carbon offset program and provided the standards for practices that also sequester carbon. Verifiers utilize NRCS practice standards in performing verification; standards which are science based and have a longstanding acceptance.

Soil and Water Conservation Districts (SWCD's) are best situated to perform verification functions. Landowners often have working relationships from previous conservation work with their local conservation district staff. This trusted relationship, combined with the conservation district's technical expertise and familiarity with NRCS practice standards to perform soil samples makes conservation districts a logical local resource for carbon credit

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

Practice standards should be utilized for established eligible offsets under any program. As verification efforts and new research provide additional information on sequestration levels, these practice standards should be reviewed and updated.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

There should be a separate relationship, and a covered entity should be allowed to utilize both allowances and offset credits.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

LICA recommends a contract length of 5-10 years for agriculture. Contracts should vary over geographic areas and crop type. Forestry contracts may be for a longer term.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

Existing offset projects and program should be included in a voluntary system if they meet or exceed the standards and protocols set under a new program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

Projects participating in a greenhouse gas offset market should not be excluded from also participating in other markets for ecosystem services that currently exist or may arise in the future. Allowing producers to "stack" credits will maximize the economic viability of carbon sequestration and manure management projects, ensuring more projects are undertaken and synergies with other environmental priorities are developed.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?

Please respond in 300 words or less.

All greenhouse gas emission reduction efforts and carbon sequestration should be eligible to participate, regardless of whether or not the project received assistance from the federal or state government.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

Yes, the contract holder should be liable if they do not honor the requirements of their contract. There should be appropriate exceptions for wildfires, hurricanes and other natural disasters that are outside the control of the contract holder.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

USDA should develop practice standards, protocols and procedures addressing agriculture and forestry practices and projects.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

The obstacles to adopting practices and implementing technologies is generally a factor of understanding about the practice and associated costs. Education efforts and technical assistance to assist in undertaking new practices and understanding new technologies is essential for producers and landowners.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Probably not. We must support and expand policies and programs that keep our forests as forests by slowing their conversion to non-forest uses and encouraging sound forest management. Incentive programs should adopt different project design guidelines than offset markets.. This enhanced flexibility should be used to increase opportunities for landowners to participate.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The notion of climate change or global warming has the potential to greatly enrich scientists, academics, and politicians willing to take advantage of it. However we should all do some due diligence. The seven year decline in global temperatures is of great significance, for the IPCC's current methodology cannot explain it. Throughout the period CO2 concentration has risen. Warming should have resulted and it didn't. The IPCC's prediction of CO2 increase is greatly exaggerated, chiefly because the IPCC cannot add up the global 'carbon budget' to within a factor of two. Ever since CO2 concentration has been measured by modern methods, the increase in concentration has been below half the expected rate. Nevertheless, the IPCC tries implausibly to claim that more than half of the warming of the past half-century was caused by man. There is compelling evidence that much of the warming of the past half-century was caused by an exceptional increase in solar activity.

The 2004 Symposium of the International Astronomical Union concluded the Sun had been responsible for the warming of the past 250 years, that solar activity was now likely to decline, and that global cooling, not warming, was likely.

The central question, on which there is no consensus, is how much warming a given proportionate increase in CO2 concentration will cause. CO2 is no more than a trace gas occupying only 1 part in 10,000 more of the atmosphere than 250 years ago. Half a billion years ago there was 25 times as much CO2 in the atmosphere as today, and the planet didn't fry. The UK High Court has bluntly commented on Gore's book, "The Armageddon scenario he depicts is not based on any scientific view."

Many believe that any warming from CO2 enrichment will be small, harmless and beneficial. LICA has not seen the case that would necessitate spending money on this issue. However, we also know that normally rational people can do some wildly irrational things. We are concerned that is the situation now in the US, and we want to be a part of the discussion.

2012

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE MOSAIC COMPANY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Mark Kaplan

Organization(s) you represent

The Mosaic Company

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Vice President, Planning and Government Affairs, Mosaic Fertilizer, LLC

2013

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

If Congress chooses to adopt greenhouse gas (GHG) regulation, it should do so in a way that (1) protects US industries that manufacture and sell energy-intensive commodity products in a global market, (2) minimizes administrative burdens and costs on the economy and its participants, and (3) eliminates opportunities for market manipulation or profiteering by financial market participants. Whether the regulatory mechanism is a carbon tax, a cap-and-trade program, or a hybrid, the key comes in program design. Regardless of the structure, Congress can design a program that will reduce global GHG emissions, ensure that American employers are not driven out the country to locations in the developed or developing world with less costly GHG policies, and ensure that minimal wealth is extracted from the system through administrative costs or financial market participants.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Only those who are required to own allowances to cover their own emissions should be allowed to bid or otherwise receive allowances, and then only in the amount that they need to cover their emissions in the greater of the prior year or the current year for which the allowances are being allocated. If allowances are to be auctioned, they should all be sold at a single market clearing price after a simple, transparent auction process. Industries that are eligible for transition assistance because they sell energy-intensive commodity products in a global market and face both significant cost increases as a result of compliance and exposure to international competition from countries not subject to comparable GHG reduction requirements should receive a sufficient number of no-cost allowances to shield them from the net incremental costs of the cap-and-trade program.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants; or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?

Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

A carbon reduction program will almost certainly have negative impacts for the agriculture community and the cost of America's food supply, but the extent of those negative impacts can be mitigated through careful program design. For example, it is almost certain that the costs of fossil fuels and electricity for use on the farm and in food distribution will increase

as carbon emissions carry a price. It is critically important that any carbon reduction program not exacerbate the strain on America's agriculture community by increasing the cost of fertilizer or driving fertilizer production out of North America and leaving the American farmer entirely dependent on foreign sources of crop nutrition. Any program should exempt energy-intensive industries such as fertilizer production.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Any program that the Congress designs should include meaningful incentives for manufacturers whose process generates excess heat from process chemical reactions to capture that heat to generate electricity. For example, the process of manufacturing sulfuric acid generates byproduct heat that can be captured to generate electricity. The production of that electricity does not emit GHGs and can displace the need for electricity generated through the combustion of traditional fossil fuels. This sort of generation should count toward a renewable portfolio standard, generate GHG offset credits, or otherwise be appropriately recognized and encouraged in any new regulatory program.

Respondent did not complete the chart at the end of the questionnaire.

2019

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE NATIONAL WILD TURKEY
FEDERATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Donna Leggett and NWTF Farm Bill Committee Including (Gary Burger, Brandon Houck, Dave Neu, Lynn Lewis-Weis, Mark Hatfield, Joe Koloski, Brian Zielinski, Steve Lawrence, and Randy Showalter.

Organization(s) you represent

The National Wild Turkey Federation

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Donna Leggett, Employee and Vice President of NWTF

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A cap-and-trade system with a safety valve (hybrid approach) offers the benefits of both systems. A cap-and-trade system as the basis provides the opportunity to set total emissions and subsequently reduce them as companies become more compliant, develop better technologies, etc. The trade side allows companies to choose their least-cost method of dealing with their emissions in the short term (i.e. cleaning up their technologies or buying allowances on the market). Over the long-term, as the trade develops, caps are reduced, and allowances become more expensive, companies will ultimately have to invest in cleaner technology (long-term emissions reduction sustainability). The safety valve, or government pricing instrument, would allow the government to adjust the overall system as it developed by offering additional government allowances on top of the marketplace allowances. Adjustments to the price of government allowances and the quantity of allowances would help insure that a viable trade could develop, while at the same time, insuring that the system did not become excessively expensive on companies, so as to inhibit economic growth. A straight tax/fee system would not insure any emissions reductions, and companies may simply incorporate this extra cost into their cost of business (most likely pass-through to end consumer). Development and implementation of cleaner technology may be slowed somewhat until consumer demand and market competition forces it to the surface as the least-cost approach.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

In all fairness, all sectors should be addressed under any plan. If you are creating pollution, you should be held accountable in some fashion. However, because the agriculture and forestry sectors stand to significantly affect the rate of positive carbon sequestration, they should be given special consideration in terms of allowances. The concept of giving special pollution dispensation to these sectors is not new, as the use of high-sulfur (off-road) diesel has been permitted for some time. The transportation facets of these sectors, being large carbon contributors, should be addressed in terms of emissions reductions; however, here again, special breaks have been given via lower heavy highway vehicle taxes for these sectors. Processing facilities would be an area that could be flexible, depending on the amount of special dispensation deemed necessary to support these sectors.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Initially, allowances would have to be allocated with a "grandfathering approach", or based on past emissions, and should be at no cost. The safety valve hybridization of the cap-and-trade system would replace the function of auctioning, by allowing companies to acquire extra needed allowances at a cost. As markets and technology develop, allowances could be prioritized based on improvement in emissions reductions. Those companies that invest in cleaner technologies could be rewarded with allowances, which they may not need, and could then sell in an open market, thus rewarding them and creating incentive (or disincentives) for others. The development of a strong carbon market hinges on setting the cap correctly, which would have to be based on past emissions. Setting an ambitiously low initial cap may introduce some cost, but a low price for additional govt. allowances (safety valve) could help to control such a situation. A cap set too high, however, would result in low prices, poor trade, and the lack of strong market development. The agriculture and forestry sectors would receive no-cost allowances just like everyone else, and again, the setting of their cap, and the price at which additional govt. allowances were offered would affect the rate of emissions reductions. The agriculture and forestry sectors should be encouraged to reduce emissions, just like everybody else, but they could be given special consideration via the cap setting, or a special price for added allowances (re-trade of specially-priced allowances could not be allowed).

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

The emerging U.S. regional carbon reduction programs are very new, and have not been proven enough to become a basis for a national program. However, the overall program should encompass these first U.S. programs by insuring transferability of credits. Overall liquidity can only serve to strengthen the market. Certainly, the method of setting of goals in programs such as the RGGI (10% reduction from 2009 to 2018), could provide some information for a national program, at least for the electricity generation sector. Other international programs do have some limited experience in carbon trading, and should be studied carefully. The EU ETS has learned valuable lessons about cap setting which should be strongly considered. Incorporating a U.S. carbon trading program into the International market seems like a good idea, but would necessitate the U.S. ratifying an international treaty such as the Kyoto Protocol (which we have been reluctant to do).

Introducing international credits into the system may also affect the control offered by the "safety valve" of govt. allowances. International cooperation would obviously introduce even more complexity, not only for the carbon system itself, but politically as well. Ultimately, international pressure may become overwhelming, and stalling such cooperation may not be beneficial.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

An existing entity should regulate it and we believe it should be an entity over which the Agriculture Committee has oversight

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

CFTC should continue its role, with oversight from the Agriculture Committee

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

NO COMMENT

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

The transportation and processing sectors of agriculture and forest products stand to be negatively impacted if carbon caps are set on them that are restrictive, without any sort of special consideration given. As mentioned above, the distribution of allowances to these

sectors and price controls on additional govt. allowances (safety valve) could be used to ameliorate some of the potentially negative impacts.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Revenue could be used to subsidize these sectors, but may not be very popular. Ideally, the revenues would be used for research and development of cleaner technologies, so that reductions in overall emissions could continue to be made into the future. Just cleaning up what we have now may not be sufficient, and the implementation of better technologies (retrofitting and new projects) will be imperative.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

NO COMMENT

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands offer large acreages of forest lands and grass lands that can and are sequestering carbon. Depending on how this can be measured and verified, some amount of offsets from publicly owned properties could be factored into the overall program. However, the proper management of public forest and grass lands for wildlife and recreation should be given top priority. The management of public lands should not be prioritized based on potential gains from carbon marketing. For example, the timing of thinning for the health of a pine stand (and perhaps for fuel reduction) should not be delayed because it may reduce the immediate sequestration rate, or because the contract term on an offset has not been reached. Another example may be that an old growth forest should not be cut and replanted with faster growing short rotation monocultures trees that can sequester carbon at a faster rate.
Public lands can play a huge role in renewable energy, as there is a large surplus of woody biomass which could be utilized in this arena. Utilization of small diameter wood for biomass energy would generate revenue for public lands, accomplish many habitat improvement objectives, and help reduce dangerous fuel loadings. Biomass utilization programs would also have positive economic effects by creating jobs in an array of sectors including harvesting, transportation, processing, and all of the associated local support sectors.

Proper forest management, including tree planting, can sequester atmospheric carbon. Restoration of riparian forests along rivers in the west is a long-term investment that improves water quality and wildlife habitat while capturing carbon. Restoration of bottomland hardwoods in previously farmed areas on public lands can capture carbon while also restoring a much depleted ecosystem type. Planting native warm-season grass and forb communities on the edges of agricultural fields provides buffers that improve water quality and wildlife habitat. Whole-field restorations capture even more carbon and provide excellent nesting and brood rearing habitat. Public land agricultural systems should incorporate no-till farming practices to reduce the release of carbon stored in organic matter in soils.
Public lands in the west provide a large percentage of the U.S.' domestic fossil fuel production and southeastern forests could be a substantial source of small diameter woody material for biofuel/cellulosic ethanol. Private companies leasing the mineral extraction rights on these federal lands should be required to mitigate for any negative environmental impacts their energy extraction activities cause. This includes reducing carbon emissions and reducing water pollution and wildlife habitat destruction.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

They should basically be determined by market forces, and the govt. control should be in the form of adjustments to allowances and the "safety valve" hybridization of the cap-and-trade system. The sale of additional allowances by the govt. at some trigger price could help to moderate a potentially volatile market.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The primary lesson from the EU ETS is the importance of setting the cap correctly. A cap that is set too high has the effect of no cap at all. A strong trade will not persist if most companies have enough allowances, and there would be no real incentive to make reductions in emissions. The ETS has also been criticized for its distribution of allowances via grandfathering instead of auctioning. A properly set cap and the sale of additional "safety valve" allowances by the govt., controlled by pricing, offers more control over distribution than straight auctioning.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Financial bonuses for selected agricultural and forestry activities would be most likely be needed to motivate producers to reduce carbon emissions and to take steps towards sequestering carbon on their land. Many practices that sequester carbon, such as tree planting or native grass plantings, do not increase the producer's agricultural income in the immediate or near future. Incentivizing these practices would make them more attractive. A good example is the grassed buffer practices in the Continuous Conservation Reserve Program of the Farm Bill. Many landowners have installed grassed buffers along field edges and waterways because the combined payments are greater than the profit they would gain by farming these acres. Few farmers would install these practices at their own cost because they would be loosing potential farm income. Certain practices such as no-till farming are likely to increase a farmer's profit over time but there is a cost to making the transition from traditional tillage systems to no-till. If there were additional incentives above those currently available, such as incentives for the increased carbon storage of no-till acres, more farmers might participate.

A voluntary offset program with ties to federal assistance is another viable avenue for carbon reduction. For instance, applications for federal funding through programs such EQIP, WHIP, or other Farm Bill programs can contain ranking criteria or minimum standards for consideration. This would allow producers to "make" their application eligible and increase their overall score, thus provide themselves a better chance of securing funding should they choose to participate in a carbon reduction program. A voluntary offset program that could be accredited so that the carbon credits could be linked with an official trading scheme (and thereby monetized) would produce the financial incentives needed for forest landowners to consciously plan for carbon sequestration projects. The complex nature of offsets, allowances, and trading would have to be packaged in a simple form that typical forest landowners or farmers could buy into. Tying offset programs to existing cost-share programs such as EQIP and WHIP would make them more familiar and realistic to potential landowners. Instead of the landowner actually marketing the offset credits directly, they could be rewarded with cost-share incentives, and the rewarding agency would deal with the complex credit trading.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

No. If the overall goal is to reduce emissions, then more offsets mean more projects that help reduce emissions (directly or indirectly), or at least help absorb emissions. The govt. should only limit these positive impact projects to the extent that they are able to verify them (i.e. the govt. will only have so much capacity to verify, or would have to use independent verifiers). Consideration would also have to be given as to how the amount of available offsets may impact the market for allowances. Ideally, enough offsets would become available so that allocated allowances could be reduced and companies could meet their caps by trading for more offsets instead of allowances.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

NO COMMENT

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

NO COMMENT

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

NO COMMENT

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

NO COMMENT

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A project-based approach with actual measurements of carbon sequestration would be more accurate, but also much more costly to implement. The use of pre-calculated values however, runs the risk of inaccuracy and may not encourage the best implementation of practices. For example, if a standard value is applied to each acre of pine trees planted, some may be encouraged to plant the minimum number of trees per acre and invest as little as possible in the site preparation, instead of utilizing ideal planting practices for carbon sequestration (or fiber production, or ecology, etc.).

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets should be readily traded on the same markets as allowances. As more offsets become available on the open market, the level of allocated allowances should be reduced. Encouraging companies to invest in offset projects (directly or indirectly) would be more beneficial than simply letting them buy more allowances. The offset market could also be tied to a safety valve system, whereby companies could be encouraged to buy offsets instead of additional govt. allowances (i.e. setting the price of additional allowances above the market price of offsets).

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Basic educational efforts to inform producers about the processes involved in carbon sequestration will be needed. Producers must understand why long-term carbon storage is most beneficial. Any forestry-related practices or incentives should be long-term contracts. Minimum 20-year contracts are recommended for timber-stand-improvement type practices. Areas that received incentive payments for stand improvements could not be cleared or converted during the contract period. Normal sustainable forest harvest should be allowed. For tree planting, a 50-year contract is recommended. Permanent contracts that prohibit harvest of trees are to be discouraged because most landowners are more prone to manage their forests if they can foresee potential future revenue coming from timber sales.
For grass plantings, payments should be tiered with longer contracts receiving better incentive payments. Minimum contract lengths of 20 years are recommended for grass plantings. Consideration would have to be given to the species being planted, including rates of growth and age to maturity. Projects should be geared toward ultimately producing mature stands, so that monoculture plantations of fast growth species are not simply "farmed" for carbon sequestration. Conversely, overly long offset contract lengths may discourage tree planting by delaying the end financial return from the timber. Most importantly, planting projects must be able to incorporate best management practices throughout the rotation, including thinning. The proper management, and thereby, health of the forests produced must be given primary consideration, even when thinning may result in a temporary loss of carbon sequestration. Consideration also needs to be given to other factors such as wildlife management. The optimum stand densities for wildlife management would most likely not correlate to maximum fiber production (synonymous with carbon sequestration?). The concept of "multiple uses" of one stand of trees is not new, and carbon sequestration should be viewed as one new use, not the only use.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

There should be some attempt to incorporate all of the voluntary markets. Some standardization of the methodologies for measurement and verification would be required

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Appropriate activities that treat multiple resource concerns such as water quality and wildlife habitat in addition to sequestering carbon should be rewarded with allowances for multiple incentives concurrently. Previously undertaken activities that sequester carbon or reduce carbon emissions should only be rewarded for current and future benefits and should not be rewarded for past actions. Most past actions (e.g., tree planting or no-till farming) were not likely done to sequester carbon. However, these projects should not be summarily eliminated for present and future considerations. If the project continues to produce a gain in reductions, it should be evaluated based on its potential and not the original intent of the landowner (e.g. A landowner who planted trees 10 years ago did not do so for carbon reasons and should not be rewarded for those 10 years of sequestration, but should be given consideration for present and future potential if they agree to proper management, length of contract, etc.). Landowners should definitely be able to stack credits, as achieving multiple environmental goals is highly desirable. If stacking were not allowed, there may be no incentive to continue enhancing a particular piece of land for further environmental quality.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Past assistance should have no bearing on current and future assessments as past cost share assistance was not aimed at carbon issues. Just as the landowner had other goals, so did the govt. with its cost share.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

In the event of a natural disaster or some other well defined event, a producer should not be liable for a failure to sequester carbon or reduce emissions. However if a producer commits an obvious violation of the contract (e.g., plowing up a native grass planting) he should be required to return revenue with penalty. The release of funds would have to be contingent on verification that the practice was properly implemented according to certain standards. If the producer followed the standards and their project was verified, they should not be liable for the ultimate sequestration. If they somehow break the terms of the offset contract, then they should be held liable. This is standard with many standard contracts, producers should not be held liable for natural disasters, acts of god, wars, etc.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

NO COMMENT

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

As previously mentioned, a lack of understanding of what carbon sequestering really means might be a limiting factor in implementation of such activities. A large educational effort will be needed prior to implementing such a program. There is a lack of understanding about what all of these carbon-related issues involve. Carbon sequestration, carbon trading, offsets, and nearly all other facets are completely foreign to most agricultural and forest landowners. The concept of giving up some rights (i.e. carbon rights) to anything on their property may also be very difficult to overcome, even with monetary compensation. Education on the subject would have to be a high priority, and expectations would have to be clearly defined and simply laid out.
Once a basic understanding of the subject is achieved, funding would be the primary obstacle. The transfer of money from the sale of carbon credits or offsets would have to be incorporated into a program that was easy to understand, or perhaps even an existing cost-share program such as EQIP or WHIP. Excessive paperwork and complicated contracts would easily scare away most eligible landowners.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Landowners who utilize current programs are not considering these issues either. Adding significant lengths to contracts to accomplish some of these climate change goals would require more money than is currently available. Simply adding these types of unfamiliar terms to existing practices may require added incentive for landowners to buy in to the programs. Along with added cost-share, or direct carbon payments, technical assistance must also be offered. This assistance could take several forms including the application process, practice implementation advice, and certainly verification. Most landowners will want some sort of assurance that they have implemented their practices correctly and are not going to be penalized for non-compliance. Technical assistance will be needed to determine practices that will mitigate climate change impacts and should be part of the program from the onset.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The National Wild Turkey Federation is currently involved in or considering several projects that have carbon reduction ties. From a forestry perspective, these programs fall into three categories: Afforestation, reforestation, and biomass utilization.

The Southern Great Plains Riparian Initiative and Northern Plains Riparian Restoration Initiative both include projects that involve planting trees and shrubs in riparian areas, many of which are not currently forested. Utilization of such afforestation projects for carbon credit marketing is already a reality. GREENTREES, LLC (proposal to NACD-FRPG at NWTF in Edgefield Oct. 2008) is currently using private funding from the sale of rights to future carbon sequestration to sign up landowners in the Lower Mississippi Alluvial Valley to reforest farm land with cottonwood/hardwood interplantings. Their financial incentives are stacked on top of approved CRP cost share money. At the time of that presentation, they were on target to reach their initial 2500 acre pilot goal in eastern Arkansas and the Delta of Mississippi.

Our Longleaf Restoration Partnership is utilizing funds from a grant through the Southern Company's Longleaf Legacy program with the National Fish and Wildlife Foundation (NFWF). We are just completing the second of three years of reforestation projects which will total some 9,500 acres when complete. While there have been no direct attempts to link this first grant's plantings to carbon credits, a new proposal for a Longleaf Restoration Project-II is under some discussion due to carbon credit language in the request for proposals.

"The focus of the *Longleaf Legacy Program* is habitat restoration and biodiversity improvement; however, projects typically result in sequestration of atmospheric carbon. Southern Company plans to register or report the carbon sequestration from these projects through the DOE 1605(b) Voluntary Reporting Guidelines as part of its Power Partners SM commitments. Southern Company may also report the carbon sequestration from

these projects as part of any other greenhouse gas reporting as it deems appropriate. Southern Company and its affiliates may use the carbon credits generated from the *Longleaf Legacy Program* for compliance purposes with future greenhouse gas requirements, but has no plans to monetize, trade, or sell any of the carbon credits that might accrue as part of their grants. Likewise, recipients will not have the right to monetize, trade, or sell any of the carbon credits that might accrue to projects that are funded by Southern Company or the National Fish and Wildlife Foundation through the *Longleaf Legacy Program* for a term of 100 years."

With a high degree of uncertainty about where the carbon credit market is going and how much carbon value may be associated with such reforestation projects, such language sounds extremely restrictive. Any private landowner would be leery of giving away rights to anything for 100 years (or even 50 or 20). The incentives involved, in this case $120-150/acre of cost-share assistance for the site prep and planting, are probably not enough alone to overcome this uncertainty and loss of value in future carbon marketing. As for public lands, we have not been able to determine if National Forests have a policy on release of carbon rights, but the state of Florida's policy prohibits the release of those rights from state lands. I suspect that nearly all public lands will develop similar restrictive policies as carbon markets develop and the understanding of their value and significance is clarified. The negotiation of these terms with the Southern Company gets straight to the issue of what these types of carbon offset projects may be worth.

In the realm of biomass utilization, an enormous opportunity lies ahead of NWTF. The utilization of small diameter wood, which may otherwise not have commercial value, is becoming a reality with stronger markets developing for in-woods chipping operations. These types of operations are typically more expensive than traditional commercial logging operations, and rely on strong chip markets for the economic viability. The demand for fiber chips in some areas has already made these operations viable, and increasing demand for fuel chips for power generation and cogeneration and as feedstock for biofuel production, only stands to improve these markets. In-woods chipping operations offer an opportunity to perform valuable habitat enhancement work in forests that are choked with small-diameter wood, and which can not be utilized with conventional logging methods. NWTF is considering the incorporation of such operations into its Stewardship Contracting program with the USFS. There are vast acreages of National Forest which could benefit from thinning via chipping. Bundling these thinning/chipping timber sales along with added habitat enhancement work (burning, herbicide, food plots, etc.) produces added value for the National Forest, excellent habitat enhancement projects for NWTF, and better habitat for a host of wildlife species, potentially on a landscape level.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Tree planting and shrub planting	Excellent	Good	Medium	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Prescribed grazing systems that improve rangeland health	Good	Moderate	Low	

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till farming	Good	Good	High	Medium
Retire cropland- plant native grasses	Excellent	Excellent	Medium	High
Grass buffers	Excellent	Excellent	Low	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE NATURE CONSERVANCY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Eric Haxthausen

Organization(s) you represent

The Nature Conservancy

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, US Climate Policy

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

Congress should address climate change now, even in the face of difficult economic times, by adopting an economy-wide federal cap-and-trade program coupled with cost containment measures and complementary policies. A carefully designed federal cap-and-trade program could provide an economic stimulus to spur innovation in low-carbon technologies that will create jobs and increase economic activity.

The Nature Conservancy believes a cap-and-trade program is the best approach to take for the following reasons:

- Cap and trade delivers a sure environmental outcome.
- Cap and trade delivers its environmental outcome at the lowest cost to the economy as a whole. Cap and trade provides covered entities the flexibility to choose the lowest cost abatement method available, while guaranteeing the required emissions reductions are made.
- Cap-and-trade programs can readily be linked to establish a single comparable global carbon market. Creating such linkages can reduce the cost of achieving a global environmental goal and eliminate competitive differences that would exist if the U.S. program is not linked to other trading systems.
- Cap and trade automatically adjusts to economic conditions, because emissions tend to track economic activity levels. During a recession, allowance prices under a cap and trade decline, moderating program costs. When the economy grows, allowance prices increase, ensuring that growth is directed toward low-carbon investments.
- Cap and trade with cost containment narrows price uncertainty. We recommend robust but flexible limits on the amount of offsets and other mechanisms to prevent very high prices in the early years of the program, and banking and borrowing provisions to minimize price volatility.
- Cap and trade with offsets extends incentives further. The market mechanism of cap and trade allows for offsets programs that provide economic incentives to uncapped sectors, such as forests and agriculture, allowing a broader spectrum of our economy to be part of the solution to climate change.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

The Nature Conservancy supports a comprehensive cap-and-trade program that would cover major sources of greenhouse gas emissions. The vast majority of farms and forestry operations should not be directly regulated. Agriculture and forestry sector emissions from the combustion of fossil fuels would likely be indirectly covered. For example, purchased electricity or diesel fuel would likely be covered in any carbon reduction program at the power plant or refinery, respectively, for example by a cap with the point of regulation at such facilities. Some operations with significant on-site combustion might be directly regulated depending on the thresholds of any program.

Significant climate benefits can be achieved using incentives for owners of U.S. farms and forestland to increase carbon stored through agricultural and forestry practices. The Nature Conservancy believes that a carbon reduction program should include a range of incentives to achieve these climate benefits. Doing so will add options to the portfolio of climate mitigation, lower overall compliance costs, provide financial benefits to farmers and landowners, and can generate conservation and environmental co-benefits.

Forest and agriculture activities should be encouraged using two distinct mechanisms. First, emission reductions and sequestration that is real, surplus, permanent and verifiable should be included in offset provisions. Second, allowances or revenue from allowance auctions should be used to fund natural resource adaption, market readiness (e.g., development of necessary measurement methods and data, and outreach and education to landowners), and incentive payments for sequestration and emission reduction activities that would not work well in an offset program.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

In general, entities in the forest and agriculture sectors will not be directly regulated under a cap-and-trade program and therefore would not have a compliance-driven need to receive allowances. Nevertheless, as described in the response to Question 2 above, some portion of allowances should be set aside to support a range of activities in the agriculture and forest sector.

The Nature Conservancy endorses the USCAP Blueprint which recommends that in the first decades of the program, priority must be given to directing the value of emission allowances created through the implementation of a cap-and-trade system to transform our economy; modernize our nation's energy infrastructure; smooth the transition for consumers to a low-carbon economy; and adapt to the impacts of global warming. It is critical that the economic value of emission allowances be directed to achieve these and other objectives, including buffering the economic impacts on energy consumers and businesses, without undermining their incentives to reduce emissions. USCAP recommends that a significant portion of free allowances should be initially distributed to capped entities and economic sectors particularly disadvantaged by the secondary price effects of a cap,

and that the free distribution of allowances should be phased out over time. Considerable additional detail is provided in Section 4.C of the Blueprint, and further detail specific to the forest sector is included in the Forest Carbon Dialogue Legislative Package.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

We believe that local, state, regional and federal programs can and must be complementary. A federal climate protection program should recognize, encourage, and provide credit for real and verifiable emissions reductions resulting from actions taken by entities at domestic facilities prior to the enactment of federal legislation, including actions to comply with state and regional GHG cap-and-trade programs. Such federal recognition must carefully ensure that no double-counting of emissions reductions occurs. Additional detail on early action approaches is provided in the response to Question 23.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The Nature Conservancy believes that the Environmental Protection Agency should be the lead agency for the overall development and implementation of a cap-and-trade program. In particular, EPA has significant experience with greenhouse gas emissions monitoring and, from the Acid Rain Program, with operating an emissions registry and compliance system. These functions would form the backbone of a cap-and-trade program.

Given the scope of a cap-and-trade program, The Nature Conservancy believes that many other Federal agencies have important expertise and could play important roles during implementation. For example, the U.S. Department of Agriculture could play a role in areas of the program that directly or indirectly involve the agriculture and forest sectors, especially in the implementation of an offset program, outreach and education to landowners, and areas that draw on specific USDA technical experience related to assessment methodologies and measurement techniques.

One area where new institutions may be required is in cost-containment oversight of the cap-and-trade program. For example, the USCAP Blueprint calls for a Carbon Market Board with the power to set offsets limits within an acceptable range and to determine the appropriate trigger price for auctions from a strategic reserve.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

The Nature Conservancy does not currently have a specific position on the regulation of derivatives and futures markets. As stated in our response to Question 5, EPA should have authority over the primary market including the tracking of emissions from covered entities and the operation of a registry of allowances and offsets. The Nature Conservancy supports regulation of the secondary carbon market to ensure adequate price discovery and otherwise ensure a well-functioning market.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

The Nature Conservancy does not currently have a specific position on derivatives markets for carbon reductions. However, based on our experience in implementing forest carbon projects, we believe it is important to provide sufficient flexibility so as not to impede the up-front financing of projects. In many cases up-front financing is arranged in exchange for some claim on a future stream of carbon offsets. Project financing arrangements should not inadvertently be covered by futures markets regulation.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

The Nature Conservancy supports measures that would minimize potential negative impacts from carbon regulation. By necessity, either a cap-and-trade or carbon tax program will put a price on greenhouse emissions. Some costs may be passed on by covered entities to other businesses and consumers.

Specific measures supported by The Nature Conservancy include the following:

- Harnessing the efficiency of market-based approaches. Both cap-and-trade and carbon tax approaches achieve environmental outcomes efficiently by applying the same price signal to all covered sectors and entities, and providing flexibility so that emission reductions occur where they can be achieved at least cost. This indirectly cushions the impact to consumers.

- Including the cost-effective reductions available under a forest and agriculture offsets program. While not included within the cap or tax program directly, including offsets provides a price signal to a broader pool of emission reduction and sequestration options, reducing overall compliance costs for a given target level.
- Providing effective cost-containment that does not undermine achieving the necessary climate benefits. Extra measures should be included in a cap-and-trade bill to ensure that prices do not rise excessively quickly. The USCAP Blueprint provides additional detail on appropriate measures.
- Ensuring market oversight that reduces volatility and market distortions. As anticipated in Question 7, there should be market oversight to prevent anti-competitive activities and to facilitate price discovery in the market.

In addition, a portion of allowances should be used to address negative impacts from transitioning to a carbon-constrained world. This could include programs to support worker transition, energy intensive industries, and populations disproportionately affected by regulation. Adaptation measures that The Nature Conservancy recommends be included in a carbon reduction program (see Part III) will also involve programs working directly in the forest and agriculture sectors.

The Nature Conservancy believes that offset programs and incentives from various allowance set-aside programs can provide a significant new and diversified source of revenue for the forest and agriculture sectors. This can provide considerable economic development opportunities for rural economies.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

The distribution of allowance value generated by a cap-and-trade program should achieve three broad purposes: 1) to help consumers and businesses transition to a low-carbon economy; 2) to drive rapid investment in low carbon technology and training of the skilled workforce needed to speed its deployment; and 3) to adapt to the inevitable changes to the climate already occurring. Some amount of allowance value may also be used to facilitate the performance of the carbon market and fund additional emission reductions, including in the forest and agriculture sectors.

To help consumers specifically, The Nature Conservancy recommends, with USCAP, that a significant portion of allowance value in the early years of the program should be used to buffer the impacts of increased costs to consumers at the end of the energy supply chain. In the case of electricity and natural gas consumers, USCAP recommends doing so through allocations to state-regulated local distribution companies (LDCs) with the express condition that the full value of these allowances go to electricity and natural gas consumers. State public utility commissions (PUCs) will determine the best means to direct the value to consumers by directly mitigating rate increases, enhanced energy efficiency programs, or other means to buffer the impact of increased energy costs. In the case of transportation consumers, USCAP recommends that some allowance value be used to buffer

transportation-related costs through a combination of cost mitigation and incentives to purchase more efficient vehicles and to encourage greater use of public transportation for communities where that is an option.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

To help businesses in the transition to a low-carbon economy, we join USCAP in recommending that a significant portion of allowance value in the early years of the program should be directed to:

- Transitional assistance to trade-exposed business such as energy-intensive manufacturers facing foreign competition from countries without comparable climate programs.
- Transitional assistance to competitive large stationary sources to the extent they cannot recover their allowance costs in their product prices. These initial allocations would be set to facilitate and create incentives for the timely investment in alternative low and no-carbon large stationary technologies, phasing out as it becomes practicable to deploy these technologies.

As noted above (Question 9), The Nature Conservancy strongly believes that in addition to transition assistance to consumers and businesses, allowance allocation should be used to help adapt to the inevitable changes to the climate already occurring and to facilitate emission reductions and additional sequestration in the forest sector.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands have considerable potential to contribute to overall climate goals by preserving existing stores of carbon and sequestering additional carbon. Public lands are a public trust, and should be managed to achieve climate benefits for the nation. Climate mitigation and adaptation goals should be incorporated into public lands policy, including within the organic statutes where necessary.

The Nature Conservancy sees a possible role for using some portion of allowance revenue (or carbon tax revenue) to fund activities on public lands that would enhance net sequestration by supporting restoration of healthy natural habitats and ecosystems. In this way a carbon reduction program could be used to ensure implementation of climate goals on public lands within the overarching public policy structure.

The Nature Conservancy believes this approach is preferable to linking public lands directly into an offsets program within a cap-and-trade system or otherwise making public

lands activities a part of the compliance options available to private sector entities covered under a carbon reduction program. We urge caution in setting up a system that would have public lands compete directly with the private sector carbon market and urge policymakers to carefully consider how best to include climate goals within the multiple existing management objectives of the various federal land management agencies.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

A cap-and-trade program with strong emissions targets coupled with a range of complementary measures and a robust suite of cost-containment mechanisms will ensure that we achieve sufficient emissions reductions at acceptable costs. We recognize the risks associated with very high allowance prices in the near term, especially those associated with excessive fuel switching from coal to natural gas in the power generation sector. However, strict limits on carbon prices through mechanisms such as a safety valve remove the certainty of achieving science-based emissions reductions targets from a cap-and-trade program. The risks to our human and natural systems associated with excessive climate change are much greater than the economic costs, and we do not believe that trading off environmental certainty for a price cap is worth those risks.

To avoid excessive price volatility in the near term, we recommend measures that increase compliance flexibility, including: a generous limit on offsets that can be used for compliance purposes; unlimited banking of offsets and allowances for firms with compliance obligations; effective multi-year compliance periods; and a strategic reserve.

To ensure an allowance price signal sufficient to drive investments in technology transformation, we recommend a minimum reserve price for the auction of allowances that starts at around $10 per ton and increases at greater than the rate of inflation through about 2025.

To contain costs to the economy, we call for a strong offsets program that ensures high-quality offsets and initially allows 2 billion tons of offsets, with separate limits for domestic and international offsets of 1.5 billion tons each, to be used each year by complying firms.

Next, we recommend a generous Strategic Offset and Allowance Reserve, filled with offsets and allowances from future years that would be released into the market when allowance prices reach a specific threshold price. The reserve pool auction threshold price should be set at a level that prevents undue harm from excessively high allowance prices, (e.g. increases in the price of natural gas due to fuel switching).

Finally, Congress should establish a Carbon Market Board that has the power to raise the initial limits on offsets usage up to a maximum 3 billion tons per year, and to set the threshold price for auctions from the strategic reserve.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The U.S. has several lessons to draw from the European Union's experience with emissions trading in the early phases of its ETS and the changes they have made for the later phases of the program. These include:
- Caps Greater than Emissions and Limited Banking: In the first phase, policy makers overestimated both actual and projected GHG emissions, leading to caps that were higher than overall regulated emissions levels. This overestimation, combined with the fact that no banking of allowances was allowed between phases, caused carbon prices to crash. To avoid this problem, we recommend an early and accurate emissions inventory program, aggressive emissions reductions, and unlimited banking of allowances.
- Limited Scope of Coverage: We recommend a much broader scope of coverage, of at least 80% of emissions than the EU-ETS had in early phases.
- Excessive Free Allocation: The EU ETS allocated most allowance value to emitters, which allowed some entities to reap windfall profits as they recovered the market value of some of these allowances through price increases. The Nature Conservancy supports USCAP's call for transitional partial allocations based on net compliance costs only to competitive power generators and other large stationary sources, to be phased out over time. Additional allocations should go to regulated electric and gas distribution companies, who would pass the full market value of those allocations to customers.
- Importance of Complementary Policies and Measures: The EU ETS experience underscores the importance of complementary policies and measures to drive the adoption and development of low- and no-carbon technologies in all the key emitting sectors. We recommend that significant allowance value support complementary policies to meet the goals of the emission reduction program.

The Clean Development Mechanism, although it has only approved a small handful of forest sector projects, has some important lessons for a domestic offset program. Contrary to some assessments, the shortcomings of the CDM do not prove that offsets cannot be done credibly. The following lessons could be drawn: (1) a large scale offset program requires adequate resources in terms of capacity and administrative and technical experience on the part of the implementing agencies. This is why we recommend that EPA be the lead agency, with technical assistance and consultation from USDA and other agencies. We also recommend that EPA be given authority to hire third party verifiers as needed and to assess an application fee to ensure that resources exist to conduct adequate verification. (2) EPA should develop assessment methodologies upfront, by rulemaking with public comment, rather than review methodologies proposed by project developers as is done in the CDM. This is necessary to ensure consistency and to reduce the burden on initial projects. (3) Some reasonable level of standardization of methodologies is preferable to project-by-project review against general criteria. The latter approach is too uncertain for developers, too time consuming for the implementing agency, and too prone to inconsistency. (4) Transparency is a little-noted success of the CDM. The public

availability of project documents and reviews, while not perfect, has allowed for the independent evaluation of project credibility.
]

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Each of these options should be included to provide a comprehensive set of incentives that would be appropriate for the wide range of activities and entities within the agriculture and forestry sectors. An offset program should be the centerpiece. Use of allowances or allowance auction revenue can play an important role by funding activities within the forest and agriculture sectors. These are elaborated in the response to Question 3 and several other questions.

(Note, we understand the term "voluntary offset program" in Question 14 to mean that project developers are not required by regulation to enter the program, but that the offsets produced are valid for compliance with mandatory targets. However, this term is alternately used to refer to the existing "pre-compliance" market. We address early action and the link to various existing offset programs in other questions.)

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The Nature Conservancy endorses the recommendations in USCAP's Blueprint for Legislative Action, which calls for a limit on the use of offsets by the government but not on the issuance of such offsets. Generous offsets usage limits will be important to contain the costs of an emission reduction program that includes the type of stringent targets that we recommend. Congress should specify that the initial annual limit on offsets usage will be 2 billion metric tons, with an overall upper limit on the use of offsets for compliance in any year of 1.5 billion metric tons domestic and 1.5 billion metric tons international offsets (3 billion metric tons total). Congress should establish a Carbon Market Board (CMB) and give it the authority to set annual limits on the level of offsets within the range of 2-3 billion metric tons total.
While a limit on offsets use is appropriate, there are several reasons that a limit on issuance of offsets is not. First, project developers need to be certain that they will be issued offset credits for emissions reductions or sequestrations that meet regulatory guidelines.

Competition should come from the market, not based on who "gets in line" first at the issuance stage. Second, offset credits that are not used immediately should be bankable, and could then be used in later years if the compliance limit is reached in any particular year.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

As stated in our response to Question 15, The Nature Conservancy supports a generous but quantified limit on the total number of offsets that can be used for compliance in each year. In the USCAP Blueprint there is a suggestion that the allowable number of offsets be distributed among covered entities in the same proportion as each entity's contribution to total emissions. However, other approaches that are simple and predictable could be considered. (In theory, offsets and allowances are fully fungible and would trade at the same price, so the method of distributing the limit among covered entities is not critical.)

Note that a limit on the annual use of offsets for compliance does not imply a limit on the issuance of offsets because offsets can be banked for future use. From the perspective of project developers who are selling offsets, demand should remain strong as long as the limit on the use is not too tight and the emissions targets for covered entities are stringent and increase in stringency over time (consistent with the USCAP Blueprint). If over time the total issuance begins to exceed allowable use, the transparency of the carbon market should act to diminish the supply of offsets. In addition, a cap-and-trade system and offset program should include sufficient opportunity for review that can correct any problems related to over-issuance.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The following criteria should be included within a program to ensure legitimacy of issued offsets:

Eligibility. The program must give clear guidance to EPA on how to determine eligible activities. The most basic criterion is that activities are not otherwise covered directly by the cap or tax established by the program, or otherwise required by law or regulation. The Nature Conservancy recommends affirmatively listing project activity types, and giving EPA the authority to add or remove activities based on criteria related to the ability to develop credible methodologies. There should also be specified time periods for eligibility (see early action discussion in Question 23).

Evaluation of climate performance. The most important criterion is "additionality" which should be clearly defined to mean the extent to which an offset project reduces, sequesters,

avoids, or destroys greenhouse gas emissions beyond what would have occurred as a result of business as usual practices and activities. Additionality should be evaluated against a quantified baseline that reflects the expected sequestration and emissions reductions over time, in the absence of the proposed offset project activity. Projects should be credited for sequestration or emissions reductions exceeding the baseline amount. EPA, in consultation with USDA, should be given direction to elaborate methodologies for assessing additionality to develop quantitative baselines which can use qualitative and quantitative information, including common practices, financial and economic data, and regional inventory data.

Climate performance should also include criteria and associated methodologies for a quantified estimate of leakage from each project and the subtraction of this estimate from the verified project benefit and issued offsets.

Measurement and uncertainty. EPA, in consultation with USDA, should be given direction to develop sufficiently accurate measurement methodologies for carbon pools on project sites. This includes the authority to revoke project type eligibility if suitable methodologies cannot be developed. (Note that we elaborate on the important role for USDA in the response to Question 5.)

Reversals are an important element to define in legislation and elaborate in rulemaking, as discussed in Question 22.

Environmental criteria. The Nature Conservancy strongly supports criteria to ensure that no environmental harm occurs as a result of project implementation. Further, The Nature Conservancy would like to see other incentives in legislation to promote high conservation value projects that cannot be implemented successfully within an offset market (while ensuring no double counting of emission reductions).

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Please see the response to Question 17 above.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Verification criteria are discussed in Question 17 above. The following outlines the basic program structure and process for verification.

Rulemaking. The relevant agencies should complete rulemakings to finalize initial eligibility and develop evaluation methodologies and other procedures.

Project Application and Approval. Projects submit an initial application that includes sufficient information establish eligibility and that applies the relevant methodologies to the project specific details. This particularly includes the development of the project's quantified baseline. EPA evaluates the application and makes a determination to approve or reject.

Verification. Projects submit an annual report that includes an assessment of actual project performance and other information required under the relevant methodologies (e.g., information on the monitoring techniques used, results of leakage assessment, etc.). EPA evaluates the verification reports, assesses the amount of offsets, making any adjustments required (including for leakage and buffer reserve requirements), and issues offsets to the project's registry account.

Reversals. Reversal approaches are applied during and beyond the project crediting period.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

The Nature Conservancy recommends that an offset program develop standardized baseline methodologies that help ensure consistency in project evaluation and streamline the assessment process. In our experience, pre-calculated values (e.g., lookup tables for annual sequestration) take standardization too far given typical site-specific variability in carbon storage. Rather, standardized baseline methodologies would provide clear guidance on how to construct a project baseline using a combination of site-specific data and other information appropriate to the region and activity type. Actual project performance should be determined using direct site monitoring, and offsets issued based on the project performance beyond the baseline.

At the other end of the spectrum, project-by-project assessment can be extremely time consuming for the program administrator, lead to uncertainty for project developers, and risks inconsistency in the assessments across projects.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances should be completely fungible compliance units because this promotes a smoothly functioning carbon market. Fungibility requires that once offsets are issued there is no buyer liability or potential for retroactive alteration of their value. This in turn requires several elements: credible assessment rules and procedures to ensure high quality offsets are issued; all adjustments (e.g., discounting for uncertainty) or reserves (e.g., to cover any reversal) are applied prior to issuance; reversal liability is applied to the project developer; and that methodology or program revisions do not apply retroactively.

The "temporary crediting" approach to handling reversals, issues a stream of credits with short-term expiration dates provided that the project demonstrates the maintenance of previously stored carbon. This approach is credible from a carbon accounting perspective but, while not creating buyer liability, does create an offset unit that is not fully fungible because it has an expiration date. The Nature Conservancy is open to further consideration of this approach, but only in combination with other options because of its uncertain treatment in a carbon market.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

True permanence would require that project lands be placed under an easement in perpetuity (with carbon storage requirements), and in fact, The Nature Conservancy relies on long-term easements in its own projects.

Recognizing that this approach is too restrictive for many landowners to consider, and that there is some climate benefit to even temporary carbon storage, an offset program for the forest and agriculture sectors should include provisions to address reversals of sequestered carbon for which offsets have been issued. These provisions should include approaches for shorter-term projects that are designed to achieve temporary carbon storage.

The two most important factors for reversals are that monitoring occur with sufficient regularity and rigor to detect reversals from projects, and that when any reversal is detected that other valid compliance units are provided to make up for that reversal.

Requiring that monitoring continue for 100 years would be sufficient to ensure that the carbon sequestration is essentially equivalent to permanent. Reversal monitoring can be less onerous than monitoring for verification and offset issuance. Failure on the part of a project to conduct the required reversal monitoring should eventually be treated as a reversal.

Projects should be required to make good on any detected reversals by supplying replacement valid compliance units. A key design element for an offset program is to ensure that projects have the ability to do this. Some combination of buffer reserves, required insurance, or other similar mechanisms must be included in program design.

Contract length and flexibility over land use decisions is largely a matter for the project developer to consider, not the regulatory program. However, the regulatory rules should properly distinguish between the climate benefits provided by shorter versus longer term projects. The approach outlined above does this, by issuing offsets credits to a project for exactly as long as the stored carbon is maintained.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

The treatment of existing offset projects and credits issued under systems established prior to the federal carbon regulation program must balance the recognition of early action with the need to make sure that the program's incentives achieve significant new, additional climate benefits. For this reason offset credits should be used sparingly for rewarding early action, and set aside allowances should largely be used for this purpose.

One approach would be to issue offsets under a federal cap-and-trade program only for climate benefits that actually occur after the date of enactment. These offsets from existing projects should be evaluated against the same or similar criteria as projects initiated after the date of enactment.

For projects that have already established credits under a system prior to enactment we would recommend using a portion of allowances to provide recognition. Allowances themselves have value and should be distributed with some care. The Nature Conservancy would put a total limit on allowances used for this purpose, consider early action only from the previous ten years, and direct EPA in consultation with USDA to take into consideration the relative stringency of the various early action systems when distributing the early action allowances.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early action recognition is discussed above in Question 23.

In principle activities undertaken on one land parcel should be able to stack the incentives for the full set of environmental services created. At the same, as a matter of designing efficient policy, environmental incentive program should be designed to achieve the greatest outcomes for the available resources (whether the incentive is funder from taxpayer dollars, offsets, or set aside allowances).

A challenge in developing a market for reforestation activities in the U.S. is that carbon prices may not be sufficient to drive significant investment in this activity for many years. Thus, important conservation opportunities that provide significant carbon benefits may be delayed for many years, even decades. "Stacking" other incentives on top of carbon payments through the carbon market could provide an important means of encouraging and expediting high-value restoration of important natural systems and the associated carbon benefits this entails. In doing so, it will be important to take a comprehensive approach that is mindful of the need to guarantee the additionality of marketed sequestration credits, while recognizing that such conservation activities can provide a multiplicity of ecosystem services that could be compensated separately from the carbon benefit. This concept need

not be limited to reforestation, but could apply to a variety of conservation activities, for example on grasslands and in other ecosystems.

We look forward to working with the Committee to explore means of developing incentive approaches.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The Nature Conservancy does not have a detailed position on Federal and state cost sharing or technical assistance, but takes a similar approach as articulated in Question 24. Such assistance does not make an activity ineligible, but the use of offsets or allowances to reward activities should take into consideration the degree to which other incentives already exist.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Offset projects should only be issued offset credits for carbon sequestration or reduced emissions that have already occurred and been verified according to the program rules. This ensures the credibility of offset credits. In addition, forward crediting is in effect a form of long term borrowing of compliance units and could considerably distort allowance prices.

Project developers may enter into a private contract where they receive payment up front in exchange for delivery of future offset credits, or otherwise to achieve certain levels of sequestration or reductions. Project developers would be bound by any such contract in the event of non-performance. Specific provisions for force majeure events should be included in any contract.

(For offset credits that are issued to projects, The Nature Conservancy does recommend an approach to reversals that distinguishes between unintentional and intentional reversals by projects.)

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Much of the details regarding protocols and procedures should be delegated to the relevant agencies for rulemaking. Methodologies for establishing baselines, leakage estimation, and monitoring and measurement will be lengthy documents because they will need to be crafted for each eligible project type, and will benefit from further technical input from the agencies, other technical experts and stakeholders.

Congress should provide guidance on the key elements and overall goals of the program, and legislation should at a minimum specify the definition of additionality and the approaches to be taken for reversals, as these are the two most controversial and important aspects to ensure the credibility of offset evaluation.

Please see the response to Question 5 regarding the roles of EPA and USDA.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Agriculture and forest sector project developers will face many of the same obstacles with emission reduction and sequestration activities as occur with adopting any new practices or technologies in these sectors. To address these obstacles, climate legislation could include various market readiness efforts including outreach and education for landowners on how to participate in the market, technical assistance or training on new activities, and the development and dissemination of the required project monitoring methodologies.

A specific area of concern is the ability of smaller land owners to participate in the market, and legislation could include guidance on aggregation and should consider the use of allowance set asides to specifically provide incentives to landowners to small to be able to participate in the market based offsets program. (Please also see the response to Question 24.)

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing programs do not provide sufficient incentives to achieve the potential climate benefits available from the forest and agriculture sectors. Moreover, climate goals are not directly or explicitly included in existing program criteria. Incentives from a combination of offsets and from set aside allowances will be critical to achieving this scale of activity. Farm Bill cost share programs like EQIP and WHIP, Farm Bill reserve programs like CRP, and acquisition programs like Forest Legacy, should be modified or similar programs should be created to provide incentives to forest and farmland owners to provide climate benefits on their lands.

We look forward to working with the Committee to explore means of developing effective incentive programs that could serve this purpose.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

International Forest Carbon Activities

The Nature Conservancy strongly supports including in domestic carbon reduction legislation provisions to reduce the emissions from deforestation. Nearly 20% of annual global emissions comes from deforestation, primarily from tropical deforestation in developing countries, and the world is losing native forest at the rate of a New York State per year. The decision to cut down trees is driven by economics: simply put, a dead tree has more value today than a living one. Until we change that fundamental economic proposition, we will not be able to meaningfully reduce tropical deforestation or achieve our climate protection goals. And we need solutions that can start working immediately, because unless we radically reduce the current rate of tropical deforestation and begin to restore forests, the world's rainforests could largely be gone in the next few decades.

The Nature Conservancy has developed a legislative package with like-minded organizations within the Forest Carbon Dialogue (FCD). The following is a brief summary of the three main elements of this legislative package, which we would be delighted to discuss further with the Committee. Overall, we believe that the FCD's approach can ensure environmental integrity, deliver cost savings to a domestic cap-and-trade program, create mechanisms for developing nations to participate in global emissions reduction efforts, and recognize the urgency of climate action.

Market-readiness: There is an urgent need for a dedicated funding stream to support efforts to build capacity in developing countries that will be essential for them to have in place before they are ready to participate in a national-level program.

Credits for forest carbon activities: For many rainforest nations, emissions from deforestation are the vast majority of their national emissions and are a major source of global greenhouse gas emissions. We believe it is essential for these nations to quickly move towards a full national-level accounting framework of sources and sinks in their forest sector that includes development of a measurable baseline against which to measure progress. Nations would only earn credits for reductions below an emissions baseline that would decline over time. In addition, for a limited period of time, activities in nations that have not yet established their national accounting frameworks should be eligible for emissions crediting when they reduce emissions from the forest sector following strict quality standards established by the EPA.

Direct support for other important forest carbon conservation activities: A comprehensive international forest carbon conservation package must also address the needs of countries that currently have low rates of deforestation but may be "next on the chopping block." Additional allowances value from within a domestic emissions cap should be set-aside to address these and other threats, to support early action, and to support other low-cost opportunities.

Natural Resources Adaptation

The Nature Conservancy strongly supports including within any federal carbon reduction program new dedicated resources to protect and restore the natural environment on which all human health and economic vitality depends. For example, a carbon cap-and-trade program should allocate a portion of allowance auction revenue to protecting and restoring the natural environment.

Dedicated funding should be provided to those federal, state, and tribal agencies with authority and responsibility for programs and resources important to helping fish, wildlife and ecosystems survive climate change. These resource agencies and their partners should be funded and given the necessary authority to conduct conservation, restoration, land acquisition, fish and wildlife protection, habitat enhancement, planning, research, monitoring, and education activities that are carried out pursuant to comprehensive ecosystem climate adaptation strategies.

The activities of the federal resource agencies should be directed and coordinated through a comprehensive national strategy, developed in close consultation with the states, tribes, and other stakeholders, and with advice from the National Academy of Sciences and a science advisory board.

The activities of the state resource agencies should be directed and coordinated through individual state comprehensive strategies, approved by the Secretary of the Interior, integrated into relevant existing state plans, and developed and implemented with scientific and public input.

Required cost-share contributions by states and other nonfederal entities receiving auction proceeds should be capped at relatively modest levels for climate-related conservation actions, with requirements superseding existing cost-share requirements in adaptation programs.

The scientific capacity of the federal resource agencies to evaluate and address the impacts of climate change should be enhanced through, among other things, the establishment of national climate change and fish and wildlife science centers, housed within agencies such as the U.S. Geological Survey and the National Oceanic and Atmospheric Administration.

Low Carbon Fuel Standard

The Nature Conservancy recommends that Congress instruct EPA to develop and promulgate a challenging, yet technologically and economically achievable GHG performance standard for the transportation fuel pool. Specifically, as part of this assessment EPA should consider the degree to which existing programs and market conditions are or are not sufficient to substantially reduce the lifecycle carbon intensity of the transportation fuel pool. Congress should assure that the RFS ceases to apply at the time that the GHG fuel performance standard takes effect. EPA should develop appropriate methodologies for determining lifecycle carbon intensities of various transportation fuels on an equivalent basis. In addition, EPA should expeditiously develop a process for gathering data and determining the actual lifecycle GHG performance of the transportation fuel pool. These are the critical first steps for developing and implementing a transportation fuel GHG performance standard and ultimately for evaluating compliance with such a standard. We believe that these steps could be completed, and a challenging yet achievable GHG performance standard be placed into effect prior to 2022.

**** Note on the table of offset activities: Entries have been submitted for those project types where The Nature Conservancy has particular project experience. We have limited our response to domestic US offset project activities; international forest carbon is addressed above in Part III. The Nature Conservancy is not opposed to including some additional domestic project types in a carbon reduction program. We have based the responses on "Effectiveness" and "Cost" in large part on EPA (2005) Greenhouse Gas Mitigation Potential in U.S. Forestry and Agriculture, a report which underpins most modeling of cap-and-trade programs, and have attempted to relate the report's quantitative findings to the qualitative categories in the table on the following page.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Reforestation	Excellent	Excellent	Medium	High
Forest Management	Good	Good	Low	High
Avoided Deforestation	Moderate	Good/Moderate	Medium	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Avoided emissions from grassland conversion	Moderate	Moderate	Low	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Grassland Restoration	Moderate	Good	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE OFFSET QUALITY INITIATIVE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Shanna Brownstein

Organization(s) you represent

The Offset Quality Initiative

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am the Program Manager for the Offset Quality Initiative, a collaborative, consensus-based effort that brings together the collective expertise of its six nonprofit member organizations: The Climate Trust, Pew Center on Global Climate Change, California Climate Action Registry, the Environmental Resources Trust, Greenhouse Gas Management Institute, and The Climate Group.

In July 2008 OQI published a white paper entitled "Ensuring Offset Quality: Integrating High Quality Greenhouse Gas Offsets Into North American Cap-and-Trade Policy." Many of the answers to the offset portion of this questionnaire are pulled directly from this document.

For more information about OQI, please visit www.offsetqualityinitiative.org.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

OQI does not have an opinion on this issue at this time

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

OQI recommends conservative, multiyear, and potentially renewable crediting periods that provide certainty to market participants and regulated entities, which will be critical to market development in the early years of a regulatory program.

OQI does not support the use of quantitative limits for the purposes of regulating offset quality. If a limiting mechanism is established, a usage limit is less likely to disrupt the market than a supply limit, as it creates a broader supply from which regulated entities can draw and provides more certainty to project developers. Limitations on offset usage will likely result in lower-cost offset credits when compared with offset supply limits, as supply would not be artificially constrained and the market would have adequate liquidity.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Any sector within the boundary of the cap should be able to utilize offsets to meet their compliance obligation.

Regulatory Offset Programs Should Not Restrict Offset Eligibility by Geographic Source. Because GHGs accumulate both uniformly and globally in the atmosphere, the location of an emission reduction is immaterial to its climate change impacts. To capture the most cost-effective emission-reduction opportunities first, regulations should not place limits on the location of offset projects based solely on geography. For example, there may be political pressure to incentivize domestic offsets through geographic limits; however, many of the lower cost emission-reduction opportunities located internationally could be foregone if these limits are implemented in future regulatory systems. OQI recognizes that offset projects can have important local impacts and co-benefits, and regulation should be designed to ensure that these non-GHG considerations are adequately addressed, while recognizing the global nature of GHG emission impacts.

Regulatory Offset Programs Should Avoid Quantitative Restrictions on Offset Supply and Use. There are strong economic and environmental arguments against limiting the use of offsets to achieve emission-reduction mandates; the most important of which is that the location of an emission reduction is immaterial to its impact on global GHG levels. At the same time, legitimate concerns exist that technological change will not be properly incentivized in capped sectors if large amounts of offsets from other sectors are allowed. OQI believes these concerns should be weighed against the advantages of high quality offsets, which include access to more cost-effective GHG reductions and the promotion of technology change in uncapped sectors. In fact, by lowering the cost of the total system, the use of offsets could allow for the implementation of a more stringent cap, which would result in even greater emission reductions in both the near- and long-term. Therefore, OQI recommends against the use of quantitative offset restrictions.

If a quantitative restriction on offsets is nonetheless desired by policymakers, careful consideration should be given to how and where that limit is imposed in order to avoid undue market distortion.

There are two primary types of limiting mechanisms currently being considered by policymakers: usage limits and supply limits. Usage limits restrict the number of offset credits that are eligible for use in meeting emission-reduction targets (this is most commonly expressed by a percentage of the total emission reductions or entity-level emission reduction requirements that can be met through offsets). Supply limits establish a predetermined number of offset credits that are issued in a given compliance period. Regardless of the number and type of offset projects available in the larger market, only those that were able to obtain credit through the regulatory supply program would be eligible for compliance use. Supply limits would not provide investment certainty to project developers and could be problematic for those projects that have a multiyear crediting period, particularly if projects must reapply for crediting approval on a yearly basis. Moreover, a limit on the available supply of eligible offset credits for use in a compliance

system could have significant price implications as regulated entities compete for the limited pool of offset credits set by the supply limit.

OQI does not support the use of quantitative limits on the use of offsets. If a limiting mechanism is established, a usage limit is less likely to disrupt the market than a supply limit, as it creates a broader supply from which regulated entities can draw and provides more certainty to project developers. Limitations on offset usage will likely result in lower-cost offset credits when compared with offset supply limits, as supply would not be artificially constrained and the market would have adequate liquidity.

Offset credits in excess of those allowed for compliance through limiting mechanisms could potentially be sold into the voluntary market or to international compliance markets. Policymakers must weigh a range of factors when considering establishing limiting policies such as supply, usage, and geographic restrictions on offset use for compliance. In general, policy should be crafted to distort the market as little as possible, and to ensure that emission-reduction goals can be met in the most efficient, credible, and cost-effective manner possible.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Emission reductions from offset projects must be accurately quantified. Each project must have a unique monitoring plan that defines how, when, and by whom data will be collected and emissions quantified. These plans should be developed with experts familiar with the specifics of a project and should use established standards such as the World Resources Institute's Greenhouse Gas Protocol for Project Accounting and the International Standards Organization 14064-Part 2.

All GHG reductions should be verified by an independent, qualified, third-party verifier according to approved methodologies and regulations. Verifiers should be entities whose compensation is not in any way dependent on the outcomes of their decisions. Regulatory regimes should have an approved list of offset project verifiers and should have procedures in place to ensure that conflicts of interest are avoided. Ex post monitoring and verification reports should be used as the basis for issuing offset credits.

Please note that third party verification is crucial but must be considered careful in order to limit conflicts of interest. OQI will be producing quality assurance recommendations for policymakers over the next year in order to assist implementing agencies on issues related to quantification, verification and monitoring.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Offsets Should Be Real. Project-based offset credits should represent actual emission reductions and not simply be artifacts of incomplete or inaccurate accounting.

Offsets Should Be Additional. Because offsets are used to compensate for emission reductions that an entity operating under an emissions cap would otherwise have to make itself, the reductions resulting from offset projects must be shown to be "in addition to" reductions that would have occurred without the incentive provided by offset credits. The revenue from selling the project's emission reductions should be reasonably expected to have incentivized the project's implementation for an offset project to be considered additional.

Offsets Should Be Based on a Realistic Baseline. A GHG emission baseline must be established in order to quantify an offset project's GHG reductions. Offsets are only as credible as their baselines.

Offsets Should Be Quantified & Monitored. Emission reductions from offset projects must be accurately quantified. Each project must have a unique monitoring plan that defines how, when, and by whom data will be collected and emissions quantified. These plans should be developed with experts familiar with the specifics of a project and should use established standards.

Offsets Should Be Independently Verified. All GHG reductions should be verified by an independent, qualified, third-party verifier according to approved methodologies and regulations. Verifiers should be entities whose compensation is not in any way dependent on the outcomes of their decisions. Regulatory regimes should have an approved list of offset project verifiers and should have procedures in place to ensure that conflicts of interest are avoided. Ex post monitoring and verification reports should be used as the basis for issuing offset credits.

Offsets Should Be Unambiguously Owned. Clear and uncontested title to offset credits should be established by contractual assignment and/or government recognition of ownership rights. Furthermore, the transfer of ownership of any and all offset credits must be unambiguous and documented. Once sold, the original seller of the offset credit (and the project owner) must cede all rights to claim future credit for the same reductions in order to avoid double counting. Finally, offsets must be serialized and accounted for in a registry or other approved tracking system.

Offsets Should Do No Net Harm. Offset projects should not cause or contribute to adverse effects on human health or the environment, but should instead seek to provide health and environmental co-benefits whenever possible.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

OQI does not have an opinion on this issue at this time

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

OQI supports the development of cost-effective, robust, and flexible offset project assessment tools that provide a rigorous and transparent framework for the evaluation of offset projects. Regulation should strive to integrate the transparency and consistency of standardized approaches, while capitalizing on the flexibility and adaptability of project-specific approaches. For this reason, OQI recommends the hybrid approach to developing regulations for the assessment of offset project additionality, baseline establishment, quantification, and crediting periods. We believe that a hybrid approach strikes the best balance between transparency and standardization, while taking into account the consideration of project specific circumstances. Emerging regulatory regimes should build on the existing groundwork that has been completed at the regional and international levels, and seek to design policy that incorporates the lessons learned from current activities, while allowing for flexibility, innovation, and adaptation over time.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

In line with OQI's logic in not supporting quantitative limits on offsets for the purposes of mitigating concerns about quality (see comment above), we feel that stringent quality criteria for offsets will ensure that offsets accepted under program rules and allowances are fully fungible.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

GHGs removed or stored by biologically based projects can be reversed, and thus there is a risk that they will not be permanent. In the case of biological sequestration projects, the GHGs are sequestered in the biological matter (e.g., wood, grasses, crops) only until the matter decomposes or is combusted. Forestry-based offset projects face both intentional (land conversion, harvesting) and unintentional (wildfire, disease) permanence risks. For example, if there is a wildfire, some of the carbon sequestered in the forest would be released into the atmosphere and a portion of the offset credits could be negated. Program administrators should proactively develop ways to address and mitigate the risk associated with these types of projects, including establishing legal mechanisms (e.g. conservation easements, deed restrictions) to address intentional reversals and other policy mechanisms (e.g. reserve pools, buffer accounts, insurance) to address unintentional losses.

While some advocate a special "temporary offset" category for certain types of potentially non-permanent emission reductions, OQI recommends against this approach due to its barriers to inter-market fungibility, additional administrative requirements, and movement towards a globally tradable and credible commodity. OQI believes that if sufficient

assurances and measures are in place to ensure replacement of offset credits in the event of project reversal, offset credits sourced from projects that face permanence issues should be treated as any other reduction that meets the applicable offset eligibility requirements.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

OQI does not have an opinion on this issue at this time.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

OQI does not have an opinion on this issue at this time.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The activity must pass additionality tests in order to receive offset credit. The revenue from selling the project's emission reductions should be reasonably expected to have incentivized the project's implementation for an offset project to be considered additional.

Determining additionality is an essential but approximate process. Establishing why a project was implemented is difficult; thus, practitioners and regulators generally rely on a series of tests to determine a project's additionality. These tests can assess the regulatory, financial, technical, institutional, and/or other barriers a project or project type faces to its implementation. No single approach is the best for all projects or project types, and generally a combination of tests is necessary. OQI supports the development of cost-effective, robust, and flexible additionality assessment tools that provide a standardized, transparent, and rigorous framework for the eligibility of offset projects. These tools should account for real variation in the characteristics of different project types and other factors, such as project location, prevailing market conditions, and existing regulation.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

PART A: OQI supports allowing market participants to forward sell when necessary, and recognizes that such activity cannot be easily controlled or regulated. The purchase of forward sold offsets credits is essentially a price-risk-hedging mechanism. However, the purchasing entity should not be allowed to use the credits to meet GHG reduction requirements until those credits have been delivered, verified, and registered with the appropriate entity.

PART B: Program administrators should proactively develop ways to address and mitigate the risk associated with these types of projects, including establishing legal mechanisms (e.g. conservation easements, deed restrictions) to address intentional reversals and other policy mechanisms (e.g. reserve pools, buffer accounts, insurance) to address unintentional losses.

While some advocate a special "temporary offset" category for certain types of potentially non-permanent emission reductions, OQI recommends against this approach due to its barriers to inter-market fungibility, additional administrative requirements, and movement towards a globally tradable and credible commodity. OQI believes that if sufficient assurances and measures are in place to ensure replacement of offset credits in the event of project reversal, offset credits sourced from projects that face permanence issues should be treated as any other reduction that meets the applicable offset eligibility requirements.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Legislation should not detail protocols and procedures for the offset program. OQI recommends a centralized authority administer and implement an offset program. This could be a newly-created agency, or an agency like the EPA. This authority should have the ability to make necessary decisions and should be capable of doing so in a timely and transparent fashion. In regional contexts, which involve the linking of multiple jurisdictions into a single offset program, a centralized authority should, at a minimum, have a strong coordination role to ensure comparable decisions are made regarding the program's administration and implementation across the participating jurisdictions.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

OQI does not have an opinion on this issue at this time

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

OQI does not have an opinion on this issue at this time

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE OHIO STATE UNIVERSITY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Bobby Moser

Organization(s) you represent

The Ohio State University

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

College of Food, Agricultural and Environmental Sciences

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A hybrid will have to be used. Cap and trade can feasibly only work with large industrial sources and potentially with offsets from land use. It would likely induce lower transaction costs to use existing instruments such as the gasoline tax to account for transportation.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes. The agricultural sector is a large source of methane, nitrogen, and carbon emissions, and should be considered under US policy. However, if carbon taxes are used then presumably a large proportion of ag emissions would be covered under the policy (e.g. transportation of product, operation of machinery, input price increases, etc.). The sector should then be allowed to sell carbon offset credits from land based emission reductions into any market. These would include methane recovery credits, nitrogen reduction credits, forest sequestration credits, and soil carbon storage credits.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

This is not really an efficiency issue - that is no matter what distribution is chosen, it will only affect the winners and losers, not whether the trading program works effectively. From the perspective of the Ohio economy, one would have to argue that we would be better off with a very generous allocation of free permits right up front. That is, we should be arguing for coal fired power plants to be grandfathered in so that they get generous allocations of free permits up, in the initial periods. Over time, it would be reasonable to auction them and sell them to the plants, but in the initial at least 10 years of the program, these permits should be given away for free.

If permits for coal fired power plants and other industrial sources are auctioned or sold, the proceeds should be used to roll back other taxes, such as income taxes. By doing this we would raise costs on bad activities, like carbon emissions, and reduce costs on good activities, like working.

Offsets generated by agriculture should be allowed to enter into the market. Should these permits be auctioned or sold to the agricultural sector? From a purely agriculture perspective, one would of course argue that permits to sell offsets should be freely given and that they will not be capped.

There is one very important efficiency issue here. There is a movement underfoot to cap the proportion of these credits available to the market. From the perspective of economics, this is an inefficient move that will cost US taxpayers money in the long-run. Permits to agriculture can be sold, or given away, or land using activities can be allowed to generate them at will, but setting an arbitrary limit on the number of permits that could be generated by the land using sectors is very inefficient for the US as a whole.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

No. The US system should subsume the regional ones. The regional systems will probably disappear if the US system emerges, although it really depends on how stringent the US system is.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

EPA has been very good with the existing SO2 market and has lots of experience. Having said that, there is no reason not to consider a new agency that takes components from each of the important other agencies, such as DOE, USDA, and EPA and combines them in a way to work together more effectively. But I personally do think we'd ultimately be worse off if we ended up with another cabinet position out of this and a whole new agency.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Without a better picture of the actual policy, it's hard to tell. This will be easier to judge once an actual policy has been developed. Based on our experiance with models of hte ag sector so far, land use sectors could gain substantially if offset credits are allowed.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

By rolling back income taxes.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

It's a nice thing to propose, although the budgetary implications are not entirely clear.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

The costs should be examined carefully and they should play a very important role. Government should have the right to sell these credits to the market in order to roll back income taxes.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

There should be a capped price at which point the market ultimately reverts to a tax system. The cap should be set sufficiently high so that the right signals are sent, but so that there is an effective safety valve from prices that exceed some very high levels. In the first 10 years of the program, this would make sense to be $20-40 per t CO2.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The Europeans arbitrarily excluded most land based credits. While their market has functioned just fine, they made lots of policy mistakes, one of which was not allowing land based credits to enter into their market. The Australians have allowed land based credits into their system. A voluntary market in the US, the Chicago Climate Exchange, allows land based credits into their system. The CDM has now approved a land based credit generated in forestry. The CDM in principle could do more, but they have created so much bureaucracy it's difficult to get land-based options through. There have been many trial programs through joint implementation and CDM that are now underway. These provide an excellent basis upon which to learn about how effectively credits can be traded internationally.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

It's not clear that any of these options will be more or less effective. They can all work depending on how they are ultimately implemented. Obviously, agricultural landowners will clearly prefer a voluntary program to which they can sell unlimited credits.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

This question presupposes that there will be a limit on offsets and that the offsets will be distributed somehow. The offsets should be made available on a cost-effectiveness basis, that is, those who can provide the offsets most cheaply should get them.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Offsets should be 100% measured, monitored and verified.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

This requires very in-depth analysis.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should give clear guidance that all offsets will be measured, monitored, and verified as additional reductions relative to an agreed upon baseline. I don't think Congress should be in the business of designing the exact system, but teh guidance about being serious about actually measuring carbon is very important to make this market actually work. It is well known that lemons will destroy markets, as we have now seen with our banking systems, so the Congress should just make sure that the agencies in charge of writing the rules know that the system should not allow lemons, or bad carbon, to enter the market.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Project based approach that measures the results in teh fields. The evidence is that the costs of measurement are very low and that this can be done relatively cheaply. Evidence has also shown that there is so much heterogeneity on the landscape, standards based approaches cannot possibly work. Evidence has also shown time and time again that standards based approaches to environmental regulation do not work very well.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

1-1: The measurement systems shoudl be set up to ensure that the offsets that are generated are worth 1 unit of allowance. The one exception to this will be if leakage is established, as

may occur with the land use change projects. This type of externality could have large implications for market integrity, and may need to be dealt with via adjustment factors on the value of the carbon in land based offsets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

First, permanence is overblown as a problem. The market definitely should account for the duration of storage of carbon. Tons can be stored for 5 years, 10 years, or 100 years and still have value. Carbon stored for longer will have more value.

Second storage of carbon in soils or forests is less durable. Whether it is credited with being 100% permanent, or durable, at the initiation of a contract, is an important question. There are a number of ways to handle this.

One way to handle it is to assign liability that the carbon is ultimately emitted to either the buyer or the seller. If the soil is turned over, or the trees burn down, someone needs to be responsible for buying other credits on whatever market exists, to account for this change. It does not really matter who the liability rests with, because aggregators are likely to step in and fill the gap by taking care of this function for the market.

Another way to handle the durability issue is to provide for temporary storage credits. This is what most buyers will probably do if they are assigned the liability. They will simply rent the carbon stored in soils or trees each year it is stored. If the carbon is lost, then the rental payments are diverted to someone else.

From a market design perspective, one does not need to write all these rules out explicitly. One simply needs to make clear that a ton of carbon emitted from smokestacks or car tailpipes is durable, and a ton stored in soils or trees is only stored on an annual basis less durable. One can also assign liability to buyers or sellers and then let the market work out the rest.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The emission registry is easy, those can be incorporated directly because all they do is register the tons emitted, stored, or moved during a year.

The CCX market is a bit different. Some of the rules are strange, particularly as they relate to soil and forest carbon credits. I would recommend that CCX be left off the table because I don't think their rules are very well structured.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

These two terms have little to do with whether early adopters should be credited. Early adopters should be credited to some extent, as long as their credits can be verified and monitored, and as long as they conform to the new rules once they are written.

Stackability is important. There is no reason that individual landowners should not be able to obtain payments from multiple markets for benefits they generate as long as they actually generate some benefits.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

This is an equity consideration. It doesn't really affect whether or not the market ultimately will work. Having said that, I don't think that cost share for other purposes should count against someone who wants to sell carbon credits or other kinds of environmental benefits. In fact, it may provide an opportunity for the government to get out of the payment role down the road....

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

See answer to 22 above. The issue is not so much whether the producer specifically be held liable, but instead that someone needs to be held liable for this. The answer to that question is that absolutely, someone needs to be held liable. Beyond that, it's still a question whether it actually matters economically for the parties who is held liable. My guess is that whether it's the producer or the purchaser, the same effect will happen: the producer /landowner will stop getting payments, or the producer will be sued to send money back.

Natural disasters do not need to be treated differently. Landowners should get insurance for them, or if they don't they need to recognize that they are self-insuring. Most private timberland owners self insure, so the concept is not all that foreign.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Delegate the authority. EPA, DOE, USDA should be charged with designing the system. They already have the bulk of the experience with it.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Current programs do not, which is why more substantial legislation is under consideration.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of *forestry practices* that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	Effectiveness at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	Ability to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	Cost for agricultural producers and private forestland owners to implement (High, Medium, Low)	Capacity of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)
New forest plantings	Excellent	Excellent	Low	High
Intensive management of existing forests	Excellent	Good	Low	Medium
Sustainable mgmt. through certification	Excellent	Good	High	Low

Please list specific types of *practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)* that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	Effectiveness at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	Ability to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	Cost for agricultural producers and private forestland owners to implement (High, Medium, Low)	Capacity of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)
Manure management	Excellent if anaerobic digestion is implemented	Excellent	High initial investment, but revenue can be realized as biogas is produced	High, if governmental subsidies or carbon offsets are available
Grazing/pasture land practice	moderate	moderate	low	low

Please list specific types of *crop production practices* that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	Effectiveness at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	Ability to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	Cost for agricultural producers and private forestland owners to implement (High, Medium, Low)	Capacity of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)
No till farming	Good	Good	Low or none	High
Manuring, composting	Excellent	Good	Low	Medium
Cover cropping	Excellent	Good, excellent	Low	High
Erosion control	Excellent	Excellent	Medium	Medium
Biochar	Good	Good	High	Low

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE PACIFIC FOREST TRUST
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Laurie Wayburn

Organization(s) you represent

The Pacific Forest Trust

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Co-founder and President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Congress should enact a program that utilizes market-based incentives to promote the most efficient reduction of greenhouse gases feasible. Whether done with a cap-and-trade approach or a combination of cap-and-trade and fees, this program should be designed to allow for the trading of emission allowances to maximize the efficiency of carbon reductions within capped sectors. Emission allowances should be auctioned to allow the market to establish the price of carbon and avoid the creation of windfall profits.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Forests should be covered under a carbon reduction program. Globally, emissions from deforestation are second only to fossil fuels as the largest source of carbon emissions. In the United States alone, more than 1.5 million acres of forest are lost annually. Loss of forestland not only causes emissions from the clearing of trees and disturbance of carbon within forest ecosystems, but also results in the loss of substantial future sequestration potential. If deforested land is converted permanently to non-forest use, this sequestration potential can never be regained. However, just as the climate detriments of deforestation are great, so too are the climate benefits of forest conservation. By including forests in a carbon reduction program, market incentives and government regulations could be leveraged to simultaneously avoid the emissions resulting from deforestation while maintaining and increasing the sequestration potential of forests.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The object of levying economic penalties on the emission of greenhouse gases is to internalize the cost of these emissions. These are costs that previously have been externalized to the detriment of society, the environment and the climate. To reflect the harm caused by greenhouse emissions, the release of these pollutants must be monetized and regarded as an economic cost of transacting business. Simply giving away pollution allowances will fail to achieve the goal of internalizing the costs of pollution. Allowances should be auctioned to establish a market price of carbon and maximize the efficiency of

emission reductions. Once the market price of carbon has been established, firms may choose the most efficient and cost-effective means of compliance: reducing pollution levels or purchasing rigorous, high-quality offsets. Auction revenues could be used to provide relief to consumers and to support incentives for climate-friendly activities, such as the set-aside of emission allowances for forest and agricultural landowners engaging in behaviors that reduce or sequester carbon.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

To the greatest extent possible, a federal climate policy should incorporate the progress that has already been made by state or regional carbon reduction programs. To be eligible for incorporation into a federal climate program, pre-existing programs must achieve reductions in greenhouse gas emissions that are at least as stringent as federal requirements and adhere to rigorous standards for offset programs that ensure carbon reductions are real, additional, permanent, verifiable and enforceable. State and regional carbon reduction programs should be given full discretion to pursue carbon reduction measures that are more stringent than the minimum standards required by a federal program.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

The EPA should be given the authority to regulate a federal cap-and-trade program with support from other relevant departments, agencies and councils as appropriate, including CEQ, USDA, DOI and DOE.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Carbon offsets should not be sold as part of a derivatives or futures market unless appropriate oversight can ensure the integrity of carbon offset derivatives or futures. Given the state of the current derivatives market, provisions to ensure the accountability and integrity of such a market for carbon reductions through regulatory oversight is imperative. Whether the Commodity Futures Trading Commission or a different regulating body, this entity must ensure that the same high standards of permanence, additionality, verifiability and enforceability apply to offsets traded in a derivatives or futures market.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible

instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

A carbon reduction program stands to provide myriad social, economic and ecologic benefits for not only private forest landowners, but also for the broader public at large. Providing incentives for carbon reduction through conservation will diminish forestland conversion and degradation and increase the carbon storage and sequestration capacity of forestlands. In addition to carbon benefits, conservation will also protect the innumerable ecosystem services provided by forestlands, including the protection of watersheds, prevention of erosion and the provision of clean air, open space, wildlife habitat and recreational opportunities. In addition to the broad public benefits conveyed by forest carbon reduction programs, there are multiple social and economic opportunities afforded through these projects. Carbon reduction programs stand to provide considerable employment opportunities through the creation of new "green jobs." Revenues from emissions allowance auctions could be used to strengthen existing programs and incentives for forest conservation and provide new revenue sources for landowners, conserving working forests and strengthening local communities.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 500 words or less.

Revenue generated under a carbon reduction program should be used to facilitate the adaptation of both people and landscapes. These revenues should be used to ease the costs passed on to consumers, and provide training and technical assistance to prepare the labor force for new "green jobs." Revenues also should be used to strengthen and broaden existing programs conserving forestlands for their public benefits. These programs should be expanded to incentivize activities reduing greenhouse gas emissions and promoting carbon storage and sequestration.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands are integral to maximizing the storage and sequestration potential of the United State's forestland base. This potential is the greatest in forests that are managed to maximize their ecological integrity, resistance, and resilience over the long term. While public lands are a critical component of achieving the full carbon sequestration and storage potential of the United States, these lands should not be included in any carbon market programs due to concerns about the additionality of carbon sequestered, the ownership of offset property rights and the potential conflicts of interest that might arise. The management of public lands should be addressed through administrative and legislative policy mechanisms while direct market forces should be used as leverage in the private sector where they are effective incentives.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

While a reserve price may be necessary initially to boost market confidence and reduce buyer risk and uncertainty, regulatory programs should ultimately transition to a system that allows market forces to dictate fully the price of carbon.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected

agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

While carbon sequestration and storage from the forestry and agricultural sector will be an important component to any federal carbon reduction program, the mechanisms by which to maximize the effectiveness of sequestration in these sectors may vary. Whereas rigorous, proven methodologies exist for the quantification, accounting and monitoring of carbon benefits on forestlands, quantifying carbon benefits on agricultural lands is considerably more difficult and costly. As a result, market based approaches, such as the rigorous voluntary offset programs already in existence for forestlands, will be an essential component of an overall federal carbon reduction program for the forestry sector. For agricultural lands, where market-based offset programs may not be as suitable because of the difficulty and cost of quantifying these benefits, the leveraging of financial incentives to reduce emissions through conservation may be the most effective mechanism available. A variety of programs promoting the conservation of agricultural lands already exist; these programs could be strengthened and expanded using allowance auction revenues. While the carbon storage and sequestration of both the forestry and agricultural sectors is great, this potential can only fully be realized through the use of the mechanisms most appropriate to each sector.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Emissions offsets used for compliance purposes must be entirely fungible with emissions reduction allowances auctioned for compliance purposes. In order to guarantee this, the emissions reductions resulting from compliance offsets must be certified as real, additional, permanent, verifiable and enforceable. If the climate benefits conveyed by an offset are truly equal to the climate benefits of an emissions reduction allowance, then theoretically the level of greenhouse gases emitted to the atmosphere is the same regardless the percentage of offsets an emitting entity uses to fulfill its compliance obligation. However, due to concerns over offset performance, local air quality conditions and environmental justice concerns, emitting firms should be limited in the amount of emissions they are allowed to offset. Because of this, offset limits should be set initially with provisions to adjust the allowable quantity over time. Offset limits should be closely monitored to assess the performance of offsets and the effectiveness of emissions reduction and regulatory revisions should be made as necessary.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Offsets should be allocated as a percentage of a covered entity's *reduction obligation*, not an entity's compliance obligation. The reduction obligation is the quantity of emissions a covered entity must reduce to come into compliance with an emissions cap. The

compliance obligation is the total amount of emissions a covered entity may emit under a cap. Allowable offsets should be set as a percentage of the reduction obligation; otherwise, a firm may be eligible to offset more emissions than it actually must reduce to achieve its compliance obligation. Even if offsets are rigorous, and guaranteed as real, additional, permanent, verifiable and enforceable, the utilization of offsets for compliance means that emissions reductions will be occurring at a different location than where the covered entity is located. As a result, air quality will not be appreciably improved at this location, which may have environmental justice implications for nearby communities. To ensure that actual emissions reductions do occur on site, the percentage of offsets allowable should be determined as a percentage of a covered entity's reduction obligation.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Offsets eligible for compliance use must be entirely fungible with actual emissions reduction allowances. Offsets must be certified as real, additional, permanent, verifiable and enforceable. Offsets are additional if they come from reductions that are in addition to what would have occurred in the absence of the carbon project. This is critical to ensuring that a carbon reduction project is actually resulting in a reduction of atmospheric carbon that would not have been achieved otherwise. To ensure the additionality of offsets, they must be quantified against a baseline that projects carbon emissions and sequestration in the absence of the carbon reduction project. Baseline methodologies should be standardized to ensure that carbon projects allow for an objective, consistent and efficient quantification of carbon offsets across projects of a similar type. Provisions also must be emplaced for the long-term monitoring of projects to ensure that emissions reductions are indeed permanent. At a minimum, permanency should require the maintenance of emissions reduction for 100 years, which is the international standard approximating the atmospheric cycling time of carbon dioxide. The emissions reductions created by a carbon reduction project must be subject to third-party verification to ensure their authenticity and the obligation to maintain carbon reductions contractually enforced.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Offsets must be certified as real, additional, permanent, verifiable and enforceable. Individual carbon reduction projects must be assessed to ensure that the offsets they produce indeed meet these criteria. Offsets must be quantified against a standardized baseline to ensure additionality and fungibility. To ensure the permanence of a carbon offset project, the risk of project reversal, or emission of carbon sequestered or reduced through the project, must be determined. Offset projects should be required to prorate offsets to a "buffer" pool depending on the reversal risk of a project. In the event of reversal, the offsets allocated to this buffer pool are used to compensate for the carbon emitted. To ensure further the additionality and integrity of carbon offsets, carbon reduction projects should emplace measures to address leakage, or the displacement, rather

than reduction, of project emissions. Leakage reduces the overall climate benefits of a project, and should be hedged through a programmatic offset buffer pool or the general discounting of offsets where leakage is determined to be an issue. Finally, it is critical that a carbon reduction program does not undermine the environmental integrity of an offset project. Provisions must be emplaced to ensure that an offset project protects and enhances biodiversity, native flora and fauna, and overall integrity of the natural ecosystem.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The verification process is critical to ensuring the consistency and credibility of emissions reduction data reported across different projects and organizations. Offset projects should be verified using an approved, third party verifier to review and assess the accuracy of reported emissions reductions and a project's adherence to required protocols and methodologies. The verification process must be transparent to ensure the environmental integrity of a carbon reduction project and the integrity of its emissions offsets.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should establish a project-based approach to creating and quantifying carbon offsets. The use of a project-based program ensures the accuracy, permanence, and standardization of monitoring practices. A project-based program allows for the evaluation of actual reductions rather than the modeled results that would be used under a standards-based approach.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances should be entirely fungible. Offsets must meet the standards of authenticity, additionality, permanence, verifiability and enforceability to ensure they are indeed completely interchangeable with emission allowances. However, to ensure the localized improvements in air quality that come with the actual reduction of emissions, a limit should be placed on the total quantity of offsets an emitting entity can use for compliance. The limit on compliance offsets should be monitored to assess the performance of offsets and the effectiveness of emissions reductions. This limit should be revised as necessary.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Robust monitoring requirements and credible reversal risk provisions are critical to ensuring the permanence of offsets created through carbon reduction projects. Emissions reductions on forestlands must be tracked over time to ensure that the carbon dioxide sequestered and stored is not released at some point in the future through natural disturbances or changes in land use. In the event of reversal, provisions must be in place to ensure that the emissions are mitigated. Monitoring and mitigation requirements should be enforced through the use of legally binding, long-term instruments. Conservation easements are an example of a long-term contract that can be used to minimize the risk of carbon loss due to changes in management or ownership. Easements ensure legal permanence by dedicating land to a permanent use and providing binding guidance on management practices. Insurance and buffer pools are also tools that may be used to mitigate the risk of unintentional reversal, such as through natural disturbance. These mechanisms help ensure that if carbon is lost for reasons beyond the project owners' control, extra emissions reductions will compensate for the unintended release of carbon to the atmosphere. The use of short-term contracts should be avoided until concerns over offset integrity and cost can be reduced sufficiently. Replacing credits at the end of a short-term contract period would require extensive administrative oversight, costs which should be factored into the those associated with short-term contracting. Short-term contracts may be easier to game than long-term contracts, which could undermine the integrity of the offsets created. In forest management, for instance, a 5 or 10-year commitment is generally not long enough to detect actual changes in management beyond business as usual. Until these concerns can be resolved, the use of short-term contracts should be avoided.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Congress should reward those early actors who have participated in the creation of high quality, robust offsets through voluntary projects that have been registered with a government-backed entity, such as the California Climate Action Registry (CCAR) or Regional Greenhouse Gas Initiative (RGGI). If the offsets created by these projects meet rigorous standards of additionality, permanence, verifiability and enforceability, they should be eligible for compliance purposes under a federal cap-and-trade program. By enacting a federal cap-and-trade program, Congress is seeking to incentivize and reward behavior that benefits the climate. Early actors who took the initiative voluntarily should not be penalized for doing so.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors who have taken the initiative to change behavior for the benefit of the climate should be rewarded for their actions. If these early actors have participated in rigorous,

voluntary offset projects that are registered with a government-backed entity and create offsets that are real, additional, permanent, verifiable and enforceable, they should receive credit for their offsets under a federal cap-and-trade program. For landowners who have engaged in activities that have been beneficial to the climate but have not produced tradable credits, other incentives, such as allowance set-asides, could be used to reward and promote these behaviors.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

As long as any activities benefiting the climate are not already required by any regulation or law, these activities should be eligible to qualify for federal programs rewarding carbon reduction activities. However, for carbon reduction activities to be eligible for use as tradable offsets, they must be project based, registered with a government-backed entity, and comply with the rigorous standards for creation of high-quality offsets discussed earlier. Allowance set-asides could be used to promote and reward carbon reduction activities that do not create tradable offsets. The allocation of allowance set-asides should be prioritized to target areas that have not already received other forms of assistance or demonstrate extreme need.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Offset credits should not be issued until after carbon reduction or sequestration actually has occurred and been verified by a third party. Carbon reduction projects should be required to mitigate reversal risk through any of the following mechanisms: direct compensation for reversed credits; insurance; or contributions to a program-level "buffer" reserve pool. Projects using a buffer pool would be required to allocate a portion of offset credits to the pool depending on the reversal risk of their particular project. If a reversal beyond the control of the landowner were to occur, offset credits from the buffer pool would be used to compensate for the carbon lost in the reversal. Landowners responsible for reversals occurring intentionally or out of negligence should be held directly liable for the full amount of reversed carbon.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The fundamental guiding principles of a federal offset program should be detailed in legislation, but the drafting of specific protocols should be delegated to the EPA and completed in consultation with applicable agencies and public input. Legislation should explicitly specify that a federal carbon reduction program must create offsets are real, additional, permanent, verifiable and enforceable. The specifics of these protocols should be created administratively and modeled on existing programs that have demonstrated the creation, quantification and maintenance of robust, high-quality offset credits. The protocols created by programs such as the California Climate Action Registry (CCAR) and the Regional Greenhouse Gas Initiative (RGGI) should be used as guidance.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

In the aggregate, the potential for carbon sequestration and storage projects for small forest and agricultural landowners is substantial. However, the costs of implementing a carbon reduction project often may be too great for a small landowner to undertake individually. Project protocols and methodologies must include mechanisms to facilitate participation by these small landowners, such as provisions allowing for cooperative projects or cost assistance programs.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

A variety of programs and incentives already exist for promoting the conservation of forest and agricultural lands. While additional programs could be developed to specifically focus on incentivizing practices to sequester carbon, it might be more efficient to adapt, expand and better fund existing programs to include inducements for climate benefits rather than attempt to "reinvent the wheel."

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Forests will play an integral role in the fight against global climate change. Forests absorb significant amounts of carbon dioxide every year and store it for extended periods, absorbing about 13 percent of annual emissions in the United States. However, private forestlands currently store far less carbon than they did historically due to a general trend of increasing rates of harvest over the past 30 years. In addition, private forestlands are being converted to non-forest uses at the rate of 1.5 million acres per year, causing substantial

greenhouse gas emissions and eliminating the potential for those lands to continue to absorb carbon dioxide in the future. Therefore, we are both underutilizing the ability of existing forests to help in the fight against climate change, and removing too many acres from the fight altogether. Finally, woody biomass is being increasingly seen as a source of renewable energy for the nation. However, poor management of forests for biomass energy can cause a net increase in emissions, and loss of a permanent land base of forests reduces the potential for a sustainable supply of biomass. The protection and conservation of the forest land base from which woody biomass is harvested will be critical to ensuring that biomass energy helps, rather than hinders, in the fight against climate change.

A federal climate bill should address these issues in a systematic way using the following principles. First, a requirement of "no-net loss" of carbon from privately held forests in the United States should be established (public forests should have this requirement as well, but we believe legal authority already exists to implement this goal on state and federal lands). Establishing this requirement leads to the need for states to establish mechanisms whereby the loss of carbon due to forest conversion and forest stock depletion must be mitigated. Second, systematic monitoring of carbon stocks on all forestlands should occur within each state. If monitoring is only done for individual actors who chose to conduct offset projects, we will not have a picture of the overall status of carbon uptake and emissions from the forest sector as a whole. Given growing pressures from land development and new pressures for biomass energy, forests could easily become a net source of emissions in the U.S. Having high quality monitoring will allow for the forest sector to be fully integrated into carbon accounting for the rest of the economy, most notably the energy sector, and allow for policy development and adjustment based on an accurate picture forest carbon trends. Finally, as requirements for "no-net loss" of carbon stocks are established and actual conditions are verified through a robust monitoring program, the sale of carbon credits from projects that sequester additional carbon can proceed based on confidence that real gains to climate are being made, not just at the project level, but from the forest sector as a whole. Thus, discounting of the value of forest-based carbon offsets would no longer be required due to uncertainty over leakage within the sector.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Improved Forest Management	Excellent	Excellent	Medium	High
Reforestation	Excellent	Excellent	High	Medium
Avoided Conversion	Moderate	Moderate	Low	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE SIUSLAW INSTITUTE, INC.;
SIUSLAW SOIL & WATER
CONSERVATION DISTRICT
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Johnny Sundstrom

Organization(s) you represent

The Siuslaw Institute, (not-for-profit) &
Siuslaw Soil & Water Conservation District (SSWCD)

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President of the Siuslaw Institute, Inc.
Chair of the Siuslaw SWCD Board (elected official)

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

We would suggest a cap-and-tax situation as the primary response, with offset purchases being allowed in cases of demonstrated national, regional and local need. Under cap-and-trade we, as a nation, run the risk of failing to reduce the overall atmospheric and water quality impacts of our greenhouse gas emissions and the consumer will end up paying the bill both in terms of costs being passed through to us, and in terms of the degraded land air and water resources we all depend on. By capping emission allowances and taxing overages we will both incentivize reduction and generate funds for rewarding those who reduce emissions below allowed quantities. These rewards will assist in paying for the cost of such reductions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

YES! Agriculture and forestry should be given incentives (including payments) for best management practices (no-till, longer rotations, etc.) that contribute to the re-accumulation of carbon in non-atmospheric and non-aquatic components of the planet's ecosystems.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

National, regional and local need should determine these allowances. Profit, by itself, should not be a primary criteria for such allowances. In the agricultural and forestry sectors, best use of land and land-cover resources should be determined and rewarded, and/or the avoidance of these be penalized. For example, the burning of forest harvest waste on site could be made cost prohibitive and avoidance of that cost would offset the expenses of transporting these materials to power-generating or other positive use facilities. Currently the gathering and transporting of these materials is too expensive in some locales to result in additional and/or value-added utilization.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

A national minimum template for carbon emissions could be established with flexible allowances given to states for additional requirements and levels as long as they do not fall below the national standard. Exemptions could be allowed for regional, state and local hardship and critical social needs.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

The new Office of Ecosystem Services and Markets within the Dept. of Agriculture could be expanded and given the authority necessary to administer such a program without the unwieldy process of creating another new agency.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

No opinion.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants. Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

In any case, authorities and efforts on the national regional, state and local levels must be initiated and exercised that lead to facilitating the aggregation of smaller ownerships and non-industrial lands for the purposes of becoming eligible for trading on these markets

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

On the contrary, incentives can be put in place which reward the agricultural and forestland owners and producers for their contributions to improving the sequestration and/or reduction of emissions of carbon. Those regulations which could impose hardship on rural communities and landowners should contain exemptions for this sector of the population and landscape. For example, to the extent that sustainable natural resource management is a priority in climate policy, there may be landscape- or ecosystem-scale restoration opportunities that offer jobs and income to rural economies.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Incentive payments for industrial reductions below caps. Increased funding and attention to ecosystem restoration activities and the maintenance of healthy public lands and rural economies.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The public lands are in need of major restoration activities. These include, but are not limited to reducing unnatural and hazardous fuel build-ups, invasive vegetation infestations, removing dead trees and other vegetation dying due to pest and disease outbreaks, wildlife habitat improvements, and recreational amenities. Road maintenance and access to public lands for the purposes of restoration, fire-fighting, recreation, etc. is a major priority and one that could be coupled with reduced carbon emissions by better management of vehicular and off-road use when good access and travel plans are developed and implemented. Healthy landscapes are natural carbon accumulators and must be both counted on and enhanced for these purposes. The use of fuels generated on public lands should be allocated for their highest energy productivity and the least level of harmful by-products and waste. *(also refer back to #3)*

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Carbon is not simply a commodity, rather it is also both a liability and an asset, depending on how it is used and marketed. Pricing and controls should be utilized to maintain a stable market for reduction of use and dispersal, and to incentivize best practices, innovation and rapid conversion to existing and developing technologies. The control of pricing can be modeled somewhat after the government's intervention in the precious metals marketplace, utilizing surpluses in time of scarcity and purchases in times of plenty.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

No opinion

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Bonus allowances for selected activities will go a long way toward maintaining the fragile open spaces and unfragmented landscape that is so important to resource management and minimizing impacts on the ecosystems they are a part of. So-called "green payments" supplement income and pay for additional best practices. Performance standards are less effective unless they are paid for by the society that wants them implemented. *(see Conservation Stewardship Program)*

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Yes, if there isn't a cap on the "caps" what's the point? However, this means that there should a graduated and managed downturn in the quantities of pollutants and emissions.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Some kind of prioritization would be necessary, giving favor to employment factors in rural and poverty communities and areas of most concern, to national security considerations, and to those businesses demonstrating a phasing out process or clearly reducing their needs for offsets…

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

This is an emerging science and these criteria will need to be developed in conjunction with agriculture and forestry experts both within and outside of government and academia. Land Grant universities should e enlisted in this effort. Certainly this element is one of the most important parts of any program.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Unknown at this time. Research needed.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Soil & Water Conservation Districts exist nation-wide at the local and county level. They should be enlisted in this effort. Training and funding to perform routine and continuing monitoring should be provided. This work can be performed in conjunction with the State Conservationists of NRCS and State Foresters.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

No opinion

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

Emissions allowances and qualified offset credits issued under a cap-and-trade program should be equivalent in terms of environmental benefits and considered as fully interchangeable for the purposes of complying with emissions limits. Properly designed offset markets will ensure this equivalency through adequate measurement and verification of carbon benefits.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

Many of the existing habitat improvement and set-asides, temporary easements and other forms of compensatory land use programs operate on a 10 and 15-year contracts. This seems to work well. For agriculture and cropping offsets 2-5 years seems reasonable.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

Incorporate them into new and more comprehensive programs, build on their success and learn from their problems.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Certainly if the benefits of practices and activities are "stacked", then additional compensation should also be allowed for this multiplicity.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The example of enhanced CRP or CREP may be useful in that the initial riparian improvements are cost-shared and technical assistance is provided. Once they are installed, then a maintenance agreement pays an annual rental for the acreage involved. Initial costs

of achieving a sustainable sequestration/reduction suite of practices should be cost-shared and/or incentivized, with ongoing payments then built onto this initial phase.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

Only if the failure is the responsibility of the producer. As far as disaster occurrences, they should be handled in the usual way with the loss of sequestration payments also being figured into the disaster compensation programs and arrangements.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

A mix of legislative guidance and regulatory frameworks would work best. USDA, with its jurisdiction over both private lands agriculture and forestry is best suited to take on this role. Partnerships across Department and agency lines should be encouraged and developed (i.e, linkages between Departments of Ag. and Energy).

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Producers and landowners struggle to maintain a successful bottom line in the face of global markets, increasing regulation, land development pressures and a host of other social and economic factors. While the desire to install and maintain best conservation practices exists, it is often hard to fulfill without cost-share or other incentive payments. If society wants change and new practices on the working landscape that don't result in an immediate input of income to the producer/landowner, then society should be willing to pay for it.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

The biggest drawback to instituting these programs concerns the scale at which they can efficiently operate and the barriers to achieving this scale. Most ranches, farms and non-industrial forestlands are not large enough to either afford the costs of marketing these

assets or to be eligible and able to accomplish the bureaucratic necessities of this participation. The need for aggregating the landscape into "conservation co-operatives" is quite demonstrable for these purposes, however, the capacity to do this work does not exist at the agency levels, either national or state. Funding, training, equipment and program development for the purpose of linking individual landowners and properties into geographic or land-use blocks at a scale large enough to be eligible for these emerging markets must be provided at the ground level in order to create certified and monitored entities and aggregates of scale.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

National policy addressing climate change will have dramatic effects on rural communities and landscapes. Specific components of national climate change policy, such as how resources are prioritized, credit allocation or distribution, offset eligibility, or the opportunity to participate in emerging markets will affect rural communities and landscapes. Therefore, rural communities should have a role in the collaborative development of national climate change policies, and governments should assist rural communities in developing climate change assessments, strategies, and plans, and monitoring strategies to enhance collaborative learning and adaptive management. Federal and state climate change policies should provide technical and financial assistance to rural communities for capacity building and workforce training to implement both adaptation and mitigation strategies.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Stand conversion	Excellent	Good	Variable	
Thinning	Excellent	Good	Variable	
Hazardous fuels reduction	Excellent	Good	Variable	
Disease and Pest management	Excellent	Good	Variable	

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Composting and re-using wastes	Excellent	Good	Variable	
Short rotation, high intensity grazing	Good	Moderate	Moderate	
Fertilizing and re-seeding	Good	Moderate	High	

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till (leaving residue when and where applicable)	Excellent	Excellent	Moderate	
Erosion control and prevention	Excellent	Excellent	Moderate	
Buffer strips and wind shelter strips	Moderate	Moderate	Moderate	

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE SOCIETY FOR CONSERVATION BIOLOGY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

John M. Fitzgerald, J.D.
Dominick Dellasala, Ph.D.
Calen May-Tobin, M.S

Organization(s) you represent

The Society for Conservation Biology

Address

The Society for Conservation Biology
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

John M. Fitzgerald, J.D.
Policy Director

Dominick Dellasala, Ph.D.
President Elect, North American Section

Calen May-Tobin, M.S.
Policy Associate

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We have neither endorsed nor opposed either. We have noted several times that it is essential to work with the new Administration and the scientific community to develop and implement the most effective combination of existing and new tools to reduce Greenhouse gases as fast as possible while ensuring optimum ecosystem integrity. Most recently, our North American Section's President-elect testified before the Public Lands and Forests Subcommittee of the Natural Resources Committee saying that "the nation needs a comprehensive national goal with early and aggressive efforts to reduce GHG concentrations to a 350 parts per million (ppm) mid-term target (safety net) and a national implementation plan that addresses all major sources of GHG emissions by clearly describing contributions required from every federal agency…" (http://resourcescommittee.house.gov/images/Documents/20090303/npfpl/oversight/testimony_dellasala.pdf , Hansen et al. 2008)

SCB recommended in December that President Obama "form an interagency team charged with developing options for use of and modest amendments to existing laws, including but not limited to NEPA, Clean Air Act, ESA, and the Internal Revenue Code, to minimize net greenhouse gas emissions and maximize the ability of ecosystems to sequester and convert greenhouse gases."
(http://www.conbio.org/Activities/Policy/docs/SCB2008TransitionTeamRecommendations.pdf , Section 3, first recommendation)

Dr. Dellasala also recommended the inclusion of non-federal lands in such a climate-land management program: …

Under "Adaptive Management, Dedicated Funding, and Multi-jurisdictional Coordination" he recommended:

(12). As part of adaptive management, apply climate change and land-use models to address potential impacts of climate change and existing stressors – this includes modeling effects on vegetation, hydrology, snow pack, wildlife, fire, and forest productivity with a temporal extent of decades to a century.

(13). Direct federal agencies to cooperate and coordinate federal management plans across jurisdictions and provide incentives for technology transfer and climate preparation and sequestration on nonfederal lands - significant outreach to private landowners, including timber companies and ranchers, will be needed to implement the 3-R's strategy and 350 ppm national target across broader planning scales.

Dellasala also said:

"In general, changing forestry and other land management practices on federal land represents one of the most powerful, and, quite frankly, least costly tools that the nation has in fighting climate change. Increasing carbon storage on and decreasing GHG emissions from federal lands is feasible across extensive areas and can be effectively implemented. To combat climate change on public lands, a fundamental shift from current forestry practices is needed that: (1) retains existing stores of carbon in mature and old forests as "carbon banks" and (2) allows or helps plantations and other intensively managed public forests to optimize carbon stores by regrowing to old forest conditions, according to their historical composition (Harmon 2001). The Committee should also direct federal agency programs that influence state, private, and international forestry and agriculture to present cooperative and incentive-based plans to address climate change as federal lands should not be used as an offset for unsustainable practices elsewhere."

Therefore, should the committee want to contribute through exercising its jurisdiction to a climate change bill and to forest conservation and sustainable use, it would have a reasonable scientific basis for capping emissions from the forestry sector which cap could be implemented by protecting mature and old-growth forests on public lands and providing incentives to nonfederal landowners to extend timber harvest rotations in order to maximize total carbon captured and stored. As Dellasala noted, a tax on carbon from forestry emissions could be used to provide incentives to landowners that forgo timber harvest by extending rotation ages. (See also, chapter 3 in "Recommendations for actions by the Obama Administration and the Congress to advance the scientific foundation for conserving biological diversity."

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Yes. In our Recommendations to the Obama Administration and in the Dellasala testimony we call for a comprehensive interagency program. Mark Harmon testified that logging mature and old-growth forests is a net loss of stored carbon to the atmosphere and contributes more to CO2 emissions than even severe forest fires (http://resourcescommittee.house.gov/images/Documents/20090303/npfpl/oversight/testimony_harmon.pdf, Harmon and Marks, 2002 Harmon et. al 1990).

About 8% of methane releases nation-wide come from agriculture and logging of old forests is a major source of CO2 emissions (EPA 2008). Globally at least 18% of GHG are attributable to agriculture and about 20% to forest loss (FOA 2006). This committee can influence this through the international programs of USDA/ICD and the Forest Service. As a domestic example, in western Oregon the BLM has approved plans to increase logging of old forests by over 400% within a decade (Western Oregon Plan Revisions). This would release approximately 180 million tons of carbon, the equivalent of driving 1 million cars for 32 years. BLM and Forest Service should be a national carbon trust, and maintain the

biodiversity and ecosystem services that are at risk from these activities and from climate change. Capping forest and farm GHG would reduce both GHGs and the stresses that are making it harder for forests to contribute to climate mitigation and adaptation. These ecosystems are stressed by climate change resulting in increases in drought and wildfire intensity and frequency (Westerling, Tony, HNR testimony, 2007), invasive species and disease. Some forests are declining in growth rates and rapidly approaching the point at which they will begin to die off and become carbon emitters due to increasing ambient heat levels. (Clark, Deborah; Organization for Tropical Studies, Clark et al., May 13, 2003, Proceedings of the National Academy of Science, Vol. 100 No. 10, page 5852).

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Public lands should not be presumed to be capable of withstanding more pollution or used as offsets for permitting avoidable ongoing pollution, particularly from the forestry and agricultural sectors, as these lands are our only natural terrestrial carbon sinks and should be thought of as a reserve "fund" to help the US meet its GHG emission targets while sustaining ecosystem services. (SCB Obama Recommendations on interagency option team, p. 7, Dellasala, p. 5)/

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

SCB recommended that each agency proceed to use its authority aggressively in consultation with other agencies and the Congress, therefore, EPA would be presumed to regulate emissions in consultation with the land and water management agencies once appropriate accounting mechanisms are determined (see Chapter #3 of Obama and Congressional Recommendations).

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

As in chapter 3 of SCB's Recommendations, interagency cooperation in essential and as in chapter 5 of SCB's recommendations, independent actions by scientist-whistleblowers, and others to enforce standards should also be encouraged.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

As indicated in our testimony submitted to the Ways and Means Committee in 2007, revenues generated from any plan could be used to ease the transition to a cleaner and more sustainable economy. This is true of any program that regulates emissions from the agriculture and forestry sectors. These could include relief measures for affected persons and communities and incentives for nonfederal landowners to institute management practices that further reduce GHG emissions (i.e. extend and/or alter the design and intensity of timber harvests, switch to lower GHG and less fossil – dependent agricultural systems, capture methane from livestock yards, barns, etc.). In addition, as Dellasala noted, revenues could be used to purchase grazing leases on public lands (to reduce emissions of methane) and buy-back of oil and gas leases purchased but not yet developed. Thorough studies of this question were done as early as 2002 and 2004 by Jim Barrett et al. and Hanson, Laitner et al. (EPA and Argonne National Laboratory) respectively using thousands of variables and policy options. They demonstrated that the use of far less than half of the revenue would be required to hold harmless low-moderate income people and spur a very efficient positive cycle of investment in efficiency and renewable.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

As we pointed out in our Ways and Means Testimony of 2007, if imposed more quickly than proposed in the Lieberman Warner legislation tariff and trade measures that appear to be legal under the WTO can help the domestic businesses meet high standards in the face of competition from imports made with more pollution or less forest management discipline. Moreover, proceeds could be lent back in part to assist exporters to come up to standard quickly or face embargoes under article XX (b) and (g) of the GATT as in the Sea Turtle and Shrimp Appellate Decisions of the WTO.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

As Dellasala noted, Congress should provide clear direction to the Forest Service and the BLM to adopt new approaches that optimize carbon capture and storage and minimize GHG emissions from land management activities, including energy extraction, on public lands. This includes redirecting both agencies to have the same mission on public lands. Further, federal agencies should adapt natural resource management to the changes brought on by climate change by adopting a 3-Rs approach – Reduce existing stressors to ecosystems (such as logging, road building, mining, ORVs, etc) and increase Resilience and Resistance of species and ecosystems to climate change (Hansen et al. 2003, Joyce and Haynes 2006, and Millar et al. 2007). SCB also provided comments to the USDA climate program in 2008. We noted there that if stressors are not minimized, natural and managed ecosystems are likely to experience reductions in primary productivity, potential for carbon storage, richness and viability of native species, and extractive value as climate change progresses. Along with reducing greenhouse gas emissions, reducing the impacts of current stressors to natural and managed systems is the single most effective approach the federal government can take to combat the impacts of climate change. Therefore, federal agencies need clear direction to prioritize the preservation and restoration of ecological integrity of public lands so that these lands will continue to provide Americans with biological diversity and other sustainable ecosystem services such as abundant clean water, carbon sequestration and storage, air filtration, flood control, and recreation. This would help federal agencies contribute to a nation-wide reduction in GHGs to meet the 350 ppm safe limit recommended by scientists.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

The testimony of Dellasala and the Recommendations to the Obama Administration recommend a goal, a process, target and plan that makes use of panel or a committee of scientific experts and starts with federal agency land management and other programs using existing laws adding recommendations to Congress for additonal tools. The existing tools are largely performance standards.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

SCB has recommended overall a staged or iterative process of interaction with agencies, independent scientists and Congress. Field results are more easily accommodated in an adaptive management program, but one can also begin with cautious standards and adjust them in light of field results.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Life cycle analysis is essential in considerations involving forestry practices, particularly biomass utilization. For instance, forestry operations are a net reduction in stored carbon through reduction of carbon stores once a site is initially logged (Harmon 1990). This reduction continues through the distribution and processing of wood products, which have relatively short storage times compared to the carbon pools in the original unlogged forest. Simply planting a clear-cut, for example, with young trees in no way will make up for the loss of this stored carbon if the original forest was mature or old-growth to begin with. An unbiased carbon accounting would recognize this loss of carbon storage.

As to biofuels – they can be a source of GHG emissions through the removal, processing, and conversion of biomass to liquid fuels (Fargione et al. 2008). This is especially troubling in the West where processing of biomass to liquid fuels typically involves power from coal-burning power plants. A full life cycle analysis is important to have before undertaking any major program or project. For example, GHG emissions from forest floor to processing and distribution of biofuel can result in a net loss of stored carbon. Biofuels using corn to ethanol, for example, also divert production away from food sources, thereby driving up food prices. As an alternative, trees might be planted on agricultural lands located close to biofuels processing facilities to reduce transportation related emissions. Aforestration of agricultural sites that were formerly forested could provide duel benefits in storing carbon and then acting as a source for biofuels, providing the power source used in the fuel conversion is from low GHG sources such as wind or solar. In addition, production of biofuels from algae tend to be more efficient and yield lower GHG emissions than from wood or agricultural sources. (See SCB Africa Section statement on Agro-Fuels -- www.conbio.org)

SCB advised The Obama Transition Team and Congress (p. 7) that neither ESA nor NEPA should be easily or too quickly preempted or weakened in regulating carbon emissions. The point of each is to ensure an on-going process responding to proposed actions in fact that makes the public aware of threats to key natural resources and ecosystems, and safeguards what Congress cannot recreate. Even if Congress makes a pretty good guess at what will work, it may not get it right and only executive branch agencies can move fast enough to respond to specific cases and new developments, and only if they are left with the duty and the power to do the right thing

Barrett, J., J. Hoerner, S Bernow, and B. Dougherty. 2002. "Clean Energy and Jobs: A comprehensive approach to climate change and energy policy". ECONOMIC POLICY INSTITUTE. http://www.epi.org/publications/entry/studies_cleanenergyandjobs/

Depro, B., B.C. Murray, R.J. Alig, and A. Shanks. 2007. Public land, timber harvest, and climate mitigation: quantifying carbon sequestration potential on U.S. public timberlands. Forest Ecol. and Management 255:1122-1134. Environmental Protection Action (EPA). 2008. Inventory of U.S. greenhouse gas emissions 1990-2006.

Fargione, J, J Hill, D Tilman, P Polasky, P Hawthorne . 2008 Land clearing and the biofuel carbon debt Science, 319 (5867): 1235-1238.

FAO, 2006. Livestock's long shadow. Environmental issues and options. FAO of the United Nations. Rome, 2006. (http://www.fao.org/docrep/010/a0701e/a0701e00.htm)

Hanson D., I. Mintzer, J. Laitner, and J. Leonard . 2004. "Engines of Growth: Energy Challenges, Opportunities, and Uncertainties in the 21st Century." Argonne National Laboratory. http://www.ari.vt.edu/hydrogen/Resources/BackDoc/Doc/engines_growth.pdf

Hansen, L.J., J.L. Biringer, and J.R. Hoffman. 2003. Buying Time: A User's Manual for Building Resistance and Resilience to Climate Change on Protected Areas. WWF Climate Change Programme.

Hansen, J., M. Sato, P. Kharecha, D. Beerling, V. Masson-Delmotte, et al., 2008. Target atmospheric CO2: where should humanity aim? Published initially in a web-based format by email to Hansen's list serve. March 31, 2008.

Hannah, L. and L. Hansen. 2005. Designing landscapes and seascapes for change. Pages 329-341in Climate Change and Biodiversity (T.E. Lovejoy and L. Hannah, Eds.). Yale University Press, New Haven and London.

Harmon, M.E. 2001. Carbon sequestration in forests: addressing the scale question. J. of Forestry 99:24-29.

Harmon, M.E., W.K. Ferrell, and J.F. Franklin. 1990. Effects on carbon storage of conversion of old-growth forests to young forests. Science 247:699-702.

Harmon, ME and B.Marks. 2002. Effects of silvicultural practices on carbon stores in Douglas-fir-western hemlock forests in the Pacific Northwest, USA: results from a simulation model. Canadian Journal of Forest Research 32(5): 863-877

Law, B.E., Turner, D., et al 2004. Disturbance and climate effects on carbon stocks and fluxes across Western Oregon USA. Global Change Biology 10:1429-1444.
Millar, C.I., N.L. Stephenson, and S.L. Stephens. 2007. Climate change and forests of the future: managing in the face of uncertainty. Ecological Applications 17:2145-2151

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
THE WILDERNESS SOCIETY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

David Moulton

Organization(s) you represent

The Wilderness Society

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, Climate Change Policy

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Congress should respond to the President's call for a cap-auction-and trade policy that increases the competitiveness of clean renewable energy, ends the free dumping of global warming pollution into the atmospheres, and preserves the capacity of our natural ecosystems to protect the water and air we all depend upon.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Ideally, to maximize efficiency and effectiveness of greenhouse gas reductions, all sectors of the economy would be included under a greenhouse gas reduction program. However, at this time measuring greenhouse gas emissions from dispersed land-based operations such as agriculture and forestry is an uncertain science. However, if discrete facilities located on farms and forests can be demonstrated to be significant sources of greenhouse gases for which emissions can be reasonably accurately estimated (e.g. livestock waste storage facilities or large livestock confinement facilities), these facilities may be brought under a cap without requiring the entire operation to be monitored. Until such time as these measurements can be made with more certainty and at reasonable cost, it is practical to treat agriculture and forestry as uncapped sectors. Uncapped sectors should be encouraged to help mitigate climate change by including them as potential providers of carbon offsets. The forest sector should definitely be included, both within an offsets program that has integrity, and by encouraging forest management that takes climate mitigation and adaptation into account. As measurement tools improve over time, the forest sector could in the future be incorporated as a capped sector with requirements to purchase emissions allowances when forest carbon is depleted.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Emission allowances should be auctioned to minimize windfalls, to provide strong incentives for technological change, and to allow the value of these allowances to be captured for the benefit of the public. Because total allowances issued in early years of a program will cover

nearly 100% of expected emissions, the prices in early years will likely be low so the burden on regulated entities will be moderate. Auction proceeds should be used to invest in 1. protection of vulnerable consumers, 2. acceleration of the introduction of clean energy choices into the marketplace and 3. protection of natural ecosystems on which all public health and wildlife depends. If agriculture and forestry are treated as uncapped sectors, no allowances would need to be allocated to these sectors. Since emissions reductions and/or increased sequestration by these sectors can contribute significantly to reducing overall emissions, it may by useful to set aside 5% of allowances to be used by USDA to finance incentive programs that boost terrestrial carbon sequestration or reduce emissions from farms and forests. It will be most practical for USDA to submit these allowances for auction, and use the proceeds to finance programs, rather than for individual operators to receive allowances which they must then sell. Setting aside allowances in this way to fund terrestrial sequestration programs is equivalent to EPA auctioning the allowances and reserving a portion of the funds for this same purpose. However, the funding source would perhaps be more secure if an allowance set-aside was the chosen funding mechanism.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

We need a national market that respects the work that RGGI and WCI have done but which allows for the efficiency of a national market to work.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Existing

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

All current regulators of derivatives have to answer for how they let that market spin out of control on their watch. A single regulator of all derivatives, with new authorities to guarantee transparency, would appear to be the best solution. However, the GHG reduction program administrator (probably EPA) should play an active oversight role in regulating any derivative carbon markets, due to the special requirements of offset. Unlike commodities that have clear definitions and standards that guarantee uniform quality, carbon offsets are extremely complex and diverse. If carbon credits are subject to unexpected reversals due to unforeseen events, replacement will be much more difficult than for ordinary commodities. A carbon credit achieved at one time period will not necessarily produce the same climate benefits as a credit for a different time period. These

complexities mean that some climate science expertise will be required to ensure that any derivative markets do not undermine the effectiveness of offsets in achieving climate benefits. For this reason, EPA should play an active role in regulating these markets.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

See previous response regarding regulation of carbon derivatives markets by CFTC.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

A greenhouse gas reduction program will have some negative impacts that are distributed widely across sectors and regions of U.S. society. If unaddressed, climate changes will have widespread impacts that are much more severe. Climate impacts will affect farmers and forest landowners by reducing the productivity of their lands and increasing the severity of weather events like hurricanes, ice storms, floods and droughts. Populations served by USDA nutrition programs will see their food costs rise as farms are affected by these events. Low income populations will find it especially difficult to escape climate impacts by moving or turning up the air conditioning. Input and processing sectors for farms and forests will be affected similarly to other manufacturing sectors of the economy. While it is true that rural residents are particularly dependent upon automobile travel, higher fossil fuel prices are a necessary evil in order to provide incentives for more compact development and innovative telecommuting options. On the other side of the balance sheet, a carbon reduction program should enhance public interest in the ecosystem services provided by the agriculture and forestry sectors and should boost support for thriving local networks that supply food, wood product, and energy.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

We need a federal policy that favors carbon sequestration, particularly avoided deforestation insofar as we are losing 6000 acres of open space a day to uses that emit more

carbon. Other investments to offset negative impacts should be carefully designed to avoid eliminating the important incentives that high fossil fuel prices will provide to change practices and technologies to reduce fossil fuel use. In order to address the impacts of more costly energy, climate legislation should provide transition assistance that promotes adaptation to a low-carbon economy by financing investments in energy-efficient buildings, locally-distributed small-scale renewable energy generation, more efficient appliances, improved low-fossil-fuel transportation options in rural areas, etc.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes. Transition assistance should be targeted to investments that reduce energy use or expand low-carbon renewable energy sources in order to encourage a switch away from fossil fuel use.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands already protect carbon in most cases. The private carbon markets should not be used to compromise the continuing management of public lands for all Americans. Public lands should protect existing carbon reserves in old growth and mature forests. Removing standing timber from such forests would impose a large carbon debt through release of carbon dioxide from decomposing logging slash, soil and forest floor disturbance from logging activity, and wood losses during the manufacturing process. Forested public lands under active management for timber can help sequester more carbon by maintaining consistently high stocks of live and dead trees, while removing only a small portion of the stand during any timber harvest operations. Public lands that have been cleared of trees due to past land uses (e.g. formerly cropped lands purchased by National Wildlife Refuges in the Southeast) can accumulate significantly more carbon if reforested with naturally diverse forest stands. Rather than compete with private landowners in compliance carbon markets, it would be most appropriate for public lands to provide sequestration as a part of their public mandate, while accounting for all other important values provided by public lands that may not always be compatible with increased carbon sequestration.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

California has the most robust, well thought out forest carbon program.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary offset program is one important option for incorporating farms and forests in GHG reduction efforts. We must insist on rigorous offset standards for the forest sector so that their contribution to fighting global warming is well understood and well regarded. Additionality and permanence must be maintained. Because many landowners will be unable to participate in an offset market, due to high transaction costs or measurement challenges, an incentive program financed through auction revenues or allowance set-asides would be an important complement to a voluntary offset program. Since these allowances would be "within the cap" such a program would not undermine GHG reduction goals even if projects are less than completely successful at permanently sequestering the desired amount of carbon. The existence of this second option would reduce pressure to ease offset standards in order to encourage widespread participation. As long as agriculture and forestry sectors remain outside the cap, it would also be appropriate to develop regulatory performance standards that prevent these sectors from emitting significant amounts of greenhouse gases. Such standards distribute the GHG reduction burden more equitably across all sectors economy-wide. Performance standards might be easier to administer than requiring agriculture and forestry operations to purchase emissions allowances, since standards would not be tied directly to quantitative estimates of GHG emissions. Enforcement would be based on relatively easily observable practices (such as deforestation or conversion of pasture to cropland) with readily identifiable impacts on GHG emissions, and would require mitigation measures that were equally observable.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Yes. We should walk before we run here.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Please see attached letter.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Projects should produce carbon sequestration or emissions reductions that are equivalent to the emissions emitted by offset purchasers. Please see attached letter for details.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

The details of offset system design are appropriately covered during the rule-making process. Please see attached letter for details.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

A standards-based approach would be appropriate for non-offset incentive programs. Some project-level criteria are likely to be needed in order to ensure that offset projects are truly additional. Please see attached letter for details.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

Please see question 14) above. Also see attached letter.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

Carbon sequestered by forestry and agriculture offset projects be kept out of the atmosphere for a time equivalent to the atmospheric impacts of emissions balanced by the project. Carbon dioxide residence times may be longer as existing ocean and terrestrial sinks become less effective. The period of time that offset must commit to monitoring for sequestration reversals should be determined by the most up-to-date climate science. If shorter-term contracts are permitted, they must be fully replaced with another offset or with an emissions allowance, and special care must be take to ensure additionality. Please see attached letter for details.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing offset projects should not be credited for carbon sequestered before the promulgation of regulations under a national GHG reduction program. Projects should be credited for carbon sequestered after that date only if the standards of the registry or trading platform are equally stringent as the federal requirements. No credits that have already been sold or otherwise used to make carbon neutrality claims under voluntary or regulatory markets should be accepted under the federal program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

When early actors initiate practices that sequester carbon before the date when regulations are promulgated, the presumption should be that these projects do not generate additional carbon. The burden should be on the project proponent to furnish proof of additionality. Projects should be permitted to "stack" ecosystem services only if the practices financed by previous payments do not by necessity increase carbon sequestration or do not require maintaining carbon stores over time. In these circumstances, the project provider can legitimately claim that the carbon sequestration portion of the project is additional to the carbon enhancement or protection already required by the previous services contract. Similarly, properties under a conservation easement that pre-dates offset project enrollment should not be credited for carbon associated with minimum stocking requirements that are explicitly included in the easement.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

See question 24. The baseline that determines additionality for projects that have received other cost-shared assistance should be determined by modeling the carbon stocks that would result from the minimum acceptable practices sufficient to fulfill program requirements. Any carbon sequestered by practices that exceed those minimal standards may be considered additional.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

Reserves and buffer stocks maintained by the program as a whole should be used to address unintended reversals from offset projects. In the event that reserves are depleted, the reserve should be rebuilt through additional new offset credits or through setting aside an a adequate portion of emissions allowances in the following year. Please see attached letter for more details.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Detail protocol should be delegated to appropriate government agencies. The EPA, as program administrator, should have ultimate authority in order to ensure consistency across the program. USDA should play an active consulting role in settling standards for agriculture and forestry offsets.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Existing programs do not, for the most part, explicitly reward carbon sequestration for forest landowners. Programs such as CRP, WHIP, EQIP, HFRP, FSP, and Forest Legacy could be adapted to explicitly encourage practices that increase carbon reserves.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

If wood products are accepted as a carbon pool attributable to forest management offset projects, it will be critical to incorporate life-cycle analysis to reflect the full processing chain. Impacts should reflect carbon losses from tree to landfill, the global warming potential of methane from landfilled wood, as well as emissions from fossil fuels and other GHGs due to processing and transport of wood products. Even though some of these emissions will be subject to cap-and-trade limits, wood product carbon stores will have very different implications from carbon stored in the forest and will increase competition for limited fossil fuel uses. Hence, if offsets credit wood stored in products and landfills, project accounting should reflect fossil fuel burdens imposed by wood carbon sequestration.

Please see attached letter for more details.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE SUBMITTED BY THEODORE ROOSEVELT CONSERVATION PARTNERSHIP; ASSOCIATION OF FISH AND WILDLIFE AGENCIES; THE WILDLIFE SOCIETY; WILDLIFE MANAGEMENT INSTITUTE; LAND TRUST ALLIANCE; PHEASANTS FOREVER; QUAIL FOREVER; DUCKS UNLIMITED

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name(s)

Bill Geer (TRCP); Geoff Mullins (TRCP); Eric Washburn (TRCP Board Member); Gary Taylor (AFWA); Laura Bies (TWS); Steve Williams (WMI); Russ Shay (LTA); Dave Nomsen (PF/QF); Dan Wrinn (DU)

Organization(s)

Theodore Roosevelt Conservation Partnership; Association of Fish and Wildlife Agencies; The Wildlife Society; Wildlife Management Institute; Land Trust Alliance; Pheasants Forever; Quail Forever; Ducks Unlimited

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Bill Geer - Manager, TRCP Climate Change Working Group
Geoff Mullins - Manager, TRCP Agriculture and Wildlife Working Group

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Cap and trade appears to be the most logical and effective mechanism for reducing greenhouse gas emissions because it provides considerable certainty in the achievement of the emission reduction targets. In contrast, given the natural fluctuations in the market prices of energy, it is extremely hard to design a carbon tax system that would achieve the emissions reduction targets with any degree of certainty.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No. The agriculture and forestry sectors should not be covered by a carbon program. These sectors are comprised of numerous small sources and sinks, whose regulation would not only be disruptive to their operations, but it would be enormously burdensome to the relevant federal regulatory agencies.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Emissions allowances should be distributed initially in such a way that a portion is auctioned and a portion are distributed for free. Over time, the cap and trade program should distribute a smaller proportion of allowances for free each year and auction a larger proportion. This will allow affected industries to adjust over time, and avoid experiencing a large economic shock, while generating more revenue for critical climate adaptation activities over the long-term.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

N/A

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

A new cap and trade program should be administered by existing agencies, such as the U.S. Environmental Protection Agency, which should be responsible for developing the fundamental regulatory architecture of the program, and the Department of Agriculture, which should be responsible for overseeing the accreditation of carbon offsets from agriculture and forestry operations. Similarly, the Departments of Interior, Agriculture and Commerce are well suited to oversee natural resources adaption programs related to climate change. These agencies, and others in the federal government, have the expertise to administer a cap and trade program; there does not appear to be a need to create a new federal bureaucracy.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

N/A

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

N/A

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

N/A

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Impacts from a carbon reduction programs to agriculture communities would be significantly ameliorated through the dedication of carbon-derived revenues to federal and state natural resource adaptation programs. Agriculture communities through informed land management can contribute significantly to sustaining functioning ecosystems. Functioning ecosystems, in turn, provide ecosystem services in the form of clean air, clean water, flood attenuation, and vital natural products. Functioning ecosystems also provide the opportunity to capture carbon through sequestration, thus reducing carbon levels in the atmosphere. Finally, functioning ecosystems provide quality habitats to sustain fish and wildlife populations. The role of the agriculture communities in helping realize these benefits, and in providing services to the Nation for these benefits, is not only significant, but will employ citizens in jobs directly related to sustaining ecosystems, and in all of the support goods and services that derive from fishing, hunting and wildlife-related recreational activities, and the use of natural products such as timber.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

N/A

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Federal public lands managed for multiple sustainable use by the Forest Service and the Bureau of Land Management are extremely important in maintaining sustainable populations of fish and wildlife under the threat of global climate change because they typically occur in large contiguous tracts containing crucial areas of habitat and connective migration corridors between large, ecosystem-level protected areas. In Idaho, Montana and Wyoming alone, the BLM manages about 38.3 million acres and the Forest Service manages nearly 50 million acres that are characterized by extensive grasslands, shrub-steppe grasslands, forests, high mountains, arctic tundra and desert landscapes.

Public lands also offer buffers against the increasing human development pressures occurring on adjoining private lands. Failure to protect Western public lands will result in the pathways and wildlife connections between regional ecosystems being discontinuous at best, and could create a series of fragmented core "habitat islands" leading to extirpation of resident wildlife because of negative genetic influences (inbreeding) common among small, isolated populations of wildlife, the effects of natural disasters, and the inability of wildlife to re-colonize an area.

Scientific management, protection and enhancement of grasslands, riparian buffers and wetlands Federal public land could be critical means to increase soil carbon sequestration. Reforestation in heavily logged areas could also provide significant carbon sequestration.

Federal land management policies for sustainable multiple use currently allow for the accommodation of state-promulgated fish and wildlife habitat improvement and management goals in BLM Resource Management Plans and Forest Service Land and Resource Management Plans. Public land management plans can be increasingly directed towards amelioration of climate change by Federal laws, regulations and executive orders.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

N/A

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

N/A

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

The most effective approach would be a combination of voluntary offsets and allowances for selected agriculture and forestry activities. Offset credits should be available for any voluntary activity that generates verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases. In addition, the cap and trade program should offer allowances – taken from within the cap – to activities like no-till farming practices that have been undertaken for many years prior to the establishment of a cap and trade system, and which legitimately sequester carbon each year, but since they have been occurring for many years may have difficulty meeting a strict definition of additionality. Conservation practices, in particular those involving grassland protection or establishment, reforestration, and wetland restoration, have been documented showing high rates of carbon sequestration. The Conservation Reserve Program already plays an important role in improving water and air quality, soil protection, and wildlife habitat improvements. Policies and programs focused on carbon sequestration can be enhanced by maintaining a fully subscribed CRP. Many conservation programs involve longer term habitat restoration contracts and easements thus providing important opportunities to efficiently and effectively sequester carbon.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Since we believe that any project that generates verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases should get offset credits, we do not believe that there should be an artificial cap placed on these projects. To do so would discourage projects that could contribute to a solution to climate change and could lead to higher aggregate compliance costs.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

N/A

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

N/A

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Offset projects should be judged by whether they generate verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases. Ideally, offset projects that involve plantings of trees, shrubs, grasses or other activities that create wildlife habitat should be awarded bonus allowances or money from auction revenues for the features of these projects that help wildlife adapt to climate change. Foresters and farmers should be given guidance from USDA as to the types of projects that both sequester carbon and create habitat for fish and wildlife so that they can achieve a wide range of objectives.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should seek to balance the need to establish credible and rigorous verification standards that would be applied by third-party verifiers with the goal of minimizing the costs of verification activities so that they do not substantially erode the net value of these offset projects. In fact, Congress should consider providing USDA with auction revenues and/or allowances that could be used to both 1) cost-share monitoring and verification activities and 2) provide additional financial incentives to farmers and foresters for the wildlife habitat benefits associated with certain carbon sequestration projects.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

N/A

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Congress should authorize unlimited use of offsets for projects that result in verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases. A pool of allowances from within the cap should be set aside for USDA to reward ongoing carbon sequestration practices like no-till farming that began prior to the establishment of the cap.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

N/A

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Credits traded on existing voluntary registries like CCX or registered with the federal government under the 1605(b) program at DOE are of varying quality. If Congress intends to consider honoring some of these credits under a mandatory cap and trade program, EPA and USDA should first evaluate them against the standards developed for projects under the mandatory program. Credits that were generated under protocols that fail to meet the standards of the mandatory program probably do not deserve credit under that new program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Producers and forest owners that have already undertaken positive activities to sequester carbon or reduce greenhouse gas emissions should be included in an offset program. Program guidelines should not serve as a disincentive that would encourage abandonment of positive activities in order to establish a lower "baseline" from which positive activities could be demonstrated. Activities undertaken to sequester carbon and reduce greenhouse gasses should be allowed in conjunction with activities beneficial to water quality and wildlife habitat. Many USDA and state level conservation programs are voluntary-incentive based in nature and by allowing "stacking" of benefits/payments where compatible with various program objectives, will support making these programs more economically viable and competitive.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Payments from other Federal or state programs should not prohibit inclusion in an offset program. Offset payments should be skewed toward proportionally higher payments per acre for practices that demonstrate both higher levels and longer term levels of sequestration and/or reduction.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

N/A

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The legislation should establish general standards for judging the quality of potential offset projects, focusing on addionality, permanence, and verifiability. However, it should leave the development of specific criteria and protocols to the relevant agencies. In the case of terrestrial carbon sequestration, USDA should take the lead. For other projects, such as geological sequestration, it probably makes sense for EPA and the Department of the Interior to share the responsibility.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Producers and landowners face a steep educational curve regarding how their individual land management decisions impact carbon sequestration and greenhouse gas emissions. Designing offset programs that fit in conjunction with multiple program objectives will require almost an unprecedented level of discussion/input from various agencies and constituent groups to ensure various programs/policies are not compromised but are continued or enhanced by inclusion of offset program objectives.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 500 words or less.

The benefits of reducing greenhouse gas emissions and sequestering carbon are so significant that Congress should offer as many incentives as are practical to encourage participation in conservation and forestry programs. We support under the appropriate guidelines, the use of "stacked" incentives to maximize benefits; the provision of low interest loans and tax incentives to encourage landowner participation; and, of course, the provision of the technical assistance to the private landowner to manage their land to produce maximum public benefits. For example, land management plans should be designed to achieve the multiple benefits of soil stabilization, carbon sequestration, and fish and wildlife habitat. The add-on benefit is that landowners, should they so desire, could benefit even further by providing access to their property for fishing, hunting and other wildlife-related activities. State fish and wildlife agencies, with the provision of appropriate funding, have the expertise and are in an excellent position to assist landowners in the design of programs that meet these multiple benefits.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

We wish to amplify on the need for climate-derived dedicated funding for state and federal natural resource adaptation programs.

While there are many potential uses of funds derived from a climate change regulatory protocol, there are few if any of these uses that will deliver as many significant public benefits as natural resources adaptation programs. In short, functioning ecosystems provide services in the form of clean water, clean air, and other benefits that ensure the quality of human life. Ecosystems can significantly capture carbon thorough sequestration, thus being part of the solution to reducing carbon levels. In addition, functioning ecosystem provide quality habitat for sustaining fish and wildlife and provide billions of dollars in direct economic benefits.

Federal and state fish and wildlife managers know what needs to be do to sustain species. They have a successful track record for successfully managing species and habitat restoration programs. When the public understands that doing management not only benefits fish and wildlife but also enhances their quality of life, their support increases significantly. For example, analysis of the success of bond issues on the ballot in the western U.S. substantiates that land issues have slightly less than 50% acceptance, but if you add water which is so vital to the West, the acceptance level climbs to 60%. Water quantity, quality, and availability will be affected by climate change everywhere. In some places there will be too much too fast, in others, not enough, and yet in other places, permanent inundation.

Following are examples of the value of functioning ecosystems to citizens:

1. One of the primary reasons for the creation of the National Forests was to "secure favorable conditions of water flow". The U.S. Forest Service estimates that the total value of high quality fresh water flowing form NFS lands in terms of instream and offstream uses exceeds, $7.2 billon annually. NFS lands contribute nearly 20% of the Nation's water supply, and in the western U.S. more than 50% of the region's water supplies. Approximately 60 million citizens rely on water flowing from NF lands for their drinking water.

2. The Catskill watershed provides New York City with most of its clean drinking water. Replacing the natural water filtration services provided by this watershed with a treatment plant would cost nearly $8 billion dollars plus annual operating costs of $300 million.

3. Wetland systems such as coastal marshes and mangrove forests attenuate floods and buffer coastal and inland communities from storm surges. A recent study estimates that wetlands provide $23 billion annually in services

4. Wetlands store significant amounts of carbon in their soils, which can be released if wetlands are drained, become dry or if permafrost wetlands melt. Northern peatlands sequester carbon but if these wetlands are impacted by climate change, they will start releasing more carbon than they sequester.

5. For over 100 years, our Nation has benefited from the foresight of great leaders of conservation as Teddy Roosevelt, Gifford Pinchot, Aldo Leopold and Rachel Carson to name just a few. The U.S. system of conservation, implemented through the North American model of wildlife conservation, has resulted in great conservation and restoration successes, and is the envy of the world. Climate change threatens not only this investment, but also those made in our public lands, and the very future of natural resources conservation in this country.

6. Natural resources provide enormous contributions to our national, state and local economies. If outdoor recreation activities such as fishing, hunting, hiking, camping and other wildlife-dependent recreation were combined into one business, it would rank in the top 10 Fortune 500 companies.

7. One out of every 20 jobs in the country is related to fishing, hunting and wildlife – related activities, goods and services, and these activities stimulate 8% of all consumer spending. The 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation found that over 87 million Americans pursued outdoor recreation in 2006 and spend $120 billon that year on those activities. Climate change has the potential to greatly disrupt this economic engine.

8. Protecting fish, wildlife and natural resources employs our citizens and protects our economy through shovel-ready jobs. Activities such as native habitat restoration increases ecosystem resiliency, maximizes carbon sequestration and ensures fire retardation and resiliency, a challenge which will only grow with climate change. Other activities such as removing invasive species and renovating damaged watersheds provide green jobs and improve the environment.

Appropriately so, state and federal agencies are approaching fish and wildlife conservation increasingly from a landscape perspective. Initiatives like the Western Governor's Association Wildlife Corridors Initiative; State Wildlife Action Plans; Migratory Bird Joint Ventures, and National Fish and Habitat Action Plan Partnerships are examples of how state and federal natural resource agencies and the conservation community understand and apply the need to mange across landscapes. The confluence of all these efforts can significantly inform our responses to climate affected habitats and systems, as we manage for resiliency to ensure the function and vitality of these systems. But it will take a modest investment from climate derived revenue to make all of this happen. The investment is small compared to the long-term dividends it will pay for the future quality of life for our citizens, the delivery of ecosystem services, fish and wildlife, and the security of our Nation.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
U.S. BEET SUGAR ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

James Johnson

Organization(s) you represent

U.S. Beet Sugar Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why? *Please respond in 600 words or less.*

Congress should strongly consider the cap-and-trade approach. It allows market signals to penalize carbon emissions, and to incentify the deployment of technology which can, over time, reduce these emissions. Most importantly, cap-and-trade allows the funds paid by entities which emit excessive amounts of carbon to flow directly to other entities which have reduced their emissions without creating new bureaucracies. Unrestricted market signals will in this way be allowed to directly reward beneficial actions (reduction in emissions) and penalize negative actions (excessive levels of emissions).

Initial climate change rules should focus on power plants and transportation sources, since these are the largest emitters. All other source categories should initially be exempted and further evaluated in the future.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not? *Please respond in 300 words or less.*

Agriculture should not be regulated under a cap-and-trade program. Agricultural producers have already demonstrated the willingness and the ability to reduce carbon emissions through their cropping practices and should be allowed to participate in a voluntary offsets credit market. Furthermore, allowing producers to participate in market-based systems will allow for development of much more extensive and effective reduction initiatives.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances? *Please respond in 600 words or less.*

Imposition of emissions fees either through a cap-and-trade program or through direct taxation will impose significant new costs on various sectors of an economy which are already suffering from major disruption. Congress should strongly consider transition programs to reduce carbon emissions through free distribution of some meaningful proportion of total allowances, with the balance to be distributed through a market-based cap-and-trade program. Over a number of years, the free distribution of allowances should be scaled back in favor of more purchased allowances.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why? *Please respond in 600 words or less.*

Any program enacted by the United States government must override any regional or state programs, in the interest of fairness, consistency and effectiveness, especially since this is a global issue.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain. *Please respond in 300 words or less.*

If properly managed and funded, existing government agencies have the expertise and ability to administer the cap-and-trade program; however, issues relating to agriculture and offsets should fall under USDA. USDA should promulgate the rules and administer the agricultural offset program, with flexibility to allow for new technologies and practices. Grower cooperatives should be allowed to offset industrial emissions by their direct agricultural offsets to insure U.S. manufacturing is not further restricted against the world market.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

CFTC should continue its role in regulating a derivatives carbon market.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and- trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

USBSA has no comment on question number 7 at this time.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

The U.S. beet sugar industry is comprised of 22 facilities operated by 7 grower-owned cooperatives in 9 states which undertake the production, harvest, storage and processing of more than half of U.S. sugar production. Sugarbeets (as well as sugarcane) have no value whatsoever without a processing factory located within a reasonably short distance. Sugarbeet processing requires a significant amount of energy to extract juice from beets, to purify this juice, and finally to crystallize and dry it into a consumer-ready

farm. In addition, growers utilize power equipment to produce, harvest, and transport the sugarbeet crop, and large amounts of sugar and co-products are hauled to market.

This background is provided to illustrate the fact that sugarbeet processing is, for the most part, unique within the realm of agricultural processing industries. Without a processing factory, the sugarbeet has no value. Without energy inputs, sugarbeets cannot be converted to sugar. Without a domestic sugarbeet industry, the United States' supply of sugar would be severely limited and the availability of this essential food product would be made vulnerable to the vagaries of international trade.

The domestic sugarbeet processing industry should be considered for allowances under a carbon reduction program, first because of the significant amount of energy required to convert sugarbeets to sugar and secondly because a significant majority of sugar produced in foreign countries is done so with no regard for carbon impacts.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts? *Please respond in 300 words or less.*

USBSA has no comment on question number 9 at this time.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance? *Please respond in 300 words or less.*

Consideration must be given the importance of an industry to the local, regional or overall national economy. It would be shortsighted for policymakers to jeopardize the existence of any U.S. industry, including those in rural areas of the country, where the local communities are dependent on these industries.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions? *Please respond in 300 words or less.*

USBSA has no comment on question number 11 at this time.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain. *Please respond in 600 words or less.*

USBSA has no comment on question number 12 at this time.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry? *Please respond in 600 words or less.*

More research is needed on the type of program required for climate change regulation. Congress should consider creating a board of experts to evaluate and provide recommendations for the most efficient and cost-effective climate change regulations. Any climate change regulations must be consistent with U.S. and global

energy policies which address future power and transportation requirements. The board should included experts in the following areas: energy, power, transportation, economics, agriculture and environmental.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

The U.S. beet sugar industry is in favor of a voluntary offset program and bonus allowances for selected agricultural practices. Tying these options directly to the growing of sugarbeets is critical for the sugarbeet industry and the communities that rely on sugarbeet processors. Sugarbeets cannot be economically transferred for long distances, and as a result, sugarbeet processors require a dedicated group of growers located near their grower-owned processing plants.

There are approximately 10,000 individual sugarbeet grower-owners, who are primarily family farmers, in all eleven sugarbeet producing states in the United States. Farms can be found in California, Colorado, Idaho, Michigan, Minnesota, Montana, Nebraska, North Dakota, Oregon, Washington, and Wyoming.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

USBSA supports the unlimited number of offsets as long as they are real and verifiable under a consistent framework for review and acceptance.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The conversion of sugarbeets to sugar is energy and emissions intensive compared to other agricultural commodities. In addition, sugar is part of an international commodity market and U.S. sugar producers face significant competition from producers in countries that will not be carbon constrained. We therefore believe that Congress should prioritize the distribution of offsets to U.S. manufacturers facing international competition from those who are not carbon constrained.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

18) What should be the criteria for assessing offset projects?

19) How should Congress design a system for verifying offset projects?
Please respond in 600 words or less.

Answer to questions 17 – 19:

We believe that the criteria for measuring, verifying and accounting for offsets should rest with the USDA, in coordination with universities which have already done much work in this area.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

USBSA has no comments on question number 20 at this time.

21) What should be the relationship between offsets and allowances? *Please respond in 600 words or less.*

USBSA has no comments on question 21 at this time.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility? *Please respond in 300 words or less.*

USBSA has no comments on question 22 at this time.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction? *Please respond in 300 words or less.*

Answer to questions 23, 24, 25

Ongoing offset activities, commitments and credits should be accepted under any new carbon sequestration legislation, as long as these practices meet the new standards. Stackable credits should be allowed, as these practices all contribute to reducing GHG. The benefits will accrue to both farmers, industry and the environment.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner? *Please respond in 300 words or less.*

While individual growers offer significant potential for carbon reduction, placing the risk of accidental non-sequestration on the shoulders of individual farmers would likely be a disincentive to participation in an offset program. If offsets are handled through a contractual program, the parties to the contract should be permitted to allocate the liability relating to the lack of sequestration or reduction. Allowances for natural disasters or other uncontrollable events should be include in the program under consistent guidelines.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures? *Please respond in 300 words or less.*

Authority should be delegated to USDA to develop regulations after notice and comment rulemaking.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies? *Please respond in 600 words or less.*

USBSA has no comments on question number 28 at this time.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? *Please respond in 300 words or less.*

USBSA has no comments on question number 28 at this time.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The United States sugar industry is competitive on a global basis, and provides an essential ingredient for direct household consumption as well as for ingredients in candy, baked goods, beverages, and thousands of other food products. Americans have come to rely on the consistent supply of pure, safe and affordable sugar provided by domestic growers and processors.

The U.S. beet sugar industry is the third most efficient beet sugar processor in the world. As noted earlier, processing sugarbeets does require large amounts of energy, due to the fact that sugarbeets are more than 75 percent water. Production, transportation and storage of sugarbeets prior to processing require large inputs of energy. The extraction, purification and crystallization of sugar into its final consumer-ready state require even more intense use of energy. Finally, sugar and its co-products are shipped to customers, reflecting additional energy consumption.

The production of sugarbeets and processing at sugarbeet factories is a completely integrated process, in that the high water content of the raw product requires that production, storage, and ultimate processing must be located in close proximity. In addition, all domestic sugarbeet processing capacity is controlled

by producers under a cooperative ownership structure. This level of logistical and ownership integration would argue for a similar level of integration between producers and processors in terms of sharing and use of carbon allowances. Since sugarbeet producers own the manufacturing facilities, it is logical and economically efficient that carbon impacts be allowed to move between the various entities without intermediation by third parties.

While production and processing of sugar from sugarbeets or sugarcane vary widely in different regions of the world, all require significant amounts of energy input. Since sugarbeet growing and processing are done almost exclusively in northern-latitude developed countries, most practices have been automated. This contrasts with foreign sugarcane growing and processing, which in many cases are done with large amounts of human labor and inefficient equipment.

Any carbon legislation which is contemplated by the U.S. must take into account foreign practices and their climate impacts when regulation of the domestic sugar industry is considered. The United States is the fourth largest importer of sugar in the world and sources sugar from approximately 40 different countries each year. Many of these countries utilize field and mill practices which contribute large amounts of greenhouse gases to the atmosphere. For example, many foreign countries which produce cane sugar utilize field burning to remove waste materials or "trash" before cane is cut and transported for processing. This practice alone contributes very significant amounts of carbon to the atmosphere each year. In addition, the fibrous portion of the cane stalk which remains after juice has been extracted ("bagasse") is typically used as boiler fuel in sugarcane mills. While bagasse is a non-fossil based fuel, its burning also contributes significant amounts of carbon to the atmosphere in the production of raw cane sugar.

Domestic producers must not be penalized or face significant additional processing costs unless foreign competitors are held to the same standard. If this "field leveling" cannot be accomplished in the writing of domestic carbon legislation, consideration must be given to providing additional free allowances to domestic producers. In addition, some degree of import protection, such as carbon "tariffs" should also be strongly considered, to protect domestic producers against competition from countries where carbon emissions are completely unregulated, or less-stringently regulated. Failure to include such provisions into legislation would almost certainly reduce domestic sugar production and shift both production and rural jobs offshore where carbon generation per ton of sugar produced is almost certainly higher than in the United States.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
UNION OF CONCERNED
SCIENTISTS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Liz Perera

Organization(s) you represent

The Union of Concerned Scientists

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

To avoid the most damaging and costly effects of global warming, federal legislation must reduce U.S. greenhouse gas emissions by at least 35 percent below current levels by 2020 and at least 80 percent by 2050. Congress must enact a cap-and-trade program to ensure achievement of these science-based emissions reduction targets. The scope of the cap and trade program should be economy-wide, covering all major sources of emissions (the electricity sector, transportation sector and energy-intensive industries). The program should include a provision for revising the cap as new scientific information on the impacts of climate change becomes available.

In principle, a carbon tax could be as effective as a cap-and-trade system. Nevertheless, in practice, it likely would be more difficult to reach an emissions reduction target under a tax. A carbon tax would set a price on pollution, but it would not guarantee a specific reduction level. A cap-and-trade system, on the other hand, could guarantee a reduction target while letting the market set a price on carbon.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture and forestry have a key role to play in carbon reduction, but those reductions can best be achieved through the generation of a modest number of offset credits by key carbon-sequestering projects and by providing incentives for climate-friendly practices and programs through increased funding for existing USDA programs.

Set-aside funding for agriculture and forests should be directed to systems that are effective in reducing net greenhouse gas emissions, are relatively easy to adopt, and don't depend on technical breakthroughs. Examples of such programs include the Conservation Stewardship Program (CSP) and the organic conversion component of the Environmental Quality Incentives Program (EQIP).

Although the contours of climate-friendly agricultural practices are well known, many uncertainties remain around the potential for greenhouse gas reductions from this sector and how to quantify them. For example, net greenhouse gas emissions change over time as trees mature or soil-levels of carbon stabilize. In addition, it must be determined how to maintain practices for decades to retain carbon in forests or in soil at saturated levels to prevent the carbon from returning to the atmosphere.

Practices that have the potential to reduce greenhouse gas emissions from the agricultural sector include: cover-cropping, crop rotations, and pasture based-livestock systems. Many of these practices will also reduce the need for fossil-fuel intensive inputs, like industrial fertilizers, pesticides, and herbicides, which would additionally reduce overall emissions. Conservation tillage practices, although they provide many ancillary benefits, have uncertain impacts on greenhouse gas emissions and sequestration and should be further studied.

Organic agriculture offers a comprehensive suite of climate benefits: it decreases the need for energy-intensive inputs, like industrial fertilizer, herbicides, and insecticides, while it also generates significant amounts of carbon-sequestering organic matter in the soil. Long-term studies have shown that organic systems can produce corn and soy yields comparable to conventional systems, with the added climate benefit of building-up large amounts of organic matter in the soil (unlike chemical-intensive farming, which leaves soil much less capable of sequestering carbon).

3) If a cap-and-trade program is chosen, how should emissions allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and

forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

The program should require that 100% of allowances be auctioned. An allowance auction would ensure that the market sets the price of carbon and would be the most efficient and equitable way of distributing allowances. Giving away allowances would distort the market and could result in windfall profits for polluters.

Auction revenues from a stringent cap-and-trade program could amount to hundreds of billions of dollars per year. They should be invested in measures that can help ensure emissions reductions, such as clean, renewable energy technologies, energy efficiency, public transportation, agricultural and forest sequestration and international forest protection, as well as measures that will help transition us to a low-carbon economy, such as rebates for low-income families and other consumers, transition assistance for workers in economic sectors that are disproportionately affected by the program, and help for communities and ecosystems to adapt to the unavoidable effects of global warming.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

There are important economic advantages to linking a domestic cap-and-trade regime with those in other regions that have adopted well-designed cap-and-trade programs. Doing so would require compatibility between the regimes, especially with regard to stringency.

Key recommendations on this issue:

1. States should have the authority to adopt GHG caps and complementary energy policies that are at least as stringent as federal requirements, accompanied by a mechanism for states to retire a commensurate amount of allowances from the federal cap and trade program. Retiring the allowances is necessary to prevent leakage that would negate the emissions reductions from within states that have adopted tighter caps.
2. A portion of the allowance value from a federal cap and trade program should be given to states that have reduced GHG emissions and adopted more stringent caps and other policies to reduce GHGs that go beyond federal requirements. States should receive rewards for performance.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

It is important that a single agency oversee see the program. To guarantee environmental certainty, that agency should be the EPA because of their mandate for environmental protection. Where

agriculture and forestry interests are concerned, implementation of the program should be coordinated with the appropriate components of UDSA.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Climate change itself will impose major costs on agricultural economies. Depending on their specific geographical location, farmers will be forced to cope with, among other impacts: extreme weather events, reduced snow pack, torrential rains, increased abundance and diversity of pests, reduced precipitation, limited soil moisture, and increased heat waves. Mitigating climate change by reducing our greenhouse gas emissions will help reduce or prevent the high costs associated with these impacts.

For more information on impacts on agriculture in the Great Lakes region, visit http://www.ucsusa.org/assets/documents/global_warming/ag_factsheet-fnl.pdf

For more information on impacts on agriculture in the Northeast region, visit http://www.climatechoices.org/assets/documents/climatechoices/confronting-climate-change-in-the-u-s-northeast.pdf

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenues generated under a carbon reduction program should be used primarily to incentivize emissions reductions and facilitate our transition to an economy much less dependent on carbon-intensive energy and products.

As such, revenues should be invested in clean, renewable energy technologies, energy efficiency, agricultural and forest sequestration and international forest protection, as well as rebates for low-income families and other consumers, transition assistance for workers in economic sectors that are disproportionately affected by the program, and help for communities and ecosystems to adapt to the unavoidable effects of global warming.

Opportunities and mechanisms within the agricultural sector include:

- Technical support and incentive payments to producers who transition to organic agricultural practices. This could be accomplished through increased funding to the Organic Conversion Assistance Program within the Environmental Quality Incentives Program.
- Support for public programs for traditional breeding of crops and animals that work in climate-friendly systems, administered by the USDA Agricultural Research Service and the Cooperative State Research, Education, and Extension Service (CSREES).
- Support for specific practices that increase soil carbon sequestration, such as crop rotations and cover-cropping. This could be accomplished through increased funding to the Conservation Stewardship Program.

Minimal assistance could also go to businesses that support climate-friendly agriculture.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

See question 9.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Where necessary, the purposes for which public lands are managed should be revised to include reduction in net greenhouse gas emissions. Research should be funded to help clarify the relationship between management practices and emissions. These findings should then be used to evaluate and revise management plans for forests, range and other public lands to reduce net emissions over time.

In some cases, decreased greenhouse gas emissions and increased sequestration may be ancillary benefits of practices already in place, such as advanced pasture management. In other cases, additional practices may need to be implemented to include climate mitigation as a goal of public lands management. Where emissions reductions would already have occurred regardless of additional incentives, those practices should NOT be eligible to generate offset credits because they would not be providing the *additional* reductions needed to meet overall national goals.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emissions Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

The most effective system to address agricultural and forestry as part of a comprehensive climate solution would be a hybrid of standards, financial incentives funded by auction revenues, and a limited amount of offset generation.

The most efficient approach from an administrative standpoint would utilize established programs that produce climate benefits, including the Conservation Stewardship Program, to reward farmers and ranchers for ecosystem services, organic system plans under the USDA National Organic Program, Organic Conversion support through EQIP, and the Conservation Reserve Program, which gives farmers incentives to take marginal land out of production.
Use of existing programs would assist in setting meaningful standards and providing accountability for cap and trade revenues.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Including unlimited offsets would allow polluters to postpone emissions cuts in their own facilities, delaying much-needed technological advances and jeopardizing the program's long-term goals. It is also difficult to ensure that offsets will provide emissions reductions that are permanent, verifiable, and that would not have occurred anyway (i.e. additional). Given these concerns, UCS makes the following recommendations:

- Offsets must be limited to a modest fraction of required reductions (note that this is a percentage of required reductions, not a percentage of total emissions).
- A strong, independent institutional framework to monitor offsets is required.
- Offsets must be real, verifiable, additional, permanent and enforceable.
- Offsets must be limited primarily to projects within the U.S., with the exception of a limited amount of international offsets for national-level tropical forest protection projects.
- There should be no net environmental or social risks from offset activities.
- Offsets should only be generated by the vanguard of U.S. agriculture: producers implementing organic farming methods, pasture-based livestock systems, and input reductions of fertilizer and other petrochemicals.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Offsets should only be generated by activities that have the greatest certainty of resulting in significant reductions in greenhouse gas emissions. Consideration should include permanence, additionality, and enforceability. For example, organic incentives would be easy to enforce because USDA accredited certifiers inspect the farms and facilities annually.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Cap and trade legislation should establish strong institutions for third-party verification of emissions credits and offsets, including government-backed accreditation of certifiers of offset projects and allowance-supported activities. Disbursement of funds should be transparent to the public and programs should establish standardized criteria and methodologies for evaluating the eligibility of project types, accounting for uncertainty, testing for additionality, quantifying avoided or sequestered emissions, and responding to sequestration reversals. Furthermore, in order to avoid conflicts of interest, project developers should have to pay the state for third-party verification and the state should disburse payments to the third-party verifiers.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

The independent third-party charged with eligibility assessment must ensure that programs only qualify to provide offsets if the reductions they provide are real, permanent, additional, verifiable, and enforceable, as determined through standardized methodologies and protocols.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or les

First, Congress should recognize existing programs like USDA Organic, the Conservation Stewardship Program and the Conservation Reserve Program Organic systems, which are certified by government-backed accreditors and inspected every year. Farmers must submit detailed plans describing practices to qualify for Conservation Stewardship Program funding and other conservation practices. Completion of an organic system plans or conservation plans would facilitate verification.

For projects submitted outside these programs, Congress should establish its own third-party certified system.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?

The inclusion of too many offsets reduces the incentive to reduce emissions in the covered sectors. Revenue from the auction of allowances would provide a more direct and effective financial incentive for agricultural practices that reduce emissions, and should be administered through existing programs, as discussed above in question 14.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

Soil can become saturated with carbon after a few decades but will release the carbon into the environment if practices are not maintained. Sequestration practices would need to encompass this reality and be designed to last for decades and accommodate different owners. Contracts would have to be long-term and maintain specific project liability. Standards and requirements for how to ensure the longevity of these programs and avoid reversals should be included in legislation. There should also be an established and enforceable protocol for how to determine and respond to sequestration project reversals, such as an offset reserve pool. If a project is reversed, some of the credits should be destroyed to account for the release of greenhouse gas emissions.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emissions registry)?

Please respond in 600 words or less.

Existing projects should have to apply anew for certification as eligible offsets under any new program established by Congress. Like any other offset, a third-party verifier must determine that the projects produce emissions reductions that are real, permanent, additional, verifiable, and enforceable.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

A project developer should be able to apply for set aside funds or offsets, but not both. If early actor producers and forest land owners pursue set asides, they should apply for money from the portion of auction revenues set aside to support early actors. These set aside resources would only be available for a limited amount of time. If these actors seek offsets for their activities, they must be activities that they would not have pursued in any case, because offsets must be verified as "additional."

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emissions reduction?

Please respond in 300 words or less.

Producers shouldn't be paid twice for the same practice, but it may make sense to reward practices with multiple benefits, including climate benefits, at a higher level than currently the case in existing USDA programs. This may induce wider participation and generate additional climate benefits from programs.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

In general, an offset purchaser should be held liable for sequestration reversals, since the offset purchase is made in lieu of a capped sector making its own emissions reductions.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Congress should establish the overall protocols for offset projects, including the requirements for high-quality offsets, but delegate to the lead implementing agency, probably EPA, the authority to implement the program and establish standardized methodologies and procedures in conjunction with appropriate components of USDA and other agencies.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

The over-arching design of the U.S. agricultural system, based around monoculture, high petrochemical inputs and insufficient attention to soil health and organic content, is a fundamental impediment to an economy-wide reduction of greenhouse gas emissions. The challenge is to put in place incentives sufficient to substantially realign the system so that it is far less fossil fuel-dependent, requires far fewer chemical inputs, and sequesters much larger amounts of carbon than is currently the case.

A new research agenda is needed that will help producers:

- determine practices that sequester the most carbon and minimize emissions,
- develop new revenue streams by generating renewable local and regional sources of energy, and
- deal with weeds and pests without resort to chemicals.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No. Current incentives often have the opposite effect. New incentives must be provided that, for example, encourage farmers to grow a greater number of crops (so they can be rotated), grow more forage crops (to enable animals to move away from corn feeding), plant more cover crops, practice more crop rotation, and raise pasture-fed animals. The reduction of greenhouse gas emissions from this sector should be integrated as a goal in all programs.

New incentives are also needed to decentralize and decrease the size of animal operations and facilitate the use of animal waste as crop fertilizer (to build soil and avoid the use of industrial fertilizers).

In addition, substantial technical assistance to farmers is needed to encourage them to adopt new practices and try new systems. In some cases, this assistance can be provided by changing eligibility requirements in existing conservation programs to allow more producers to qualify or strengthening the coordination between organic certification and conservation programs, such as the CSP. The organic conversion assistance component of EQIP should be elevated to a national priority, with funding available in all states

More research is also needed to demonstrate which practices are the most efficient and least-carbon intensive, as well as how to best quantify greenhouse gas sequestration and emissions avoidance in the agricultural sector.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The transportation sector should be covered under a carbon reduction program. Biofuels represent a promising, non-fossil fuel source of transportation fuel, but the emissions generated in their production and consumption must be accurately accounted for, especially if they are granted any incentives under a carbon reduction program. Recent publications have called attention to the importance of properly accounting for changes in land-use caused by biofuel production. For example, if forests are cleared in order to grow biofuel crops, the global warming pollution generated by clearing the forest can outweigh the pollution avoided by using the resulting biofuels instead of gasoline. In the United States today, biofuels are mainly produced from corn and soybeans grown on existing agricultural land, so there is not necessarily a direct land-use change. But there can be an indirect land-use effect when the corn and soy are taken out of the market for food and animal feed. This increases corn and soy prices, stimulating land conversion in other parts of the world. Peer-reviewed studies and state regulations measure this indirect effect using agricultural economics and land-use models to estimate how global markets respond to the increased use of corn for biofuels, where new crops will be planted, what land will be converted, and what emissions will result. Legislation, regulations and incentives for low carbon biofuels must include life cycle accounting of all significant direct and indirect effects (including land-use changes). Lifecycle analysis should be periodically updated as methods and data improve.

Currently, biofuels are the only fuel source subject to this type of comprehensive, life-cycle greenhouse gas accounting. To ensure the success of low-carbon renewable fuels in reducing global warming pollution, the entire fuel market should be regulated under a low-carbon fuel standard. This would require fuel providers to reduce their fuels' global warming pollution on an average and energy-equivalent basis, but would leave it to the market to decide how to achieve these reductions most efficiently. Because the standard would be based on the full life cycle of a fuel, it provides an incentive for reductions at every link of the fuel supply chain, whether from reduced fertilizer use, efficient land use, or use of renewable fuels to power the conversion process. Applying the same standards in an evenhanded way to all fuels will also help avoid high carbon fuels like oil shale, tar sands and liquid coal from making up an increasing share of the market. These fuels can easily lose the hard won pollution gains from promoting low carbon biofuels. By setting a specific goal and allowing fuel providers to trade pollution credits, a low-carbon fuel standard would encourage innovation and efficiency, without picking winners or favoring particular technologies.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emissions reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emissions reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emissions reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
	high	excellent	Medium	high
	low	moderate	low	high

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
UNITED EGG PRODUCERS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Chad Gregory

Organization(s) you represent

United Egg Producers

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Senior Vice President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The UEP has not taken the position that Congress should enact a climate change bill. However, if Congress does so, a cap-and-trade system is preferable to a carbon tax or fee regime. Cap-and-trade would permit market forces to work; serve to mitigate increases in carbon-related production costs; offer the potential for agricultural producers to offset some of the higher costs they will bear, by selling carbon credits; and provide a means of measuring and assessing the success of the nation's climate change policies.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture should not be a capped sector under a cap-and-trade program. The federal costs to cap and regulate the nearly 2 million farming and ranching operations in the US relative to the GHG emission reductions that could be achieved would make such a proposal impractical, inefficient and highly cost ineffective. US agriculture accounts for perhaps 6.5% of US GHG emissions but EPA reports that it can account for about 20% of the emission reductions or sequestration that occurs. It is far more sensible to allow agriculture to participate in the cap and trade program's voluntary offsets credit market. As noted above, we believe a credit offsets program, with market-driven benefits that explicitly and directly reward innovation, would offer the best set of incentives for farmers to continue to pursue the same type of innovations as in the past that led to the sector's impressive GHG emissions record.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

UEP believes that allowances should be made available to capped emitters at little or no cost in the first several years of a cap and trade program. Electricity and other energy costs will go up under any cap and trade bill that sets allowances significantly lower than baseline levels, but the increases will be far more dramatic if those

allowances are auctioned to emitters. Auctioning all carbon allowances at $20 per ton (as was assumed by OMB in the President's 2010 budget request), would increase electricity costs approximately 40 percent in Indiana, 30 percent in Kentucky, 20-25 percent in Ohio, and 15 percent in the Carolinas. Egg producers, who have far less opportunity than others in agriculture to recoup such increases in production costs through the sale of GHG offsets, would be disproportionately disadvantaged by allowances being auctioned off. Egg production costs would go up, and eventually such cost increases will lead to supply effects that will result in comparable retail price increases. We believe that the better approach is what was done under the 1990 Clean Air Act Amendments—where allowances to power plants for sulfur dioxide emissions were distributed at little or no cost, while still cutting emissions by more than half. Even if GHG emission allowances are distributed to emitters for free, electric rates will increase, but at far more reasonable levels and rates. Carbon emissions will still decrease at the same pace as under a 100 percent auction system.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

No comment.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

USDA should have responsibility for and authority over the details and day-to-day implementation of the agricultural offsets program for the agricultural sector. EPA, in consultation with the relevant Cabinet agencies, should have responsibility for setting broad offset program objectives and standards. Multiple USDA agencies in several different USDA mission areas will be needed to help develop and maintain the most sound and effective agricultural offsets program. An official in the Office of the Secretary (OSEC) should have the authority and responsibility for ensuring that the overall USDA effort is a success, and to provide the day to day concrete leadership for and management of the cross-mission area contributions that must be secured for the USDA effort to be most successful. One single existing USDA agency should be used to manage the day-to-day details of the operation of agricultural offsets market. That agency should be in the standard direct line of supervision that runs up through an agency head, Under Secretary and to the Secretary's designee in OSEC with this responsibility.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role

as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Futures or other derivatives based on offsets in the cap-and-trade market should be regulated by the Commodity Futures Trading Commission. UEP believes that the CFTC has the expertise and experience to regulate both on- and off-exchange derivatives, and has demonstrated this ability throughout a wide range of physical and non-physical instruments. Experience shows that splitting futures jurisdiction between two agencies is a sure-fire recipe for stifling the development of promising markets. Certainly, the CFTC can and should consult with the agency primarily responsible for the cap-and-trade program itself, just as CFTC consults with the U.S. Department of Agriculture about technical questions involving agricultural futures. However, the ability to regulate carbon futures and other derivatives (as opposed to the cash market) should reside with CFTC.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

UEP believes that carbon offset derivatives should be subject to the highest standard of regulation under the Commodity Exchange Act, and should generally trade on an organized exchange. In order to assure the integrity of these markets, render them transparent, assure the most efficient discovery of prices and protect the public interest, the on-exchange trading model makes the most sense. We note that in H.R. 977 as passed by the Committee on Agriculture, the Congress is moving toward restoring greater regulation of derivatives markets generally, informed by the unfortunate experience of excessive speculation in 2007 and 2008. It would make little sense to permit the new and uncertain carbon offset futures market to grow up in an unregulated atmosphere.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

See the answer to 10.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

See the answer to #10.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

UEP is definitely concerned that cap and trade legislation would have significant negative impacts on certain regions and industries, particularly those regions that are heavily dependent on coal for their electricity and those businesses that are energy intensive. Furthermore, UEP is concerned that sufficient information and analysis is lacking about the effects of climate legislation on the entire US economy, the agricultural sector, and egg producers. We feel better policy will result with more complete and thorough understanding by all the major affected US parties as to what these changes would mean for their incomes, businesses, communities, livelihoods and ways of life. This is especially the case given the depths and extent of the nation's current economic crisis, whose negative affects are all too immediate, with no end in sight yet.

Not all of agriculture will be able to benefit to the same degree from carbon offset trading opportunities. Even where there are good value offset trading opportunities, there will be significant lead time for those to be realized in some farmers' cases relative to others, and that lead time will result in its own uncertainties and economic hardships.

Therefore, as a general matter of principle, we believe that compliance costs for the capped emitters be kept to a minimum, lowering the size of the energy price increases that will result from cap and trade. If there are revenues generated by the auctioning of allowances to emitters, it is fair and appropriate for a substantial portion of the revenues to be used to reduce the level of sacrifice that is being disproportionately borne by certain regions, sectors and communities.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

No comments.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should be set by the market forces in operation in the offsets trading program. Part of the reason why the current voluntary program is not getting more participation is because carbon prices are too low. The expectation is that a mandatory system will result in higher market prices for carbon.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

No comment.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

As stated above, UEP believes that allowances should be distributed to capped emitters, over the first several years of the cap and trade program, at little or no cost. As such, bonus allowances would have no or little value during that period. The focus for agriculture would instead be on the voluntary carbon offsets market. UEP would thoroughly reject the use of performance standards in the GHG program if the intended meaning of the phrase "performance standards" is that from Section 111 of the Clean Air Act (CAA), where such standards are applied to existing stationary sources of emissions through federally mandated state permit requirements. If a sector is not capped under the cap and trade program, then those uncapped entities should be permitted to generate offset credits for sale to the emitters seeking the least cost solution to meet their capped emissions targets. Failure to adopt this offset approach simply raises the overall costs of the program to all participants.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No. The more offsets that are allowed to be created and traded the lower the cost of the cap and trade program for the US economy and its energy and manufacturing intensive sectors. As long as the offsets are real and verifiable, the legislative GHG GHG reduction goals are still achieved.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The distribution of the offsets, assuming they are real and verifiable, will be determined by the market facilitating the trades among willing sellers and buyers given the prevailing prices.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

See the answer to # 22.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

See the answer to # 22.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

See the answer to # 22.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

No comment.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The most important factor in establishing the permanence and duration of offsets while still preserving sufficient flexibility in the contracts is simply making the selling party fully

responsible under their contract for ensuring the integrity of the offset relative to circumstances that are under the control of the seller. If for some reason under the control of the seller the offset is no longer being provided, the seller should be legally obligated to secure the equivalent value of offsets at the seller's cost and give those to the purchasing party.

The length of the contract should be at least 3 years to find the right balance of transactions cost per trade while increasing the general sense of confidence in the permanence of the reductions to be achieved by the overall program. Longer contracts can be allowed and encouraged between willing parties, again to lower further the transactions costs per trade, but that is a decision between the contracting parties. Longer contract periods imply more risk for the seller, and should result in a higher price received for the offsets.

Accidents and equipment failure would be the responsibility of the seller, and they should either self-insure for such contingencies, or purchase insurance where available. Examples of circumstances not under the control of the seller would include natural disasters (major flooding or other large storm events, drought, wildfire).

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less

See # 25.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

See # 25.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Existing offset commitments in pre-existing voluntary markets must be eligible for participation in the new cap and trade program, but to do so they must:

- Be able to meet the new standards and contractual obligations;
- Require on-going actions by the offset seller to ensure that offsets will continue to occur; and

- Only be paid for the future offsets that occur as a result of these on-going actions, and not for offsets that occurred in the past.

Stacking credits should be allowed in the case where, in addition to the water, air or habitat benefits from a landowner's participation in a federal assistance program designed and implemented for such purpose, also provide GHG benefits. The same is true if there is an environmental credit market (as distinct from a federal financial assistance program) that trades in these other non-GHG benefits. More farmers will be able to generate more offset credits than would otherwise occur, helping the climate and other aspects of the environment.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

See the answer to question 22.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Fewer rather than more protocol and procedural details should be set in legislation, with the majority being left to proper notice and comment rulemaking, provided there is continual and effective oversight from the Congressional Committee's of jurisdiction.
Relative to the agencies that should manage the programs, see our answer to question 5.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

No comment

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No Comments

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Substitution of manure for commercial fertilizer	Excellent	Excellent to Good	Low	High
Improvements in conservation measures associated with manure applications to reduce N2O emissions either from the field or from nitrogen in runoff off of cropland.	Excellent	Good	Low to medium	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
UNITED FRESH PRODUCE
ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Robert Guenther

Organization(s) you represent

United Fresh Produce Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Senior Vice President, Public Policy

1) **Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?** ***Please respond in 600 words or less.***

The United Fresh Produce Association is not supporting at this point any type of climate change legislation without better information and analysis of its effects on the entire US economy, the agricultural sector and the fresh produce industry.

Though the goal of green house gas (GHG) reduction is a positive step for the U.S. and the world, unilateral actions that lack thorough economic and environmental analysis may carry unnecessary economic consequences for American producers and related companies without achieving that intended outcome.

The currently-available analyses of the aggregate economic effects of US climate change legislative proposals, and the effects on both sectors of agriculture and individual producers, are too vague for forming the necessary foundation for policy choices.

It should also be noted that the fresh produce industry encompasses a wide variety of crops, produced throughout the United States in varying ways and seasons. The existing science regarding carbon sequestration for a great number of these crops is either varied or non-existent. As a basic matter, it is not possible to establish a one-size-fits-all approach for the breadth of the fresh produce industry.

Therefore, it would be premature to enact mandatory GHG measures without a more complete and thorough understanding by all the major affected US parties as to what these changes would mean for their incomes, businesses, livelihoods and ways of life. This is especially the case given the extent of the nation's current economic crisis whose negative affects are all too immediate and from which we have yet to see an end.

United Fresh welcomes the effort of this Committee to gather, analyze and present the information sought by these questionnaires and hope that similarly open and wide ranging efforts to gather information and educate stakeholders is carried out by other Committees of jurisdiction in Congress.

2) **Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?**

Under a theoretical cap-and-trade program, agriculture should not be a capped sector. The federal costs to cap and regulate the nearly 2 million farming and ranching operations in the US, relative to the GHG emission reductions that could be achieved, would make such a proposal impractical, inefficient and highly cost ineffective.

U.S. agriculture accounts for perhaps 6.5% of US GHG emissions, but EPA reports that it can account for about 20% of the emission reductions or sequestration that occurs. It is far more sensible to allow agriculture to be viewed as part of the solution for GHG reduction. This would offer the best set of incentives for farmers to continue to pursue the same type of innovations as in the past that led to the sector's impressive GHG emissions record.

3) **If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?**
Please respond in 600 words or less.

It is our understanding that, under a cap and trade system, the majority of allowances are necessarily allocated to the capped sectors. As an uncapped sector, we have no comments regarding the best way to allocate allowances to the capped sectors.

It does make policy sense for a certain meaningful portion of the allowances (on the order of 5% of total) be allocated to USDA possibly to a) provide assistance to those farming operations that cannot benefit from cap and trade and are left only with higher input costs; b) support research and development of practical innovations to create more cost effective agricultural offsets; and c) support other emission reducing projects from the agricultural community.

4) **Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?**
Please respond in 600 words or less.

As a general matter, in the interest of creating the largest possible demand for carbon credits, with limited fragmentation in terms of market oversight and administration, it appears preferable, if this policy is chosen, to move forward with a national program.

5) **If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.** *Please respond in 300 words or less.*

Due to its long history and understanding of the unique needs of the industry, any future cap-and-trade program for agriculture should be regulated by USDA.

6) **If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.**

Please respond in 300 words or less.

7) **Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.**

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and- trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) **Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products. How might revenue generated under a carbon reduction program be best used to offset any negative impacts?** *Please respond in 600 words or less*

AND .

9) **Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?** *Please respond in 300 words or less.*

AND

10) **Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?** *Please respond in 300 words or less.*

It is anticipated that significant additional costs will result from any cap-and-trade or carbon tax program. These costs will be passed on to consumers of a variety of necessary inputs, including the agricultural sector and the fresh produce industry.

The ability to generate offsets and earn credits notwithstanding, our members are very concerned about the potential that a carbon reduction program will result in higher energy costs, higher costs for construction materials, fertilizer, transportation and other inputs.

As a general matter of principle, it is fair and appropriate for a substantial portion of the revenues created through the auction of GHG allocations to be used to reduce the level of sacrifice called for from those less able to bear it. Large sectors or regional portions of agriculture itself may be found to be bearing their own disproportionate share of the sacrifices needed to achieve national GHG reductions. These portions of agriculture itself should very well receive a share of the assistance provided from the revenues generated by the auctioning of allowances.

11) **What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?**

Please respond in 300 words or less.

12) **Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.** *Please respond in 600 words or less.*

13) **What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?**

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) **What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?**

Please respond in 600 words or less.

Given the lack of data to assess carbon sequestration across the wide spectrum of crops produced under the umbrella of the fresh produce industry, it is difficult to accurately provide guidance.

15) **Should the total number of offsets issued annually by the government be limited? If so, how much?**

Please respond in 300 words or less.

If the goal of the program is to encourage GHG reduction, it would appear that artificial ceilings on offsets would not be preferable. It is our understanding that under a theoretical cap-and-trade system, the government would create the demand for those credits via regulation, and then the market would respond. If this is the case, it would appear that an important factor in ensuring the integrity of the system is that the demand side not fluctuate unnecessarily. Reliability and predictability of the government intervention would allow the market to reasonably

respond and minimize price swings that could irrationally affect carbon credit generation.

16) **How should Congress prioritize the distribution of available offsets (who gets them and how much)?**

Please respond in 600 words or less.

The distribution of the offsets, assuming they are real and verifiable, will be determined by the market facilitating the trades among willing sellers and buyers given the prevailing prices.

17) **What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?**

Please respond in 600 words or less.

We assume that the term "offsets projects" as it is used here means simply offsets that are offered for sale by individuals or businesses. First, in terms of ensuring that the offsets being offered for sale can be "real", we believe the final cap and trade legislation should require that any offsets offered for sale have to be shown, under peer reviewed science utilized through standards established by public notice and comment rulemaking, to be real and achievable for the conditions at hand at the locations where the offsets are being generated.

18) **What should be the criteria for assessing offset projects?**

Please respond in 300 words or less.

Whatever criteria are used, market transparency is essential. The information must be readily understandable by all market participants, so that they can make a valid assessment of the intrinsic value of that credit.

19) **How should Congress design a system for verifying offset projects?**

Please respond in 300 words or less.

Whatever verification method is used, market transparency is essential. The information must be readily understandable by all market participants, so that they can make a valid assessment of the intrinsic value of that credit.

20) **Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?**

Please respond in 600 words or less.

21) **What should be the relationship between offsets and allowances?**

Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The most important factor in establishing the permanence and duration of offsets while still preserving sufficient flexibility in the contracts is simply making the selling party fully responsible under their contract for ensuring the integrity of the offset relative to circumstances that are under the control of the seller. If for some reason under the control of the seller the offset is no longer being provided, the seller should be legally obligated to secure the equivalent value of offsets at the seller's cost and give those to the purchasing party.

Examples of circumstances not under the control of the seller would include natural disasters (major flooding or other large storm events, drought, wildfire).

23) How should Congress address <u>existing</u> offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

AND

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.
AND

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Existing offset commitments in pre-existing voluntary markets must be eligible for participation in the new cap and trade program, but to do so they must:

- Be able to meet the new standards and contractual obligations;
- Require on-going actions by the offset seller to ensure that offsets will continue to occur; and
- Only be paid for the future offsets that occur as a result of these on-going actions, and not for offsets that occurred in the past.

Stacking credits should be allowed in the case where, in addition to the water, air or habitat benefits from a landowner's participation in a federal assistance program designed and implemented for such purpose, also provide GHG benefits. The same is true if there is an environmental credit market (as distinct from a federal financial assistance program) that trades in these other non-GHG benefits. More farmers will be able to generate more offset credits than would otherwise occur, helping the climate and other aspects of the environment.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

See the answer to question 22.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

The primary obstacle at this point in time is that carbon credits are undervalued relative to the costs of many of these sound and verifiable practices that establish real offsets. The creation of hard caps for the emitting sectors that are set low enough to achieve the GHG objectives laid out by the President and some in Congress should remedy this particular problem. Further, the cap and trade program will need to establish well-defined credit trading markets will all parties obligations are clearly defined (including the risks of failure to meet contractual obligations due to circumstances under and beyond the contracting parties' control), and where the transaction and verification costs are kept to the lowest level possible while still providing for sound trades of real value.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No, they do not. Higher levels of compensation for the costs of these practices are needed by producers to increase their adoption and ensure their long term maintenance and value. Congress could increase the financial incentives for participants in a variety of ways. However, it should be recognized that the fresh produce sector has limited options to participate in some of the existing environmental programs administered by USDA. We would strongly recommend that Congress, in reviewing its incentive programs, work with the fresh produce sector to identify opportunities to enhance participation.

April 10, 2009

The Honorable Collin C. Peterson
Chairman
House Committee on Agriculture
1300 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Peterson:

Thank you for offering the United Fresh Produce Association an opportunity to participate in the House Committee on Agriculture's survey regarding climate change.

United Fresh welcomes the effort of this Committee to gather, analyze and present the information sought by these questionnaires and hope that similarly open and wide ranging efforts to gather information and educate stakeholders is carried out by other Committees of jurisdiction in Congress.

However, we are not at a point in this policy debate to embrace any type of climate change legislation without better information and analysis of its effects on the entire US economy, the agricultural sector and the fresh produce industry. Though the goal of GHG reduction is a positive step for the U.S. and the world, unilateral actions that lack thorough economic and environmental analysis may carry unnecessary economic consequences for American producers and related companies without achieving that intended outcome.

It should also be noted that the fresh produce industry encompasses a wide variety of crops, produced throughout the United States in varying ways and seasons. The existing science regarding carbon sequestration for a great number of these crops is either varied or non-existent. As a basic matter, it is not possible to establish a one-size-fits-all approach for the breadth of the fresh produce industry.

Therefore, it would be premature to enact mandatory GHG measures without a more complete and thorough understanding by all the major affected US parties, including the fresh produce industry, as to what these changes would mean for their incomes, businesses, livelihoods and ways of life. This is especially the case given the extent of the nation's current economic crisis whose negative affects are all too immediate and from which we have yet to see an end.

Thank you again for offering us the opportunity to participate. If you have any questions regarding our responses, please contact Mr. Kam Quarles at [Redacted] or [Redacted]

Sincerely,

Robert Guenther
Senior Vice President, Public Policy
United Fresh Produce Association

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
UNIVERSITY OF FLORIDA CARBON
SCIENCE CENTER
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name
Timothy Martin (coordinating author), Pankaj Lal, Carmen Carrion-Flores, Junaki Alavalapati

Organization(s) you represent

University of Florida Carbon Resources Science Center

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, University of Florida Carbon Resources Science Center

Part I: Carbon Reduction Program Design

1) **Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?**
   Please respond in 600 words or less.

The Congress should enact a cap-and-trade program rather than carbon tax or hybrid of the two. The primary reason for favoring cap-and-trade regime is that the amount of greenhouse gas reduction can be quantified and set in advance. In contrast for the tax options the quantified emissions reduction is difficult to arrive at and transaction costs of monitoring this program may be higher. Further, the cap-and-trade system is a market based approach and promotes trade of emission allowances between low cost emission reducers and higher cost emission reducers. There is precedence for successful implementation of cap-and-trade systems in the U.S. The system developed under the 1990 Clean Air Act Amendments not only achieved 100% compliance in reducing sulfur dioxide emissions, but also cost much less than was estimated before its implementation. The European carbon cap-and-trade model can also be deemed a success in terms of environmental stewardship through millions of transactions held per day.

The cap-and-trade system is much more flexible than carbon tax and can be integrated with already existing systems in other parts of the world such as the one in Europe. Cap-and-trade can include carbon reduction activities such as planting a forest for carbon sequestration and reward entities that are undertaking sequestration; in contrast, the carbon tax fails to support these activities, instead focusing on the "polluters pay" principle. The inter-temporal nature in term of banking of emission reductions or carrying it forward for the next accounting year as well as borrowing against future emissions can be used easily in a national cap-and-trade system.

Even though carbon tax approach is considered more efficient than cap-and trade, it is much more difficult to implement due to its regulatory nature. There has been a suggestion to make cap-and-trade more efficient through mechanisms such as having a price ceiling or a '*safety valve*'. The price ceiling can be used to come out with new emission credits when prices reach a pre-determined higher limit dollar value. However, the '*safety valve*' approach impedes technological innovation targeted towards meeting the set emission caps as it lowers the emission cap already set and defeats the key aim of set 'quantified emissions value' in a cap-and trade system.

Challenges such as strict monitoring, proper enforcement, effective distributions of benefits and cost exist in all the three policy options (pure tax, pure cap-and-trade, hybrid of two) and can't be used as differentiating yardstick. However a single set up such as pure carbon tax or pure cap-and-trade is simpler to implement than a hybrid system. The decisions as to what mix of tax and cap-and trade options is implemented or in which

sectors/regions (or any other differentiating factor) for determining mix might lead to contentious arguments by stakeholders and also give rise to question of equity and skewed impacts.

The criticism of existing European cap-and-trade systems such as higher trading allowances in European trading system or price volatility of Regional Clean Air Incentives Market (RECLAIM) market in California are due to flaws in the design of these policy instruments rather than flaws in the cap-and-trade system itself. These flaws can be avoided through effective design, enforcement and integrated feedback mechanisms in the program that might be put forth by the Congress. Overall, the cap-and-trade system is suggested as a mechanism that is more beneficial in term of assured emission reduction and provides incentives for technological innovation that provides low cost emission reductions.

Potential problems associated with adoption of cap-and-trade system which will need to be mitigated include: 1) it will increase cost of the industries since under the system they have to search for permit sellers (Portney, 2003). 2) Strategic behavior of some industries may prevent an efficient market for these permits. 3) Industry lobby could influence which industries get the initial set of permits. 4) We could expect an increment of emissions when there is a large initial distribution of permits.

2) **Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?**
   Please respond in 300 words or less.

The agriculture and forestry sectors must be covered under a carbon reduction program. Agriculture must be included because this sector is a significant source of U.S. GHG emissions (~6%). Carbon reduction policies which cover agricultural operations will benefit farmers and ranchers as these will be compensated for delivering carbon-reduction services to society through emission allowances. This carbon reduction policy will also incentivize improved practices such as conservation tillage and improve sustainability of these sectors in particular and society in general. The forestry sector must be covered because forestry is the only major sector which is a net GHG sink: forests and forestry operations annually sequester CO_2 equivalent to 11-15% of total U.S. GHG emissions. The silvicultural technology and knowledge necessary to increase rates of forest C sequestration already exists, so this sector can be immediately mobilized to mitigate atmospheric CO_2, as opposed to other sectors where technologies are immature or not yet developed. Furthermore, displacing energy intensive products (gasoline and steel frames for example) with wood based products (cellulosic ethanol and wood frames) would offer permanent carbon reduction opportunities.

The benefit of including these sectors will also promote 'green' sources of energy and certainly act as a shot in the arm for nascent energy sources such as bioenergy. This nascent energy source in turn promotes energy security, improves trade balances and is in sync with existing policy initiatives such as Energy Independence and Security Act, 2007. Incorporating these sectors in the carbon reduction program is also economically

smart as these increase avenues for land-resource based solutions that are more cost-effective than quite a lot of options available in other sectors. Also many private and public mitigation approaches in these two sectors are economically tenable and technically feasible which outlines the important role that these two sectors in climate change mitigation.

A fragmented cap and trade system could create pollution havens in unregulated industries and/or regions. Therefore, the program should be applied at the national level and cover all major sources of emissions, either directly or indirectly. They have to include manufacturing sectors, such as electric utilities, transportation, and energy-intensive industries, but at the same time it should cover agriculture, commercial and residential sectors.

3) **If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?**
   Please respond in 600 words or less.

Most of the costs of cap-and-trade system will be passed on to consumers by the firm and can impact households in terms of higher cost of services or products. Free distribution increases the overall cost of the allowance and can be construed as already compensating the emitters for the price differential occurring due to emission cap. However, free distribution of allowance can be used effectively to reduce and manage economic burdens of a cap on entities that will be more severely affected such as coal industries and the low income consumer household. Not having such free distribution of allowances will inherently bias against entities which produce more emissions (such as coal or oil and gas) for producing a unit product (say electricity) than those which produce low emissions for same unit product (like clean coal or bioenergy) under current level of technology.

On the contrary auction generates revenue which will be captured by government and can be used to reduce carbon reduction programs cost for the whole economy. The allowance procurement can be integrated within cost aspect of business entities that fall within the purview of the cap. The auction system is economically more efficient, though, its efficacy depends on the use the auction revenue generated is put to and what type of auction mechanism is used.

Freely allocating all perpetual allowances to emitters would not be market efficient as it would result in overcompensating emitters resulting in not only increased cost but would also use up resources that could otherwise be used for actual carbon reduction initiatives. Thus, a combination of free allocation and auction system is envisaged. This hybrid system is based on the principle that free allocation in initial years increases acceptability while auction system reduces social cost by using the auction amount for tax reduction programs, clean energy technology research & development, energy benefit program for

low income households etc. Researchers such as Stavins (2007) have proposed an economy wide program where half the allowance is freely distributed, with the share declining to zero after 50 years and rest is auctioned off in the market. The free allocation component for this option comes to 15 %, at real interest rates 5 %. This suggestion is in line with the estimates of perpetual allowances required to compensate the sensitive entities like fossil fuel extraction sectors (13%) and primary energy producers and electricity generators (21%) to offset the effect of carbon reduction programs.

In our opinion the correct mix of free allocation and auction system should avoid overcompensation, and thus the free initial allocation should be set lower than 50%. Also, the actual allocation should be based on not only type of emitters (sectors) but also their numbers and economic characteristics. The amount of allowances should be reduced each year until emissions are 80% below 1990 emissions (in 2050). For agriculture and forestry sectors the auction mechanism might not be appropriate and free allocation is the way out due to large number of private agriculturalists or family forest owners who cannot compete in the auction market with large energy producers. The free allocation in forestry along with longer term carbon sequestration goals may also benefit biodiversity through measures such as growing long rotation species such as longleaf pine which provide habitat for a range of important species, rather than relying exclusively on fast growing, intensively-managed plantation projects which may not yield comparable desirable co-benefits. This mechanism will thus incentivize forest owners to adopt carbon reduction management practices. The limit on the number of such no cost allowances should be based on economic analyses for forest and agriculture sectors that needs to be undertaken to gauge the potential of emission reduction on per unit (hectare) basis

4) **Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?**
   Please respond in 600 words or less.

Yes the individual programs should be linked to existing state or regional carbon reduction programs. This linkage will bring spatial uniformity and provide level playing field to private ventures aimed towards reducing GHG emissions. This will also avoid duplicity and conflict with existing programs. The concentration or redistribution of carbon emission or carbon removal initiatives in specific geographical regions can also be minimized by such linkages. There should also be provision for integrating federal programs with future state or regional reduction programs.

5) **If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.**
   Please respond in 300 words or less.

6) **If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.**

Please respond in 300 words or less.

7) **Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.**

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) **Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.**

Please respond in 600 words or less.

Current research points out that costs of cap-and-trade or other carbon reduction programs will be passed on to consumers as higher cost of services or products. These higher costs will be borne by all consumers including residents of rural areas, USDA nutrition producers, agricultural producers and forest landowners, or input, transportation and processing sectors and forest product producers as higher prices for the energy they buy from emitters. This is possible since emitters can pass on the costs of their emissions credits to their customers in the form of higher rates. The detailed impact information of carbon reduction programs such as cap-and-trade on different demographic groups, different sectors or regions is currently limited. Research such as commodity use analysis of forestry or agriculture operations can provide estimates of such impacts. Generally speaking the processes or consumers who use more GHG emitted products will feel more impacts than others.

It is quite possible that forest industries such as pulp and paper, packaging, and other forest products will be impacted by increased cost of energy use passed on by energy utilities, as well as by added cost of emissions that they will have to bear under carbon reduction programs. In light of price responsive (elastic) markets for these products, they have limited potential to transfer added costs to consumers. Intense foreign competition as well as competition for wood supplies from emerging wood based bioenergy industry

can add to their problems. The supply chain for these businesses in term of transportation and input providers will also be affected in term of lower work and increased cost which might reduce economy of scale benefits.

Forest landowners and agricultural producers will also be adversely affected if 100% allowance auction system is put in place where reduction programs call for reductions in these sectors as well. In addition, the difficulty of verifying that additionality and leakage requirements have been met, and the lack of universally accepted mechanisms for doing so may result in increased verification costs for forest landowners, with some degree of uncertainty as to return on investment for these costs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

The revenue generated under carbon reduction programs should be used for three basic purposes:

1. Transitional assistance to those bearing larger cost and facing elastic demand in international markets (such as pulp and paper industry)
2. Income tax assistance or other programs designed specifically to mitigate increased price impact of energy or utility services to individuals or industries. A targeted program for low income households as well as private agriculture and forestry landowners is suggested.
3. Innovation investment in terms of Research & Development to develop carbon reduction solutions. This investment can be used for researching greener sources of energy such as 'bioenergy' and focus not only on developing technology but also focus on acceptability of these resources through extension programs and developing partnerships with forest landowners.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, businesses that are affected by higher overall costs should receive transitional assistance. The amount of assistance should be based on the cost differentials accruing due to carbon reduction programs as well as the demand situation being faced by the business. Businesses with greater ability to transfer added costs to consumers should receive less assistance. This assistance is quite important for energy-intensive forest based businesses such as pulp, paper, wood products makers and packagers, who face tough foreign competition and difficulties in passing on increased costs to customers. These businesses apart from emission credit costs also face increased utility costs, and without assistance might face threat of going out of business. Moreover, the effect of carbon reduction programs will be detrimental to climate if manufacturing of these

products gets transferred to countries without carbon reduction caps. This is very much possible through market mechanisms unless safeguards are put in place to support these businesses. Not providing transitional assistance to these businesses might lead to unfavorable trade balances and loss of employment.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands have important role to play in sequestering carbon. Public forests in U.S. have higher per unit carbon stocks as compared to private forest lands. Just because these lands are owned by government, these lands should not be excluded from gathering offset benefits under carbon reduction programs. However, these benefits should be assessed on the concepts of '*additionality*' in which rewards are not made for the sequestration that would have happened anyway. The benefits of carbon reduction programs so gathered should be used for environmental stewardship work such as wildlife conservation. The vast scale of public lands, such as those set aside for conservation management, may also play a significant role in carbon sequestration.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

A limit on carbon prices in term of having a price ceiling ('safety valve') is proposed by many researchers. They argue that emitters are hedged against the risk of unlimited price increase caused by established supply of allowances and 'safety valve' need to be included to safeguard excessive price increases. However, we propose that there should not be a price ceiling neither a price floor (the level below which price should not decrease) as the safety valve approach changes the emission cap set at the outset. The emission reduction arrived at using safety valve approach would certainly be less than that without one, and runs contrary to the goal of making polluters face the full costs of their actions. The basic requirement of carbon reduction program such as cap-and-trade is a hard limit on pollution, and the price ceiling destroys that.

If we fail to have a hard cap, business can buy more allowances than the market system allows. The 'safety valve' will set a point at which business will not be bounded by the cap. If business can release carbon over and above the limit, it will be next to impossible to reduce emissions by ~2 percent a year. A price ceiling also limits investment in new projects and technologies. Some businesses argue that price ceiling remedies the problem by ensuring that permits trade below a reasonable limit. However, having a faulty limit can add to the problem rather than solving it and result in over-allocation or under-allocation of allowances.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Lessons that can be learned from ETS or other carbon reduction program include:

1. EU's Emissions Trading Scheme (ETS), experience in the last few years suggests that permit prices are far more volatile than equities, making longer horizon planning quite difficult.
2. As ingrained in the system, cost reducing emissions by a certain amount could vary from year to year depending on exogenous factors such as the weather, the availability of low carbon technologies, and level of economic activity.
3. The emission data flaw was observed in ETS and business could reap windfall gains by reducing emissions cheaper than what had been envisaged. The emission data flaw can lead to larger number of emission allowances where supply of allowances-the cap-exceeds the demand, collapsing the allowance price. The design flaw led to the experience that getting number of allowances right is critical for efficient functioning of such a system.
4. The fear that adding to the cost of European industries could reduce their ability to compete in global market resulted in distributing virtually all permits at no cost. The lower price of allowances is pointed out by many as a key cause of the market failure of ETS Phase1.
5. The learning phase such as ETS phase 1 is a good model to start with wherein system weaknesses such as larger number of allowances allocation can be dealt with. This also points to the need for an adaptive framework with strong oversight and better quality emission data.
6. The failure of uniform standards (with individual countries being allowed to set emissions levels and distributing the permits), resulted in favoritism in permit allocation to business.
7. The regional Greenhouse Gas Initiative (RGGI), which officially began in January 2009, is a program designed to reduce emissions from the electric power sector in ten Northeast States. All RGGI states have opted for auctioning a majority of their allowances and also set up a reserve price for allowances.

There are number of carbon reduction programs in forestry. Some of these are outlined below:

1. Kyoto Protocol's Clean Development Mechanism (CDM) or Joint Implementation (JI) for GHG reduction.
2. United Nations Reducing Emissions from Deforestation and forest degradation in developing countries (REDD) initiative which offers significant potential for reducing global warming emissions in developing countries. Countries such as Australia have come out with $200 million International Forest Carbon Initiative under REDD.

3. World Bank's Forest Carbon Partnership Facility (FCPF) which prevents deforestation by compensating developing countries for carbon dioxide reductions realized by maintaining their forests.
4. Carbon Finance Unit of World Bank which uses money contributed by governments and companies in OECD countries to purchase project-based greenhouse gas emission reductions in developing countries and countries with economies in transition.
5. Voluntary markets such as Chicago Climate Exchange in U.S. and the Carbon Reduction Fund (CRF) in Canada for developing carbon offset projects.
6. New Zealand Emissions Trading and Renewable Preference which aims to cover all economic sectors and gases regulated by the Kyoto Protocol through a mix of upstream and downstream coverage, starting with the forestry.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

All the three options should be used together in carbon reduction program for agriculture and forestry sector. However, bonus allowances for selected agriculture and forestry activities from "*a bonus allowance account*" seem more plausible and effective. This account can be allocated to sequester greenhouse gases through activities permitted by the '*Administrator*' for that purpose. A start cutoff date for such bonus allowances is critical to ensure that only the activities undertaken before the cut-off date is accepted for bonus allowance. Along with bonus allowances agreed upon performance standards for segments of forestry sectors are also required. These standards should incorporate spatial and species diversity in forestry sector, and should be set in consultation with all stakeholders. A voluntary offset program should also be promoted as it can co-exist as a flexible compliance mechanism in cap-and-trade system. Voluntary offsets differ from "compliance" offsets as these depict GHG reductions not under the purview of mandatory cap-and-trade schemes. These voluntary offsets can be developed by business, governments, NGOs, and individuals with motives such as demonstrating social responsibility or differentiating their product as 'green' or in expectation of early compliance offset benefits.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

The number of offsets issued annually by the Government should be linked to the number of allowances issued. These offset projects can be used by businesses subject to emission caps to partially offset allowances mandates. The linkage between offsets and allowance in percentage terms is suggested to be in the range of 10-30% . As the percentage of offsets increases, the allowances needed for the businesses declines. This logic suggests that offsets are used as incentive for the business to reduce their own emissions or purchase offsets from other entities that reduce GHG. However, these offsets should not impede the cap-and- trade regime of allowances purchase, trade or retirement and thus a maximum limit of 30% is proposed. Further, these offsets should also be limited in term of purchase of domestic and international offsets in a given control period. A stage wise threshold limit for offsets such as the one proposed under RCGI can also be adapted at federal level. Facilities under RGGI's cap are allowed to purchase offset allowances to cover at most 3.3% of emissions in a control period. This increases to 5% if the price for carbon dioxide allowances reaches a "stage one threshold price" for a year and to 10% if the price reaches a "stage two threshold price.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

The distribution of available offsets should be based on the criteria of 'greater public benefit' where non market benefits apart from carbon reduction benefits are accounted for. For example a forest sequestration offset project having co-benefits such as watershed conservation, aesthetic benefits, prevention of soil erosion benefits etc should be given higher priority than other offset projects which do not provide such co- benefits such as.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

The following criteria should be used for measuring and accounting for legitimacy of offsets under the program.

Additionality: This determines where the project's emission reduction/sequestration is over and above the business-as-usual scenario. The offset project must demonstrate that it is not undertaken to comply with any law, statute or rule. In each project carbon storage that would have occurred without the project should be calculated and subtracted from the carbon benefits. A potentially negative consequence of strict additionality criteria is that "early actors", landowners who are already actively managing in a way that sequesters carbon, will be at a disadvantage. We encourage Congress to consider

creative approaches to this problem that will enable early actors to enter carbon markets. One potential approach is to consider whether existing projects provide environmental "co-benefits" in addition to carbon sequestration, such as preservation of biodiversity, watershed protection, etc., and to enable these consideration to potentially ease carbon additionality requirements.

Leakage : It should also be ensured that offset projects does not result in indirect effects of increased emissions outside the project boundary. Indirect land use change effects should be accounted for calculating offset amount.

Permanence: Offset projects that displace or permanently sequester greenhouse gas should be made eligible as offsets. Because of the difficulty of ensuring true permanence for forest projects, which are subject to carbon loss through disturbances such as wildfire and insect infestation, Congress should consider relaxed definitions of permanence. For example, a carbon renting approach could supply the benefits of traditional carbon offset projects, with a higher certainty of sequestration for any particular contract period.

Unambiguous ownership: Reductions generated by offset projects must have clear and defensible rights to ownership.

Single counting: The offset reduction and may only be allocated, awarded or counted one time and should be retired once counted.

Verification and monitoring: A third party should verify that the project is not a business-as-usual activity and it should also undertake periodic emission reduction/sequestration accounting.

Quantification: Field measurements and quantification of forest growth and accruing carbon benefits should be based on well-established forest inventory and scientific principles. The methods followed to quantify such benefits should be made available for public consumption.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The offset projects should be based on the principle of greater 'societal benefit'. The projects that provide higher benefits (monetized and non-monetized benefits) are preferred. In forestry, apart from afforestation/ reforestation projects other projects that undertake green house gas sequestration should also be considered. These projects can take the shape of: Forest conservation projects (or avoided deforestation or soil carbon sequestration) in critical areas; Urban tree planting; Managed forests for increased carbon stocks (through increase in carbon density, longer rotations, decreased harvesting intensity or species substitution); and increased production of long-lived wood products (by displacing fossil-fuel intensive construction materials and though carbon stored in

durable wood products). These projects should also be assessed on the basis of whether neighborhood benefits such as local level employment and skill development accrue to society. Apart from this, small landowner projects or aggregated projects (combined projects for several landowners) should be preferred. Projects which install or modify infrastructure can also be prioritized. In sum, the environmental and community impacts of the offset project should be adequately and thoroughly assessed.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The Congress should establish a third party verification system to undertake carbon accounting of offset projects. All emissions reductions must be verified by a well-regarded independent third party and should be based on realistic emissions baselines. Federal agencies such as USEPA and USDA should be entrusted with the responsibility of coming out with a list of third party auditors who can be employed for verifying offset projects. The auditors should be experts or organization that have expertise and experience to undertake this responsibility. In cases where such expertise is lacking, federal agencies should establish training programs to develop auditing expertise. A set of standards in terms of establishing baselines along with periodic (annual) GHG accounting is suggested. These verification systems should undertake a detailed life cycle analyses at the initial stage and in later years should follow 'management by exception' principle to account for deviations from the past management practices.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should establish a project-based approach that measures field results for establishing eligible offsets under the program. Due to large scale diversity of forestry projects in term of species and spatial characteristics such as topography, fertility (site index), microclimate etc., a standards based approach might not be justified. Moreover, project based approaches can be deemed more valid for accounting sequestration/emission benefits than standards based approaches. Project assessment also facilitates verification and monitoring of the project activities. It is also suggested that projects should be allowed to be aggregated together to ensure that sequestered carbon is provided by an entity that has a large enough forest area under management to provide a stable reservoir of carbon over the usual cycle of growth and harvest for individual forest stands.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

These offset projects are used by business subject to emission cap to decrease compliance costs. The linkage between offsets and allowance in percentage terms is suggested to be in the range of 10-30%. A stage wise threshold limit for offsets should be applied at federal level. However, the percentage of offsets that entities should be allowed to cover should be set higher than RCGI. Similarly, the threshold prices for different stages should also be set higher than the percentages allowed by RCGI. Limits to these offsets in terms of how much should be procured from domestic and international markets in a given control period also needs to be established by the Congress.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The standard of permanence remains one of the most difficult to meet and verify for forest-based offset projects. Because they are subject to natural disturbances such as wildfire and insect attack, it is difficult to guarantee the sequestration of carbon in forests in perpetuity. These factors should be considered in the design of offset requirements, and Congress should assess whether the standard of permanence can be relaxed to span contract lengths of decades (e.g. 30-100 years), which would be long enough to ensure real atmospheric CO_2 mitigation, but short enough to plausibly guarantee sequestration in most forestry projects. This "carbon rental" approach may provide the best middle ground which allows forests to meet their potential in contributing to GHG offsets.

23) How should Congress address <u>existing</u> offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The Congress should allow existing offset projects and allowances registered under the Climate Registry, the California Action Registry, the GHG Registry, the Chicago Climate Exchange, the GHG Clean Projects Registry, or some other programs or registries, only if such offsets satisfy the requirements or criteria of the offsets outlined in future federal carbon reduction legislation. These existing projects need to be reevaluated and proportional allocation in term of amount of reduction and duration of the project. These offset projects in forestry sectors will thus be rewarded for achieving real, verifiable, additional, permanent, and enforceable emission reductions, or increased carbon sequestration.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

The landowners who were early actors should be allowed to stack credits. However, this stackability should not follow concept of additiveness where all such benefits are summed together. Rather early actors should get a proportional benefit which is higher than carbon reduction/sequestration benefits or other market benefits separately but significantly lower than sum of the two. These stackable incentives should also consider size of landownership, where higher proportional payments are made to small landowners rather than larger ones. The stackability benefits in future can also be used to help landowners overcome the initial cost of converting their lands to carbon sequestering methods and programs that provide cash payments in addition to the carbon credits for lands.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

In light of assistance by Federal or State government assistance, a proportional allocation mechanism should be used. Out of the total offset value a share should be diverted towards environmental stewardship program being implemented by Federal/State/County government. The share being diverted should be proportional to the assistance received by the project.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes the producer be penalized (required to return revenue or be held liable) if an offset project does not sequester carbon or reduce greenhouse gas emissions. The penalty should not be equal to the returned revenue rather a distinction between natural and human made causes should be made. In case of natural disturbances the producer should be absolved of the liability if s/he undertakes compulsory reforestation/afforestation in the area damaged by disturbances. However, if the event of carbon stock reduction by forest landowner (where natural cause is not established), the landowner should be held liable and the revenue should not only be returned but destruction penalty should also be imposed.

In these cases a *'carbon rent'* approach where payments are made on an annual basis will minimize payment losses on the part of offset purchaser. It needs to be reinforced here that offset projects should employ a program design that accounts for the risk and uncertainty before offset are issued. This will result in protection of offset buyers from such uncertainty and cost of such risks will be borne by the sellers.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

The protocols and procedures for the forestry offset program should not be detailed in legislation, rather authority should be delegated to USDA to develop protocols and procedures. Rather than having a uniform protocol or procedures for the whole country, USDA can develop these in light of local level spatial and species diversity observed in different forestry project sites. USDA possesses both the expertise and experience to design such regulations.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No existing conservation or forestry programs provide sufficient incentives to mitigate climate change impacts through carbon sequestration and/or GHG emissions reductions. This insufficient support is reflected in the fact that carbon benefits of forests do not play a role reflected in landowners' management decisions. Unless a measurable monetary value is attached to the carbon benefit of forests, the adoption and implementation of such practices will be weak. A strong extension and technical assistance program coupled with a *'carbon rent mechanism'* as proposed by Sedjo et al (2001) for landowners will accelerate the acceptance level. Further, most of the new incentive schemes, such as the subsidy of producing biofuels, are not directed towards landowners. Currently the biofuel subsidy is harnessed by the processor and forestry feedstock suppliers do not get any benefits. The risk and uncertainty also lowers acceptance as many landowners face additional uncertainty through participating in carbon markets as the cost of any change

in forest management will be based on the possibility of future carbon credits at an unknown price.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

It is increasingly being recognized that environmental effects of bioenergy production are linked to net GHG reductions. Many authors argue that using wood instead of fossil fuel for energy can potentially reduce GHG. However, Searchinger et al. (2008), and Fargione et al.(2008), argue that life cycle studies have failed to factor in indirect land use change effect, such as carbon storage and sequestration sacrificed by diverting land from its existing uses and found that using U.S. forestlands for biofuels results in adverse land use effects elsewhere and thus harms the environment rather than helping it. The question for overall GHG balance of different bioenergy pathways thus needs to be evaluated in terms of whether these can lead to leakages such as indirect land use change from carbon rich land cover types (e.g. virgin grasslands or forests) to energy crops.

The Life Cycle Analysis for emission includes all stages from feedstock production till the use of finished fuel by the final consumer. The emission reduction from forestry projects such as use of forestry feedstock for bioenergy should be evaluated for indirect effects also. Some issues that need to be resolved for this are : reference (baseline) to be used for GHG reduction; emission calculation based on consistent (standard) approach to LCA so that comparative analysis is possible; what GHG gases should be included in calculations (CO_2, N_2O and CH_4 or other gases are also included); what should be the methodology that can be used measure the indirect impacts of biofuels production due to land use change; and what should be timescale of analysis for emission estimates related to land use change.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions *(Excellent, Good, Moderate)*	**Ability** to verify carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to implement *(High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to implement immediately *(High, Medium, Low)*
Afforestation or reforestation	Excellent	Excellent	Low	High
Forest conservation projects (or avoided deforestation or soil carbon sequestration) in critical areas	Good	Moderate	Low	High
Managed forests for increased carbon stocks (through increase in carbon density, longer rotations, decreased harvesting intensity or species substitution)	Excellent	Excellent	Medium	High
Urban tree planting	Excellent	Excellent	Low	Medium
Long-lived wood products (by displacing fossil-fuel intensive construction materials and though carbon stored in durable wood products)	Good	Moderate	Low	Medium

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions *(Excellent, Good, Moderate)*	**Ability** to verify carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to implement *(High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to implement immediately *(High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions *(Excellent, Good, Moderate)*	**Ability** to verify carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to implement *(High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to implement immediately *(High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
UNIVERSITY OF VERMONT FOREST
CARBON AND COMMUNITIES
RESEARCH GROUP
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name Dr. Cecilia Danks

Organization(s) you represent

Forest Carbon and Communities Research Group
University of Vermont

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am an Assistant Professor at the University of Vermont. I lead the Forest Carbon and Communities Research Group comprised of faculty, graduate students and honors undergraduate students. I am the Principal Investigator for research projects addressing several aspects of forest carbon and communities, with emphasis on sustainable livelihoods, carbon markets, equitable access, climate effectiveness, and economic viability.

Take Home Messages:

a) Include urban and community forestry.
b) Mitigate impact of higher energy costs on vulnerable families communities and businesses.
c) Consider overall incentives to forest landowners, not just offsets. Higher energy prices will create a great incentive to cut forests for wood energy in the short term or to convert forests to fields for biofuel production. These pressures need to countered by greatly expanded and effective incentive programs to keep forests as forests and to managed them sustainably.

c)

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

A carbon tax could actually use the market most effectively to create incentives for reduction in fossil fuel consumption and development of alternative energy. If taxes are placed directly on oil and gas at the point of production or importation, transaction costs will be lowest and the higher costs of fossil fuel use would be embedded in all products and services, creating disincentives to their use throughout all sectors. This approach would be much more effective than trying to calculate and tax embedded GHG equivalent of different end products and activities. The problem with this approach, is that it will significantly increased the cost of living in the US -- which will hurt the poorest Americans the most. Moreover, if the US acts alone, higher energy costs could create incentives to send more manufacturing abroad where the cost of both labor & energy are cheaper. Any carbon tax should be paired with a rebate program to mitigate the impacts of higher costs of everything (because energy is embedded in everything) to help the most vulnerable individuals, families, communities and industries make the transition to a future with higher energy costs and a different mix of energy sources.

But a carbon tax, although more economically efficient, has the political liability of the word "tax." In addition, allocating "rebates" through a political process has the danger of resources flowing largely to the powerful rather than the needy. Therefore, a cap and trade may be more politically viable. In either case, disincentives to fossil fuel use come at a price. There is no way around it; fossil fuel is cheap and alternatives are more expensive. Moreover, the R&D and conversion costs for both conservation and alternative energy sources present significant upfront costs. Low income families, struggling rural communities, and specific energy intensive industries will be particularly hard hit by an effective climate policy. Funding from the auction of allowances should be allocated to help those groups who can no longer get by on a modest income. Moreover, attention needs to be paid to the perverse incentives that will be created by increases in energy prices -- in particular the potential for unsustainable use of forests and agricultural land.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

A carbon tax would include the agriculture and forestry sectors if taxes are placed at the energy source – point of production or importation. However, many rural families, farms, forests and

communities will be particularly hard hit by a carbon tax. They would need rebates to help support their families, produce food and maintain forests.

In a cap & trade program, it would be best to include agriculture and forestry projects as potential offsets, but not to place a cap on those activities. Agriculture and forestry ownerships and production units are decentralized, high in number, and vary significantly in size and inputs. The transaction costs for managing a fair and effective cap & trade program for this sector are extremely high – a cost that might be borne disproportionately by small farmers, small forest land owners and related small businesses.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

They should be auctioned to provide funds that can help mitigate the increased costs of goods and services to the most vulnerable populations.

http://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_101-150/WP150.pdf

Cap and Rebate:
How to Curb Global Warming While Protecting the Incomes of American Families

by James K. Boyce and Matthew Riddle
Political Economy Research Institute
University of Massachusetts, Amherst
October 2007

Abstract
This essay examines the distributional effects of a "cap-and-rebate" policy for reducing carbon emission in the United States: a policy that auctions carbon permits and rebates the revenue to the public on an equal per capita basis. The aim of the policy is to reduce U.S. emissions of carbon dioxide, the main pollutant causing global warming, while at the same time protecting the real incomes of middle-income and lower-income American families. The number of permits is set by a statutory cap on carbon emissions that gradually diminishes over time. The sale of carbon permits will generate very large revenues, posing the critical question of who will get the money. The introduction of carbon permits – or, for that matter, any policy to curb emissions – will raise prices of fossil fuels and have a regressive impact on income distribution, since fuel expenditures represent a larger fraction of income for lower-income households than for upper-income households. The net effect of carbon emission-reduction policies depends on who gets the money that households pay in higher prices. We find that a cap-and-rebate policy would have a strongly progressive net effect. Moreover, the majority of U.S. households would be net winners in purely monetary terms: that is, their real incomes, after paying higher fuel prices and receiving their rebates, would rise. From the standpoints of both distributional equity

and political feasibility, a cap-and-rebate policy is therefore an attractive way to curb carbon emissions.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

The regional programs were developed in the absences of federal leadership. Clearly a federal program would help relieve concerns that a given region would be at a competitive disadvantage – a concern which has slowed the WCI. The sooner we can reduce GHGs, the more effective it will be in addressing climate change. Any federal climate policy should incorporate and thus reward the early actors in climate change policy. No matter how good the first federal climate policy will be, it will inevitably be changed. A firm message needs to be send that early actors will be rewarded, not penalized, to continue to promote adoption and innovation in this field.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

While is makes sense for a regulatory agency like EPA to oversee a national cap and trade program, the USDA has a long history and strong presence in many rural and forest communities. The various branches of the USDA (including NRCS and Forest Service) should be engaged in outreach and assistance with offset opportunities, energy conversion and rebate measures.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

The short answer: YES. All of the above. True hardship could result from an effective climate change program if care is not taken to address the needs of the most vulnerable families, communities and businesses.

But let me bring up another issue of importance to the House Agriculture Committee and the programs you agriculture and forestry sectors which could affect the importance

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

A mix of flexible and targeted funds to help deal with the increase in cost of living ands doing business, and the upfront costs of conservation and conversion.

a) flexible rebate or credit to lower income families – perhaps similar to earned income credit

b) income-sensitive rebates to families and small businesses that substantially defray the cost of energy conservation measures (e.g. weatherizing) and conversion to other energy sources in the year the costs were incurred.

c) multi-year tax credits for higher income families and larger businesses to help defray costs of energy conservation and conversion over several years.

In another economic situation (i.e. not the "great recession" we are experiencing now) experiments in multi-year financing of the upfront costs of energy conservation and conversion would be appropriate. However, large, same-year rebates are needed for low income families and could help stimulate the economy as energy prices rise.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes, as discussed above.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Forests are important national resources that can be employed in multiple ways to address climate change as well as other pressing environmental, social and economic issues. National forests can be managed to enhance carbon sequestration and at the same time can supply renewable, yet durable products for construction and craftsmen and a steady, renewable supply source for community biomass plants, schools, and home heating. Adding biomass energy to the list of multiple uses can add complexity to forest planning and management, but can be compatible with managing wildfire in the West. Investment in planning, collaborative partnerships, and community-scale operations will be needed to achieve the ecological and economic outcomes. Despite the vastness of some public landscapes, focusing on relatively small-scale but long-term projects that can foster local wood products businesses, heat schools and health clinics, protect homes from wildfire, and provide sustainable livelihoods in caring for the land, are most likely to be politically viable as well as ecologically valuable.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Keep transaction costs low. Consider scale; larger scale projects require a higher level of rigor.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Consider the overall incentive to the producer, farmer, landowner. What will create incentives for the desired behavior? More rigor does not necessarily mean a better outcome. We need to look beyond offsets to consider the full suite of changing incentives to ag and forest owners under climate change policy to understand the role that offsets might play in balancing incentives to achieve desired goals.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

It shouldn't. Congress should delegate such decisions regarding regulations to a government agency using scientific and public input in a participatory process.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

Congress should delegate such decisions regarding regulations to a government agency using scientific and public input in a participatory process. There are pros and cons to each that require some vetting. If the goal is to create incentives to achieve climate change goals, transaction costs must be low. The rules need to not only be scientifically rigorous, but also implementable. And they may need to change over time as we learn more – and we won't want to require an act of Congress to be able to do that.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Note that analysis to date suggests that carbon offset funding will at best pay only a portion – a minor portion – of the full costs of a sustainable forestry project. Most people hope that it will be an added payment that will help make good forestry and forest protection feasible. Cost-share programs remain critical and effective tools for reaching many landowners. They should complement, not cancel, any additional incentive for forest protection and sustainable management that a carbon offset program might provide.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

No. Insurance or a set aside program should be set up to cover such losses. Landowners need to know & incur all costs up front or there will be substantial disincentives to participation.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Definitely not in legislation. A good, agency-led process with scientific & public input and transparent decision-making would be most effective. This is not just about setting rules that follow good science, but rather creating the incentives for behavioral change that good science suggests is necessary. The latter requires diverse input to craft an effective and equitable program.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Knowledge of options, upfront costs, risk, supply chains, market demand

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No. Only 6% of family forest owners (21% of acres in family forest ownership) take advantage of cost share programs. However, participation in state programs with significant property tax benefits can be fairly high. Forest owners are sensitive to economic incentives when they are significant. Higher energy prices will create a great incentive to cut forests for wood energy in the short term, or to convert forests to fields for biofuel production. To address climate change goals, as well as other ecological values, these pressures need to countered by greatly expanded and effective incentive programs to keep forests as forests and to managed them sustainably.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

1. Urban and Community Forestry.

This questionnaire did not address urban and community forestry. Urban & community forestry should be inc;uded among forestry offsets in emerging climate change policy, along

with forest management, forest protection and reforestation. Urban forestry provides significant energy savings and sequestration along with many valuable co-benefits – including urban employment opportunity as well as educational and health benefits. But compared to other kinds of offsets, urban forestry is an expensive ton of carbon. Further direct incentives to urban forestry should be made through federal programs funded by allowance auctions or a carbon tax. The environmental and social benefits of urban forestry are well documented, monitoring procedures have been developed, and California recently released an urban forestry carbon protocol. Urban and community forestry needs to be considered for offsets and incentive funding right along side of other forestry activities as part of a comprehensive, national climate change policy.

II. Addressing the Impact on Incomes of Climate Change Policy

Economists at PERI have recommended a Cap & Rebate program to address the impact that any carbon reduction program would have on the real income of Americans (see below). It is worth a read, although disproportionate impacts on families, communities and industries will still need attention.

If a carbon reduction program makes fossil fuel energy expensive, and at the same time supports real incomes which will mitigate general impacts to the economy (as well as public opposition), then Congress might not have to deal that much with the details of life cycle analysis, leakage, and fuel standards.

http://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_101-150/WP150.pdf

Cap and Rebate:
How to Curb Global Warming While Protecting the Incomes of American Families

by James K. Boyce and Matthew Riddle
Political Economy Research Institute
University of Massachusetts, Amherst
October 2007

Abstract
This essay examines the distributional effects of a "cap-and-rebate" policy for reducing carbon emission in the United States: a policy that auctions carbon permits and rebates the revenue to the public on an equal per capita basis. The aim of the policy is to reduce U.S. emissions of carbon dioxide, the main pollutant causing global warming, while at the same time protecting the real incomes of middle-income and lower-income American families. The number of permits is set by a statutory cap on carbon emissions that gradually diminishes over time. The sale of carbon permits will generate very large revenues, posing the critical question of who will get the money. The introduction of carbon permits – or, for that matter, any policy to curb emissions – will raise prices of fossil fuels and have a regressive impact on income distribution, since fuel expenditures represent a larger fraction of income for lower-income households than for upper-income households. The net effect of carbon emission-reduction policies depends on who gets the money that households pay in higher prices. We find that a cap-and-rebate policy would have a strongly progressive net effect. Moreover, the majority of U.S. households would be net winners in purely monetary terms: that is, their real incomes, after paying higher fuel prices and receiving their rebates, would rise. From the standpoints of both distributional equity and political feasibility, a cap-and-rebate policy is therefore an attractive way to curb carbon emissions.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Urban forestry & community forestry!!!				
Forest management				
Forest protection / reduced deforestation / reduced fragmentation				
Reforestation				
Wood biomass as alternative energy				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
USA DRY PEA AND LENTIL
COUNCIL
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Tim D. McGreevy

Organization(s) you represent

USA Dry Pea and Lentil Council

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director, USA Dry Pea and Lentil Council

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The USA Dry Pea and Lentil Council is not convinced that federal legislative or regulatory action is appropriate to address greenhouse gas (ghg) emissions or any potential climate change that may exist. However, if Congress or the federal government is going to attempt to address climate change and limit greenhouse gas (ghg) emissions, a cap-and-trade approach would be the least harmful approach in terms of adverse impacts to agriculture. A cap-and-trade approach is more desirable than addressing emissions through a carbon tax or through EPA regulations. A cap-and-trade approach would provide some potential to limit the economic costs of an emissions cap and potentially provide agricultural producers a market to recoup increased energy input costs that will likely be passed along to them.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agriculture sector should not be subject to a ghg emissions cap. Agricultural practices should be eligible for any ghg offsets market that is established under a cap-and-trade framework. Agriculture should be exempt from the emissions cap and eligible for the offsets program, because 1) U.S. farmers provide low-cost food and fiber for the world. Additional regulations or compliance costs will result in higher food and fiber costs at a time when increased productivity is needed to meet the demand of a growing world population; 2) due to the number, lack of uniformity, and dispersal of farms, the cost of administering and enforcing an emissions cap on agriculture could cost more than the ghg benefits it would provide; 3) ag offsets are a cost-effective way of reducing or sequestering ghg emissions. Low cost ag offsets will help limit the adverse impacts of the emissions cap on the economy.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

We do not have the expertise to comment on how emissions allowances should be distributed across all sectors. Allowances for the agriculture sector should be at no cost. As indicated above, agriculture should not be subject to caps or regulations that will further

increase production costs for food and fiber. As energy consumers, farmers will likely be subject to increased input costs due to the caps or regulations placed on energy providers and fertilizer manufacturers.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

We do not have a position on this issue at this time.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

If a cap-and-trade program is established, existing government agencies should administer the programs. Specifically, USDA should administer any agriculture offsets program. USDA has the experience and expertise on farming practices and programs as well as an established relationship with farmers that would enable them to most effectively administer any agriculture offsets program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

We would support the CFTC as regulator for carbon under a cap-and-trade program. The CFTC already has proven ability to regulate derivatives, and staff with expertise to do so.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

No position.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

While we have seen very little analysis of the specific impact that a carbon reduction program will have on different sectors, we believe it is likely that as energy consumers, agriculture producers will experience increased input costs. The production of fertilizer is likely to be significantly impacted and the increased costs passed onto farmers. Rural areas whose primary source of electricity is produced from coal would also likely experience increased energy costs and have fewer alternative sources of energy production.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Any revenues derived from a carbon reduction program should be provided to those entities and consumers that incur increased input costs as a result of the carbon reduction program. Consideration should also be given to sectors, such as agriculture that produce goods essential to our economy and well-being. Additional funds not returned to consumers or essential sectors should be invested in research and development of renewable energy sources, including renewable biomass.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes, as indicated in the previous response, assistance should be provided to those entities and consumers that incur increased input costs as a result of the carbon reduction program.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

no position on this issue.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Carbon prices should be determined by market forces.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

We believe that a voluntary offset program that compensates farmers for actions that reduce or sequester emissions and allowances that compensate farmers for increased input costs incurred as a result of a carbon reduction program would be most effective for agriculture.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The total number of offsets should not be limited.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offsets derived from agricultural practices should be a priority.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The U.S. Department of Agriculture should establish, through rulemaking and public comment process, the offset measurement criteria. We believe there should be uniform and consistent measurement accounting criteria. The methods for measuring offsets are still emerging and evolving and we believe that USDA is the appropriate entity to review the

practices and establish the criteria. Any legislation should delegate this responsibility to USDA and give them the flexibility to consider and incorporate new technologies.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

We do not have enough information at this time to specify the appropriate criteria for assessing offset projects. The criteria should be established by USDA through rulemaking and public comment process.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

USDA should be responsible for verifying agriculture offset projects. USDA could incorporate methods and processes similar to those used to administer and enforce existing crop and conservation programs.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A standards-based approach would likely be most efficient and effective.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances should be separate programs.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Existing conservation programs, such as CRP could be used as a model to address permanence and duration of offsets, including factors such as contract length and flexibility.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing projects and practices should be eligible for future offset markets established by the federal government, if those practices meet the criteria. Early actors should be rewarded, not excluded.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should be fully eligible for future government offsets markets. Early actors should be rewarded, not excluded. Farmers should be allowed to stack credits that have multiple benefits that apply to other environmental markets.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Offset projects should be subject to contractual agreements with the issue of permanence determined according to the type of project. If a project ceases to reduce or sequester carbon, then the payments would end. Producers should not be liable for natural disasters. Insurance could potentially address the potential of natural disasters reversing carbon sequestration.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Legislation should provide adequate parameters, including a list of eligible offset projects. This list would not be all-inclusive and should allow for emerging projects and technologies. USDA should be responsible for devising the protocols and procedures for agriculture offsets. USDA should be given significant flexibility to devise the protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

The obstacles faced by producers and landowners include cost, absence of a market or market uncertainty, uncertainty surrounding future government policy, and the technical uncertainty around issues such as measurement and verification.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Most analysis suggests that significant emissions reductions or sequestration can be provided through agriculture and forestry practices. Therefore, that would suggest that sufficient incentives do not currently exist to spur more widespread implementation of such practices. Additional financial incentives and technical assistance would result in greater participation and implementation of conservation practices.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till	TBD	medium	low	high
Cover crops	TBD	medium	low	high
Nitrogen Use Efficiency technologies	TBD	high	n/a	low

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
USA RICE FEDERATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Reece Langley

Organization(s) you represent

USA Rice Federation

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Vice President, Government Affairs

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We believe any program enacted to address climate change should be structured as a cap and trade program rather than a carbon tax/fee structure. First, a cap and trade program will likely be more effective in actually reducing the level of greenhouse gas emissions than a carbon tax program. Second, a cap and trade system will automatically adjust to economic conditions based on economic activity and the supply and demand for the carbon offsets or allowances. This cap-and-trade approach will provide the best method to encourage the earliest, most cost-effective reductions in greenhouse gas emissions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No, the agriculture and forestry sectors should not considered as capped sectors. Agriculture as a whole represents a very small portion of the total source of greenhouse gas emissions and is so diverse it would be inefficient to regulate like a traditional stationary source of emissions. Furthermore, farming activities such as cropping patterns need to change from year to year in response to market and environmental factors. Also, the agriculture sector is already going to face significant additional costs under a carbon reduction program as a result of higher input costs, particularly for fuel, fertilizer, and crop protection products. However, even with this variability, agriculture can be a part of the solution by providing cost-effective emissions offsets to sources in the capped sector.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

As stated above, we believe that agriculture should not be a capped sector. Accordingly, if not capped, we believe that agriculture should receive no allowances. This would be the best regulatory environment to fuel early, viable offset-generating projects through market-based mechanisms. However, if agriculture were to ultimately be capped at some point, we believe agriculture should receive allowances at no cost. For agriculture, these allowances

should be distributed by USDA due to its enhanced understanding of the agricultural landscape.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes, all regional programs should be linked for the purposes of trading allowances and offsets. An agricultural project in the U.S. that produces real greenhouse gas reductions should be able to market those reductions to a capped source anywhere in the U.S., including within boundaries of any regional programs.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

For agriculture, USDA should regulate the program and there should not be a new agency created to regulate it. The 2008 Farm Bill includes language in Section 2709 that directs USDA to establish guidelines and verification requirements for measuring, reporting, and collecting environmental services benefits, including in carbon markets. Any legislation developing a cap and trade program or other climate change provisions should require EPA to consult with USDA in developing the program for agriculture. If any agency other than USDA has a role in regulating agriculture on climate change issues, an advisory panel of industry experts should be assembled with specific requirements for the regulatory agency to consider recommendations from this panel.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The CFTC should continue its role in regulating any such market. They currently have the expertise to regulate such markets and seem to have the best track record of the government regulatory agencies when it comes to overseeing such markets.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

We believe any derivatives markets developed based on a carbon reduction program should be allowed to only trade on a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone and b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Yes, we believe a carbon reduction program will have a number of negative impacts on all segments of the agriculture and rural community. Examples include 1) higher input costs for producers due to higher production costs for fuel, fertilizer, crop protection products, and other carbon based products; 2) higher transportation costs for all segments of the agriculture and food supply chain; 3) higher processing and manufacturing costs for the food industry; 4) higher energy and food costs which disproportionately impacts rural and low income populations.

A study conducted in 2008 by Doane Advisory Services estimates that the production cost for rice by 2020 would increase between $80.00 and $153.00 per acre due to climate change legislation. According to this study, of the eight major crops, rice is projected to see the largest increase in production costs. Therefore, we are concerned about the prospect of higher production and related costs due to a carbon reduction program.

For these reasons, we believe it is critically important that any carbon reduction program be structured such that agriculture is treated as an uncapped sector and that either (1) market-based incentives are used to encourage agriculture to provide voluntary emission reductions or (2) provide financial incentives to employ beneficial practices in rice. The revenue generated from a cap and trade program should be used to compensate uncapped industries and consumers for their increased costs due to such a program.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

A robust carbon market is essential if agriculture is to benefit at all from a carbon reduction program by generating some revenue. Some in agriculture will not benefit at all and will actually face a net loss under a carbon reduction program. Others will benefit disproportionately. The revenue generated should be distributed to sectors based on their

costs under the program and a portion should also be devoted to additional research to help develop new technologies that can lower the cost of compliance with a carbon reduction program.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, transitional assistance should be provided to those businesses that are affected. The length of time that this assistance is provided will be key to ensuring that businesses and their consumers do not suffer as they comply with a carbon reduction program.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

N/A

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Overall, market forces should determine the prices for carbon allowances and offsets.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

N/A.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Agriculture and forestry should not be capped sectors for reasons stated earlier, but they should be allowed to participate if they chose to do so in a voluntary offset program. The program should avoid the use of performance standards such as Clean Air Act permit requirements.

With free-market incentives from agriculture to find methods to reduce and/or sequester carbon under a program with minimal interference from government agencies, we expect that farmers will work with agricultural research organizations to develop practices that will achieve cost-effective emission reductions earlier than the traditional commend-and-control regulatory approach.

In addition, there is major concern about the impact such a program will have on both upstream and downstream partners in the agriculture supply chain.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

We do not support arbitrary limits to the use of offsets. Based largely on the fact the emissions from the uncapped sectors will be significantly lower than the capped sector, we believe the supply of compliance-grade offsets will be self-limiting, making an imposed limit totally unnecessary. For example, if the uncapped sectors' total inventory of greenhouse gas emissions was around 15 percent and these sectors successfully reduced emissions by 25 percent in a manner that allowed these reductions to be qualified as regulatory offsets, this would represent a block of reductions less than 4 percent of total U.S. emissions. This illustrates why concern about the penetration level of qualified offsets from the uncapped sectors in not worth the effort. .

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

There should be no prioritization of offsets, but rather the market should determine the distribution.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

For agriculture offsets, these factors should primarily be determined based on the statutory language included in the 2008 Farm Bill that directs USDA to establish such guidelines and verification standards for environmental services, including carbon offsets. Some of this

information is already available from work that has been done by the USDA Natural Resources Conservation Service (NRCS).

Overall, we support reasonable requirements to verify offsets used for compliance purposes. However, we believe it is important to clarify that verification can be achieved through computer modeling demonstrated to adequately estimate reductions resulting from performance-based practices in the field. This is exceptionally important in many agricultural settings where the amount of reductions per acre will be relatively small, thus making ongoing verification through intensive sampling and instrumentation cost-prohibitive.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Based on discussion above relative to development of guidelines by USDA.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The system should allow for the use of offset aggregators that can bundle and sell offsets to the market. Any liability for the legitimacy and verifiability of the projects should reside with the aggregator.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

It should be based on a practice standards approach that uses pre-calculated values for each practice type and region, when available. However, if not available or if a project proponent can demonstrate greater reductions than the pre-calculated reduction values, the programs should allow for projects to move forward with project-specific verification information. Much of this will also be addressed by the work USDA is directed to conduct per Section 2709 in the Farm Bill.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Agriculture prefers that both offsets and allowances be a part of any carbon reduction program and that they be completely separate.

The term "offsets" should be reserved exclusively for a ton of CO2 equivalent voluntary reduction achieved by a source in the uncapped sector. In contrast, the term "allowance"

should be reserved exclusively for a ton of CO2 equivalent voluntary reduction achieved by a source in the capped sector.

Qualified offsets should be allowed for equal substitution with allowances for the purposes of regulatory compliance. This will provide maximum incentive for the capped sectors to seek high-quality offsets early in the program, thus resulting in near-term reductions that will contribute to climate change goals.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The permanence or length of the offsets should be based strictly on the length and terms of the contract. The contract should have terms that allow for flexibility in circumstances of uncontrollable factors.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

For any of these offsets to participate in the new Federal carbon reduction program, they must meet the same standards and terms as the Federal program. If these conditions are met, then they should be allowed to participate.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Producers that have already implemented practices that resulted in a reduction in greenhouse gas emissions should not be excluded from participating in a new carbon reduction program. And many of the practices undertaken to reduce greenhouse gas emissions will provide additional public benefits such as clean water, wildlife habitat, and reduced soil erosion. Projects participating in a greenhouse gas offset market should not be excluded from also participating in other markets for environmental services that currently exist or may arise in the future. Allowing producers to "stack" credits will maximize the economic viability of carbon reduction projects, ensuring more projects are undertaken and synergies with other environmental priorities are developed. In addition, new carbon reduction programs should complement existing conservation programs within the Farm Bill and being administered by USDA.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should

those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

As stated above, producers should get full credit for the carbon reduction benefits being realized from such projects that were already implemented and may have been done on a cost share basis.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

This is a private contract matter that should be addressed in the contracts between the producer and aggregator that purchases the offsets. Legislation should allow for the contracts to include an "act of God clause" to address those situations resulting from uncontrollable factors. The establishment of a "reserve pool" of offsets that could be purchased from in case of such events could help to address this issue.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The legislation should include as finely detailed principles, procedures, and protocols as possible so as to leave little discretion to the implementing agencies. As already directed by the 2008 Farm Bill, USDA should be responsible for managing agriculture offsets, but with the proper oversight from Congress. The Committee should also consider establishing a stakeholder advisory committee that USDA is required to consult with in developing and managing the program. This would be similar to many of the other advisory groups that operate as part of various USDA programs.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Additional costs, reduced efficiencies in some instances, educational requirements, technical assistance, and technology. In addition, there must be a cost effective verification process or standards to evaluate the offsets and this should be developed by USDA per Section 2907 of the 2008 Farm Bill.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon

and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

The potential revenue from selling offsets in a cap and trade program is one possibility for some sectors of agriculture. Also, existing programs that assist producers in implementing conservation and other practices should not be tied to a carbon reduction requirement. The criteria and qualifications for the existing programs should not be impacted by this potential new program.

Unfortunately, as has been discussed earlier, such a cap and trade program will not benefit all of production agriculture proportionately, and in fact, some sectors will very likely be net losers, at least for the short to intermediate term. One such sector is the rice industry due to our required production practices and crop requirements. Due to this, we strongly urge the Committee to insist upon a slow, measured, and clearly understood course in moving forward with any carbon reduction program.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No till	Moderate	Moderate	Low-Medium	Medium
Precision leveling/grading	Moderate	Moderate	High	Medium
Precision application of inputs	Moderate	Moderate	High	Medium
Baling of rice straw (versus in-field decomposition)	Good	Good	Medium	Medium

RESPONSE TO QUESTIONNAIRE SUBMITTED BY USCAP

April 10, 2009

The Honorable Collin Peterson
House Committee on Agriculture
2211 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Peterson:

On behalf of the United States Climate Action Partnership (USCAP), we appreciate the invitation to provide comment to the House Agriculture Committee on a variety of areas impacting the agriculture and forestry sectors in developing climate change legislation. We understand the Committee has also contacted a number of USCAP organizations which will likely provide substantive responses to the individual questions. This letter summarizes USCAP's collective position on issues of interest to the Committee.

As you know, USCAP is a group of 25 businesses and five leading environmental organizations that have called for prompt enactment of national legislation to reduce greenhouse gas (GHG) emissions. In January of this year, USCAP issued its *Blueprint for Legislative Action*. The *Blueprint* makes recommendations to Congress on the urgent need to transform our nation's economy, make the country more energy secure and take meaningful action to slow, stop and reverse greenhouse gas emissions.

As you will see, the significant emissions reductions we recommend are achievable at manageable costs to the economy when coupled with robust cost containment measures (including offsets) and complementary policies to incentivize clean technology and energy efficiency.

In order to ensure a smooth and orderly transition to a low-carbon economy, USCAP strongly supports the use of ample amounts of offsets for compliance purposes by regulated entities. Significant offset opportunities are present in the agriculture and forestry sectors. Potential GHG-offsetting activities could include avoided deforestation, afforestation, soil management, increased yield, agricultural methane capture and other qualifying activities.

Such offsets may provide significant GHG abatement opportunities in the US and abroad, at much lower cost than GHG reductions in other sectors of our economy. Enabling utilization of appropriate levels of offsets in a cap and trade policy will serve joint purposes of reducing emissions in sectors not subject to direct regulation, while also mitigating the economic impacts to the economy as a whole.

Attached to this letter is a 2-page USCAP document entitled: "Issue Overview: Role of Offsets in Cap and Trade," which outlines our specific offset recommendations. Further, attached is a copy of the *Blueprint for Legislative Action* (available online at www.us-cap.org). The Committee will find our detailed offsets recommendations on pages 8-11.

We look forward to working with the Committee as climate legislation advances in the 111th Congress. If there are further questions for USCAP, please feel free to have your staff contact me at or via email at [Redacted]

Sincerely,

Merribel Ayres
USCAP Political Outreach Coordinator

Attachments.

Issue Overview: Role of Offsets in Cap and Trade

USCAP

On January 15, 2009, the U.S. Climate Action Partnership (USCAP) issued the *Blueprint for Legislative Action* – a detailed framework for legislation to address climate change. This brief discusses the importance of offsets in a cap-and-trade program. It should be considered in the context of our *Blueprint*, which includes interconnected and interdependent recommendations on climate protection legislation.

Background

Unlike many types of pollution, the location or source of greenhouse gas (GHG) emissions does not significantly affect its environmental impact because GHGs spread quickly in the atmosphere, where they remain for decades to centuries. Since the total accumulation of GHGs determines the climate impact, reducing a ton of emissions from one source has the same climate impact as reducing a ton of emissions from any other source. The interchangeability of emission reductions in a cap-and-trade system helps manage costs since the cheapest reductions are likely to be made first.

USCAP's Recommendations

USCAP recommends a cap-and-trade program with a broad scope of coverage. However, some sources and activities that contribute GHG emissions will necessarily remain outside the cap. USCAP recommends the establishment of an "offset" program that would allow covered sources to purchase measurable and verifiable emissions reduction credits from sources that remain outside the cap.

- A well-designed offsets program significantly improves the cost effectiveness of achieving the environmental goals of the program by including a broader scope of low- and moderate-cost emissions reduction opportunities. In doing so, it ensures that a broader segment of the economy has an incentive to respond to a carbon price signal.
- USCAP recommends including only high-quality domestic and international offsets in a cap-and-trade program. Assuring that offsets are of high quality ensures the climate benefits of the overall program will be achieved and enables offsets to trade on equal terms with other types of emission reductions.
- To ensure offset quality, USCAP recommends that criteria be established to ensure that all offsets are environmentally additional, verifiable, permanent, measurable and enforceable. USCAP recommends that the Environmental Protection Agency (EPA), should be directed to establish an offset program within 18 months of enactment that would identify specific categories of offsets that would be eligible to participate in the program. To assure greater consistency and efficiency, the EPA should develop standard methodologies for evaluating offsets in each category, and guidance should be created for offset developers with clear certification procedures.

USCAP recommends Congress place limits on the use of offsets for compliance.

- An initial annual limit of two billion metric tons could be increased to a maximum of three billion metric tons by a Carbon Market Board established by Congress in order to avoid undue economic harm from excessively high allowance prices.
- Within these overall limits, Congress should set maximum upper limits of 1.5 billion tons each on the use of either domestic or international offsets in any year.

International offsets can play an important role in forging a global climate protection agreement by providing incentives for more countries to undertake significant actions to reduce emissions. Global deforestation, for example, accounts for 20 percent of global GHG emissions, more than the entire global transportation system. Creating a program to allow measurable and verifiable offsets from reductions in deforestation can, along with

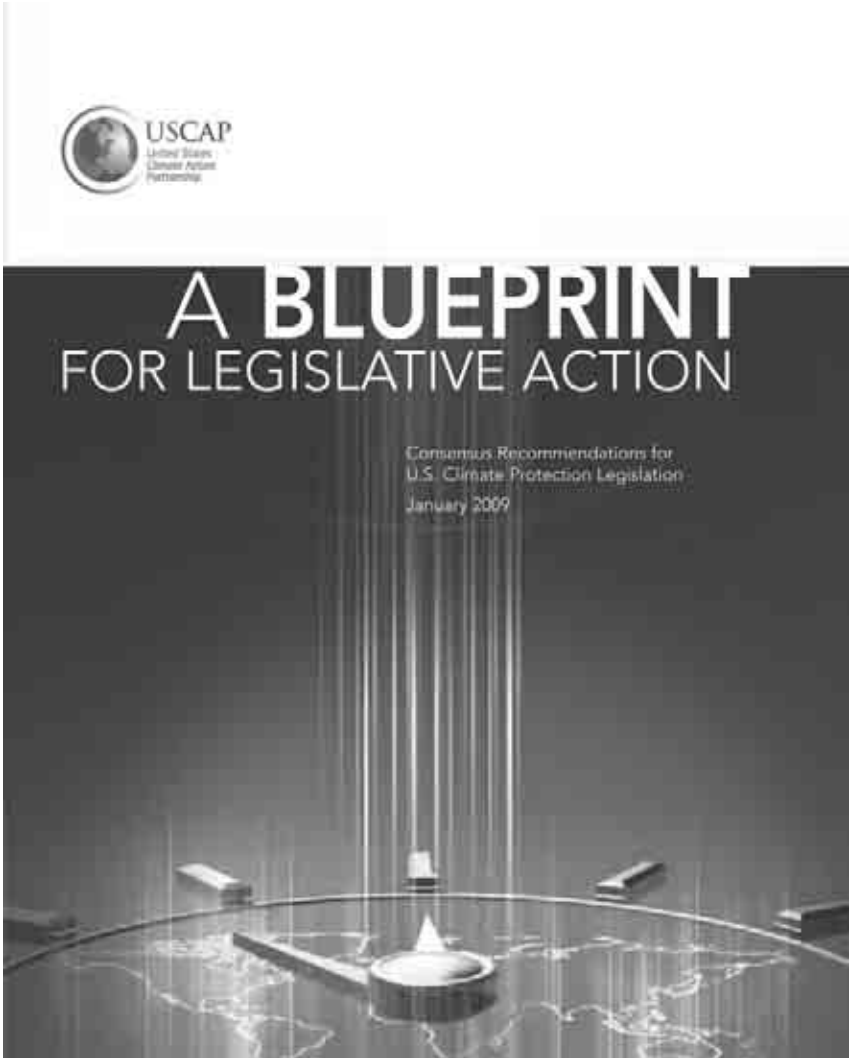
other mechanisms, be a critically important tool for successfully fighting climate change. USCAP recommends that the EPA should establish a schedule to assure that over time, international offsets result in incremental reductions beyond a nationally appropriate country or sector-specific emissions reduction commitment. Such a commitment should cover a suitable share of that countries' emissions, consistent with the global goal of avoiding dangerous climate change.

As part of our cost containment recommendations, USCAP calls for the establishment of a Strategic Offset and Allowance Reserve Pool that would release offsets into the market, at or above the auction threshold price, to prevent excessive carbon prices. To assure effective cost containment, USCAP recommends that a very large number of offsets be maintained in the Reserve Pool. The supply of offsets in the Reserve Pool is expected to include reductions from avoided deforestation, whether provided via government-to-government agreements or by private developers, as well as from other qualifying offset projects. All offsets released from the Reserve Pool must meet the same quality criteria as those used for normal compliance and they can be used by covered sources for compliance without limitations.

The use of real and verifiable offsets has multiple benefits.

- High-quality offset projects stimulate emission reductions and technology innovation in uncapped sectors and result in emission reductions – that have the same climate benefit as equivalent reductions within a capped sector – that would not otherwise occur.
- Offsets reduce costs to the U.S. economy by allowing firms to purchase emission reductions that occur outside the cap when they are more cost-effective, just like a cap-and-trade program allows firms to purchase allowances from other capped firms that can reduce emissions more cheaply.
- Given the emission reduction targets recommended by USCAP, offsets provide a critical transition period for industry to meet their compliance obligation while still developing and deploying emerging low-carbon technologies, thereby helping to safeguard the economy from drastic shocks in fuel use and prices.

To learn more about the USCAP *Blueprint for Legislation Action*, please visit www.us-cap.org.


USCAP
A BLUEPRINT
FOR LEGISLATIVE ACTION
Consensus Recommendations for
U.S. Climate Protection Legislation
January 2009

USCAP
United States Climate Action Partnership

A BLUEPRINT
FOR LEGISLATIVE ACTION

CONTENTS

1 Introduction: Climate Change Legislation Can Benefit our Economy and Energy Future 2

2 International Principles 3

3 Major Mechanisms and Linkages to Achieve our Goals 5
- A. Emission Reductions Targets and Offsets 5
- B. Cap-and-Trade Plus Complementary Measures 6
- C. Complementary Governmental Programs 6
- D. Possible Assessments 8

4 Cap and Trade System Design 7
- A. Scope of Coverage and Point of Regulation 7
- B. Offsets and Other Cost Containment Measures 8
- C. Allocation of Allowance Value 11
- D. Credit for Early Action 15

5 Technology Transformation 16

6 Complementary Measures for Coal Technology 18

7 Complementary Measures for Transportation 21
- A. Fuel Related GHG Performance Standards 21
- B. Vehicle Related GHG Performance Standards 22
- C. Reducing Carbon-Intensive Travel, Educating Consumers, and Improving Transportation System Efficiency 22
- D. Overall Transportation Sector GHG Management Policy 23

8 Complementary Measures for Buildings and Energy Efficiency 23

PROLOGUE
OUR GOAL, OUR ROLE

In January 2007, we issued our *Call for Action* in which we joined together to call for "prompt enactment of national legislation in the United States to slow, stop and reverse the growth of greenhouse gas (GHG) emissions over the shortest time reasonably achievable." We are issuing this *Blueprint for Legislative Action* to reinforce that commitment and to provide decision makers in the Administration and Congress with a framework for legislation that can achieve this objective. It is intended as a guide for the development of legislation in the 111th Congress that can become law.

Our Blueprint is a balanced and integrated approach to key linked issues that must be addressed in any national climate legislation. This *Blueprint* is the consensus product of a diverse group of companies and non-governmental organizations. We understand that we do not include all stakeholders.

We also understand that it is for Congress to write legislation and that the issues are complex and the process dynamic. Accordingly, we want to be clear that this is not the only possible path forward and we stand ready to work with the Administration, Congress, and other stakeholders to develop environmentally protective, economically sustainable, and fair climate change legislation.

1 INTRODUCTION

Climate Change Legislation Can Benefit Our Economy and Energy Future

The United States faces an urgent need to transform our nation's economy, make the country more energy secure, and take meaningful action to slow, stop, and reverse GHG emissions to address climate change. The economic, energy, and global warming realities facing the nation are characterized by a detrimental dependence on foreign oil, economic instability, and a growing recognition that the impacts of a warming planet are being felt today.

To address these challenges successfully will require a fundamental shift in the way energy is produced, delivered, and consumed in the U.S. and around the globe. We need a new vision and policy direction to transition from the technologies and practices we relied upon in the 20th century to the technologies and practices America will need in the 21st century. We must:

— increase the overall energy efficiency of our economy;

— utilize responsibly our domestic supplies of coal, oil and natural gas;

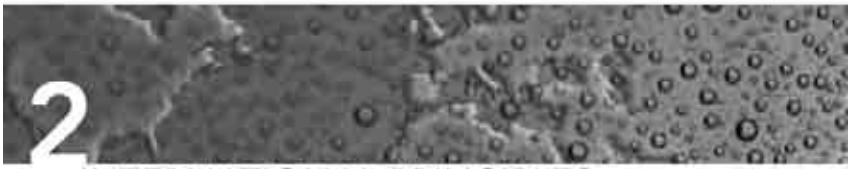
— develop and export the transportation technologies and fuels of the future; and

— ensure the nation has an adequate supply of electricity produced from low-carbon resources, including wind, solar, next generation nuclear technology, and coal with carbon capture and sequestration.

New and emerging technologies can put us on the right path, and the potential for other continued technology improvement is high. But to assure success, we need well-aligned national energy and climate policies that set out a new direction for the country. These policies must establish an orderly and predictable schedule of GHG reductions that will move the private sector to develop and deploy the new and advanced energy technologies of tomorrow. Thoughtful and comprehensive national energy and climate policy will help secure our economic prosperity and provide American businesses and the nation's workforce with the opportunity to innovate and succeed.

URGENT ACTION IS NEEDED

Scientific evidence supporting the need for urgent action to protect the climate has solidified since the release of USCAP's *Call for Action*. In November 2007, the Intergovernmental Panel on Climate Change stated: **"Warming of the climate is unequivocal, as is now evident from observations of increases in average air and ocean temperatures, widespread melting of snow and ice and rising global average sea levels."**



2 INTERNATIONAL PRINCIPLES

Climate change presents a global problem that requires global solutions. USCAP believes that international action is essential to meeting the climate challenge. U.S. leadership is essential for establishing an equitable and effective international policy framework for robust action by all major emitting countries. USCAP believes that adoption of mandatory U.S. climate policy is an essential precondition for a full and effective international framework.

The mechanisms that Congress establishes as part of U.S. climate legislation can play a crucial role in encouraging broad international action. However, U.S. action to implement mandatory measures and incentives for reducing GHG emissions should not be contingent on simultaneous action by other countries.

USCAP offers the following principles and recommendations regarding: 1) U.S. policy addressing international issues, including international linkage to a domestic cap-and-trade system, policies to encourage action, and policies to address competitiveness; and 2) the nature of a new or enhanced international climate policy framework, and the role of the United States in facilitating its development.

— *As a step toward development of a comprehensive international framework, Congress should consider adopting provisions and criteria for linkage of the U.S. systems to other existing and emerging cap-and-trade systems.* Linking emission trading systems globally would bring higher economic efficiency, greater scope for emission reductions, and broader political engagement. Criteria should address, but not be limited to: environmental integrity, cost considerations, timing, and credible accounting and enforcement.

— *U.S. climate policy should create incentives for developing countries to limit their GHG emissions.* Access to U.S. GHG markets can be a strong incentive for action by emerging economies, provided that any tradable emissions units brought into the U.S. system represent either allowances issued by other nations under their legally binding national emissions caps, or real emission reductions that meet criteria established by Congress. Congress should consider a mechanism that, while safeguarding the environmental integrity of the cap, would offer preferential access to U.S. GHG markets for countries moving swiftly to reduce emissions broadly across the bulk of their national economies, and would gradually restrict such access for countries failing to curb their emissions. U.S. climate policy should assist developing countries in emissions measurement and monitoring and in technology development and deployment.

— *U.S. climate policy should be designed to safeguard environmental integrity, maintain competitiveness, and avoid carbon leakage.* In the long term, these concerns are best met through multilateral commitments ensuring equitable effort by all major emitting countries. Any measures deemed necessary to address competitiveness issues should be consistent with World Trade Organization rules.

— *Congress should call upon U.S. negotiators of bilateral and multilateral agreements to seek rational and consistent tax and accounting standards for trade in GHG emissions.*

— *Congress and the Administration should establish a U.S. climate policy that strengthens support for efforts by developing countries for the adaptation of human and natural systems to the impacts of climate change.* As a first priority, we recommend that Congress and the Administration take measures to ensure that bilateral and multilateral development assistance works to strengthen resilience to climate risk, rather than contributing to climate vulnerability. In addition, as a basis for further action, USCAP recommends that Congress initiate an interagency review to assess adaptation needs in developing countries, recommend a strategy to address adaptation needs in developing countries in collaboration with other donor countries, and identify potential sources of funding for those efforts.

— *USCAP recognizes that a critical complement to a mandatory domestic climate program is the development of a unified multilateral framework establishing fair, effective, and binding international commitments for all major emitting countries.* Bilateral and regional agreements linking trading systems and other efforts can contribute to the development of, and complement, a stronger international framework. The final objective of U.S. policy should be the negotiation and ratification of binding multilateral agreements establishing a comprehensive framework for significant long-term reductions in global GHG emissions consistent with the objective of the UN Framework Convention on Climate Change.

— *A fair and effective global effort requires a flexible framework recognizing the strong diversity among major economies.* Commitments are needed from all major economies and should be measurable, reportable, verifiable, and nationally appropriate. To maximize environmental effectiveness and minimize costs, the long-term aim should be binding commitments to cap and reduce emissions, including through participation in global emissions trading. In the nearer term, the international framework should establish binding absolute economy-wide reduction targets for developed countries while allowing developing countries a range of binding policy commitments taking into account national capacities, circumstances, and policy approaches.

— *Congress and the Administration should recognize the UN Framework Convention on Climate Change as the primary forum for building the international climate framework.* Climate change requires action on many fronts and in multiple international venues, including trade, finance, and development. Initiatives such as the G8+ Gleneagles Dialogue, the Asia Pacific Partnership, and Asia Pacific Economic Corporation, APEC, can contribute by promoting action and consensus. These efforts should not be seen as substitutes for the development of comprehensive binding agreements under the Framework Convention.

— *USCAP recommends the development of measures and incentives, through both U.S. legislation and within a multilateral framework, that aim to reduce emissions from deforestation and land-use change.* Forest sector emissions and land-use change, principally in the developing world, account for approximately 20 percent of global emissions. Efforts to reduce impacts from deforestation and land-use change can provide cost-effective emission reductions while protecting biodiversity and promoting sustainable development.

3 MAJOR MECHANISMS AND LINKAGES TO ACHIEVE OUR GOALS

A. Emission Reduction Targets and Offsets

Accumulating science shows that the impacts of global warming are occurring sooner than anticipated. If the risks of serious adverse impacts of GHG emissions are to be minimized, prompt and aggressive emission reductions in the developed world are necessary, along with similar reductions by major emitting countries in the developing world in the not too distant future. For this to be achieved, the United States must show leadership and act quickly to establish a mandatory, national economy-wide climate protection program that includes emission reduction targets for total U.S. emissions and for capped sectors that are:

— 97%-102% of 2005 levels by 2012;[1]
— 80%-86% of 2005 levels by 2020;
— 58% of 2005 levels by 2030; and
— 20% of 2005 levels by 2050.

Equally important, and as we stated in our *Call for Action*, it is imperative that the costs of the program are manageable. These costs will depend significantly upon the combination of emission reduction targets and the level of offsets that are permitted from emission reductions from uncapped sources in the United States and abroad and the effectiveness of other cost containment measures. USCAP believes the targets recommended above are achievable at manageable costs to the economy provided that the offsets and other cost containment measures we recommend in Section 4-B are enacted, along with the other critically important policies and measures recommended elsewhere in this *Blueprint* including incentives for clean technology deployment and allocation of allowance value.

If offsets are not statutorily permitted in quantities such as those we have recommended, less stringent emission reduction targets would result in similar compliance costs. However, less stringent targets come at the environmental cost of fewer emission reductions and, therefore, greater likelihood of overshooting the atmospheric concentration target that leading climate scientists estimate is needed to protect against serious adverse impacts from GHG emissions. Other examples of policy choices that are strongly linked to the choice of targets include:

[1] The 2012 and 2020 ranges represent agreed-upon boundaries within which individual USCAP members will advocate for their preferred targets.

— The size cutoff for large stationary sources that are included in scope of coverage for the cap and trade system (see Section 4-A);

— The limits that are placed on the size and the starting price for triggering the use of the Strategic Offset and Allowance Reserve Pool (see Section 4-B);

— The approach to allocating allowance value (see Section 4-C); and

— The approach to technology policy (see Sections 5–8).

B. Cap-and-Trade Plus Complementary Measures

Building on the principles and recommendations in *our Call for Action*, we believe our nation's climate protection goals can be met in the most cost effective manner through an economy-wide, market-driven approach that includes a cap-and-trade program as a core element. Since all U.S. emissions are not included in the cap, the legislation should include provisions to create incentives for emission reductions in uncapped sectors through qualified offsets from these sectors.

In addition, policies and measures that are complementary to a cap-and-trade program are needed to create incentives for rapid technology transformation and to ensure actual reductions in emissions occur in capped sectors where market barriers and imperfections may prevent the price signal from achieving significant reductions in emissions within those sectors. To the extent that market barriers and imperfections persist, it may be necessary to continue to use complementary sector-specific policies and measures as transitional tools. However, a goal of legislation should be to move, as soon as practicable, to a fully market-based system that relies on the price for carbon to achieve the recommended reductions.

C. Complementary Governmental Programs

In our *Call for Action*, we called for a national program that establishes a domestic market with a uniform price for carbon for all sectors and regions of the United States. To that end, the legislation should include provisions to promote, as soon as practicable, full integration of the U.S. trading program with other comparable trading systems in the developed world, and, eventually, to promote a single global carbon market. USCAP acknowledges the important role of state and local governments in addressing climate change but the thrust of our recommendations is to establish a stronger and more far reaching role for the federal government than heretofore has been the case. To that end, this *Blueprint* and other USCAP documents call for:

— a national GHG registry;

— economy-wide emission reduction targets;

— a national cap-and-trade program that results in a unified domestic market with a single price for carbon;

— cost containment measures to protect the nation's economy during the transition to a low-carbon economy;

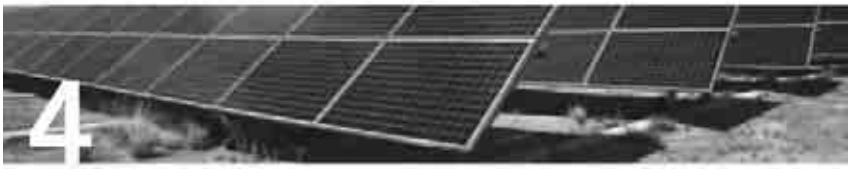
— a federal technology research development and deployment program; and

— complementary measures for coal technology, transportation, and buildings and energy efficiency.

We believe local, state, regional and federal programs can and must be complementary. The aim is to achieve compatibility and avoid conflicts between local, state and federal programs that unnecessarily drive up compliance costs and make achieving our nation's environmental goals more difficult.

D. Periodic Assessment

Congress should require periodic assessments of emerging climate science, current and projected progress towards achieving the targets, the associated social and economic costs of achieving them, and the potential for unintended policy outcomes such as deleterious land use changes. Based on these assessments, agencies should be required to update their programs as necessary to promote achievement of the legislative goals as cost effectively as possible. On the basis of these assessments, Congress should also periodically consider legislative revisions as necessary to assure that we will meet the 2050 goal and that we will do so as cost-effectively as possible and in a manner that does not stimulate increases in emissions outside of the United States.



4 CAP AND TRADE SYSTEM DESIGN

A. Scope of Coverage and Point of Regulation

In our *Call for Action*, we recommend the cap-and-trade program should cover as much of the economy's GHG emissions as is politically and administratively possible. We now recommend that the scope of coverage for the cap-and-trade program include fossil fuel and other covered GHG emissions from large stationary sources and the carbon content of fossil fuels used by remaining sources. The cap-and-trade program should not cover fossil energy used as feedstock material or in other ways that do not result in GHG emissions.

Large stationary sources should be defined as facilities that emit a covered GHG at a CO_2 equivalency rate of 25,000 metric tons or more per year for existing facilities and 10,000 metric tons or more per year for new facilities. This scope of coverage includes large stationary sources that combust coal, natural gas, petroleum and other fossil fuels or otherwise emit GHGs at a rate exceeding the annual coverage threshold. Reasonable thresholds for separate *de minimis* point sources of emissions within complex facilities should be established to avoid creating an unreasonable regulatory burden.

In the case of GHG emissions from the transportation sector, the vast majority of transportation emissions result from fuel consumed in vehicles owned or operated by transportation end-users, including individual consumers. However, requiring individual end users to be directly responsible for submitting allowances is administratively infeasible. Therefore, USCAP recommends transportation fuel providers be tasked with submitting allowances sufficient to cover the fossil-based CO_2 emitted from the use of transportation fuels by consumers and other end users.

This approach serves as a feasible and less costly proxy for regulating the emissions than having consumers and other end users serve as the point of regulation. As such, transportation fuel providers are providing a critically important accounting function. The point of regulation for this accounting function should be the refinery gate and refined product importers. It is also important that Congress understand and establish policies to ensure carbon-based price signals are transparent to transportation fuel consumers and other end users, thereby encouraging them to make informed GHG-reduction choices. In Section 7 of this *Blueprint*, we make further recommendations regarding complementary measures to address emissions from the transportation sector.

Emissions from the use of natural gas by residential and small commercial end users can be covered, for example, by regulating the utilities that distribute natural gas, often referred to as local distribution companies (LDCs). LDCs have an obligation under state law to procure and deliver natural gas to their customers. Placing LDCs under the cap, or, more precisely, making them the point of regulation for natural gas emissions for their customers who are not otherwise covered (i.e., residential and commercial customers) would require them to purchase allowances to cover those customers' emissions, and absent a federal mandate LDCs would only be able to recover those costs that are permitted by their state regulatory commissions.

Given these unique circumstances, Congress must exercise its full authority over interstate commerce and require as a matter of law that these costs be passed through to their customers. Congress must also provide allowances to these LDCs to mitigate these costs and advance demand reduction activities. Of equal importance, provisions

must be included to prevent duplicative coverage of emissions, as could occur when large stationary sources of emissions purchase natural gas from LDCs.

In addition, given that the primary way reductions will occur in this sector is through energy efficiency improvements and demand management in end use equipment, appliances, and buildings, Section 8 of this *Blueprint* makes further recommendations for policies that will need to be included in the legislation regarding complementary measures to address GHG emissions from, among other activities, residential and commercial natural gas use.

B. Offsets and Other Cost Containment Measures

Ensuring a smooth and orderly transition to a low-carbon economy is imperative. A comprehensive policy must include measures that contain costs while ensuring necessary investment in new technologies and actual emissions reductions—serving to protect both individual entities and the economy from unanticipated challenges. USCAP believes the most powerful cost containment measure is a robust cap-and-trade program. Complementary policies to promote energy efficiency such as those we have recommended elsewhere in this *Blueprint*, will reduce demand for electricity, natural gas and transportation fuels, thereby reducing demand for and the price of allowances.

We recognize, however, that other measures will be needed, such as the sufficient use of offsets, banking of allowances, and protections that ensure allowance prices are not too volatile or excessively high for sustained periods of time.

Cost containment measures should be designed to:

— protect the economy while allowing a long-term price signal that is sufficient to stimulate the development and deployment of new technologies;

— drive investments in cost-effective energy efficiency;

— maintain the integrity of the overall emissions budget established by the cap for each period; and

— achieve reductions in greenhouse gases.

Achieving these policy objectives will require a combination of tools, some of which should be phased out over time as the carbon market matures.

AVOIDING EXTREME PRICE VOLATILITY IN THE SHORT-TERM: To reduce risk from extreme short-term price volatility USCAP recommends that Congress authorize the following measures that are aimed at increasing compliance flexibility for regulated entities:

— ample amounts of offsets to be used for compliance purposes (as described below);

— unlimited banking of offsets and allowances for firms that have compliance obligations, with appropriate restrictions that may be needed for firms that do not have compliance obligations aimed at preventing market manipulation; and

— effective multi-year compliance periods.

ENSURING SUFFICIENT INVESTMENT IN TECHNOLOGY TRANSFORMATION: Price expectations help drive technology innovation and deployment. Therefore, cost containment measures should permit allowance price signals to become stronger over time. Further, Congress should direct a reserve price for the auction of allowances to be set at a level that helps to avoid prices that are too low to encourage long-term capital investments in low- and no-carbon technologies.

We believe the price that could accomplish this policy objective is approximately $10 per ton at the outset of the program. This price could escalate over time at a rate greater than inflation and then flatten out around 2025, provided that the price level and overall need for this mechanism is reviewed over time as the carbon market matures and new technology is deployed. This review should determine whether the minimum starting price for auctions should be adjusted, stay the same, or be phased out.

Like all cost containment provisions, the auction reserve price should be designed and implemented in a manner that prevents market manipulation. Elsewhere in this *Blueprint* we recommend additional incentives and other complementary measures that are critically needed to

spur necessary investments in energy efficiency and other critical low- and zero-emission technologies.

ENSURING A SMOOTH TRANSITION AND CONTAINING COSTS TO THE ECONOMY:

To ensure a smooth transition to an economically responsible and environmentally sustainable energy future, Congress must authorize a combination of provisions including:

— *Emission Offset Quality:* In our *Call for Action*, we recommend regulated entities be permitted to meet part of their compliance obligations through the purchase of verified offsets created by activities that sequester or reduce emissions from domestic sources that are not subject to the cap, and GHG emission reduction or sequestration projects outside the United States. In this *Blueprint*, we now recommend:

- Criteria must be established to ensure all offsets are environmentally additional, verifiable, permanent, measurable, and enforceable. The U.S. Environmental Protection Agency (EPA) should be directed to establish an offset program using a standards-based approach within 18 months of enactment. Under a standards-based approach, an EPA rule should identify specific categories of offsets that are eligible to qualify, along with clear procedures to achieve certification, and clear guidance to offset providers about how they can meet the standards. The eligible categories of offsets should be added to or modified over time based on experience, and standards should be periodically updated to ensure environmental additionality.

- In the case of international offsets, in addition to meeting the criteria described above, EPA should be directed to establish a transparent process for evaluating and approving international offsets. In so doing, EPA should enable international offsets that meet the quality criteria described above to be approved during the early years of the program, with a schedule to assure that over time international offsets result in incremental reductions beyond a nationally appropriate country or sector-specific emission reduction commitment that covers a suitable share of a country's emissions, consistent with the global goal of avoiding dangerous climate change. Congress should consider specifying a date or dates by which eligibility for international offsets should be contingent upon a host country's acceptance of such an emissions reduction commitment. Such schedule should be structured to encourage developing countries to move as rapidly as possible to curb their emissions, while ensuring that the overall quantities of offsets and international allowances are adequate for cost containment purposes as detailed in this *Blueprint*.

— *Emission Offset Limits and Use:* Economic modeling and experience in other markets indicates that less restrictive limits on the use of offsets for compliance will tend to result in lower allowance prices, while more stringent emission targets tend to result in higher allowance prices. Since USCAP is recommending a stringent emission target, we also recommend generous limits on the use of offsets to help moderate compliance costs, especially during the period when low carbon technologies are still achieving the economies of scale and commercial maturity that more currently lack.

To help achieve this objective, USCAP recommends the following ongoing approach to managing the actual amount of offsets allowed for compliance use over time:

- Congress should set an overall upper level limit on the use of offsets for compliance in any year of 1.5 billion metric tons domestic and 1.5 billion metric tons international offsets.

- Congress should establish a Carbon Market Board (CMB) and give it the authority to set annual limits on the level of domestic and international offsets within the range of 2-3 billion metric tons total, consistent with the upper limits specified above and the provisions described below.

- Congress should specify that the initial annual limit on offsets will be 2 billion metric tons. CMB should have the authority to increase the annual limit to avoid undue economic harm from excessively high allowance prices (e.g., increases in the price of natural gas due to fuel switching) and encourage technology transformation, including the development of carbon capture and storage.

In exercising this authority, CMB should take into account the number of banked offsets in the private sector, the degree to which the criteria for offset quality described above have been effectively implemented by EPA, and the size of the strategic reserve pool described below.

- The annual limits on offsets should be implemented in a manner that ensures easy and efficient access to offsets by all covered firms while providing flexibility and limiting the potential for speculation by, for example, using the ratio of a given year's offset limit to the cap on emissions in that year to define each covered firm's limit on the use of offsets for compliance purposes.

— *Strategic Offset & Allowance Reserve Pool:* Even with ample offsets, there will still be the potential for extreme volatility and spikes in allowances prices. To limit such price spikes and volatility, especially in the early years of the program, USCAP recommends the establishment of a strategic reserve pool that includes: a) program-based and other governmentally certified offsets, including but not limited to forest carbon tons derived from offsets due to avoided tropical deforestation; and b) allowances borrowed from future compliance periods at a system-wide level (as distinguished from a firm level).

Offsets and/or allowances in the strategic reserve pool would be released into the market when allowance prices reach a specific threshold price. The reserve pool auction threshold price should be set at a level that prevents undue economic harm from excessively high allowance prices (e.g., increases in the price of natural gas due to fuel switching) and encourages technology transformation, including the development of carbon capture and storage.

Offsets released into the market from the reserve pool may be used without limitation and shall be in addition to the offset use limit recommended above. In order to achieve these objectives, the strategic reserve pool will need to contain a very large number of offsets and the CMB would need to have the authority to release them into the market on an as-needed basis. Thus, it is crucial that the reserve pool be very large and that the U.S. Government be empowered to fill it and replenish it as needed. We further recommend:

- The offset component of the reserve pool may include, but would not be limited to, forest carbon tons derived from avoided tropical deforestation generated through bilateral agreements between the U.S. Government and other nations, or bilateral agreements approved by both governments, as well as sub-national forest carbon activities, with the consent of the national governments of participating countries. Including international forest-related offsets in the reserve pool should not preclude such offsets from also being eligible and available to firms as international offsets in the overall cap-and-trade program. USCAP recommends that any bilateral agreements be developed and implemented in concert with international mechanisms to reduce emissions from deforestation and degradation. Forest carbon tons offsets must be real, additional and verifiable and enforceable with adequate monitoring and, as applicable, discounting and/or an insurance program. Recognizing the potential for emissions leakage to other forested nations, the U.S. Government must establish mechanisms for reviewing and accounting for such leakage in the offset component of the reserve pool.

- Congress should direct EPA to establish a program to certify forest carbon tons, using the criteria described above. U.S. Government certified and registered forest carbon tons may be held or traded by private entities at any time, and may be used for compliance purposes, without limitation, whenever the CMB-established threshold price for offset release from the strategic reserve has been reached.

- The allowance component of the reserve pool would utilize a limited number of allowances borrowed from future compliance periods but the CMB would only be authorized to use this mechanism as a measure of last resort if the reserve pool temporarily does not contain sufficient offsets to meet the cost containment need. Congress should specify limits on the total amount of

allowances to be borrowed from future compliance periods that can be utilized for this purpose, as well as limits on sales of allowances from the reserve pool on an annual or several-year period.

- Congress should charge the CMB with the responsibility to establish and update the reserve pool auction threshold price, determine the number of offsets to include in the reserve pool, and determine how many offsets and allowances need to be sold at or above the threshold price.

- To limit speculative purchases from the reserve pool and allow an increasingly strong price signal, the CMB should increase the threshold price at a rate that moderately exceeds the time value of money. The CMB should be authorized to adjust the reserve pool auction threshold price and its rate of increase as needed to prevent undue economic harm and to encourage technology transformation.

- Finally, the system used to release offsets and allowance reserves into the market should be transparent and predictable, and designed in a manner that minimizes interference with normal market processes and prevents manipulation of the allowance price.

C. Allocation of Allowance Value

In the first decades of the program, priority must be given to directing the value of emission allowances created through the implementation of a cap-and-trade system to:

— transform our economy;

— modernize our nation's energy infrastructure;

— smooth the transition for consumers to a low-carbon economy; and

— adapt to the impacts of global warming.

It is critical that the economic value of emission allowances be directed to achieve these and other objectives, including buffering the economic impacts on energy consumers and businesses, without undermining their incentives to reduce emissions. USCAP recommends that a significant portion of free allowances should be initially distributed to capped entities and economic sectors particularly disadvantaged by the secondary price effects of a cap, and that the free distribution of allowances should be phased out over time.

OBJECTIVES OF ALLOWANCE VALUE DISTRIBUTION: USCAP believes that the distribution of allowance value should achieve the following overarching objectives:

— *Facilitating the Transition for Consumers and Businesses:* Enable the smooth transition to a low-carbon economy by mitigating the financial impacts of climate policy on consumers, businesses and the overall economy. A judicious combination of allocating allowances and targeting of auction revenues can reduce the direct cost impact of climate policy while accelerating the deployment of energy efficiency and other cost-reducing technologies. It is anticipated that the percentage value required by consumers and businesses will decrease over time.

— *Transforming Technology and the Nation's Workforce to Support a New Energy Economy:* Provide capital to facilitate timely investment, development, demonstration and deployment of new (not yet commercially mature) low- and zero-GHG-emitting technologies. This should be done in a manner that creates economic opportunity for the nation's businesses and workforce and promotes energy security (see Section 5 of this *Blueprint*). USCAP recommends use of allowance value, directly or indirectly, to facilitate the rapid, early deployment of low- and no-carbon technologies, given the need for substantial progress on technology transformation. We also recommend use of additional allowance value specifically for technology research and development and for workforce training and transitional support.

— *Adapting to the Challenge:* There is a need to address both human and ecological needs for adaptation to unavoidable climate change by enhancing resilience and response to climate change impacts for affected communities (e.g., impacts on public health, water resources, and infrastructure) and fish and wildlife habitats, at the federal, state, tribal and local levels.

We should also promote international engagement and cooperation in addressing both community- and ecosystem-related climate change adaptation needs.

PRINCIPLES OF EFFICIENT AND EFFECTIVE ALLOCATION: While meeting these objectives, the direct allocation of allowances and the uses of auction revenues should be tailored to:

— Ensure the availability of a secure, adequate, affordable and reliable energy supply.

— Strengthen the U.S. economy by investing in its infrastructure and by returning a portion of the allowance value directly to households.

— Avoid imparting undue initial economic gain or loss to covered entities.

— Encourage necessary investment, purchasing and behavioral changes by business, energy consumers, land users and government entities.

— Reduce overall energy costs for residential, commercial and industrial consumers of energy by promoting end-use energy efficiency and demand management in all sectors.

— Ensure that United States businesses are not put at an undue competitive disadvantage in the global marketplace as a result of climate policy and discourage companies from moving operations off shore due to the impact of climate change legislation. Such actions could undermine the environmental effectiveness of the policy and increase unemployment in the U.S.

— Train the workforce needed to facilitate a wide-scale transformation to low-carbon technologies and provide opportunities for all Americans in the new energy economy.

— Enable the U.S. to support international cooperation and actions to reduce emissions by key developing countries through technology transfer, avoided deforestation and adaptation assistance.

— Recognize voluntary actions taken to reduce GHG emissions prior to implementation of a climate policy.

— Further the technology transformation to low and zero-emitting technologies.

— Protect Americans, and the natural systems we all depend upon, from the impacts of global warming.

— Minimize administrative costs and complexity, and maximize the value serving the above purposes by basing the distribution of allowance value on objective and transparent criteria and relying on these criteria in any future evaluation of the system's effectiveness.

CRITERIA GOVERNING FAIR AND EQUITABLE ALLOCATION: Emission allowances in an economy-wide cap-and-trade system will represent trillions of dollars in value over the life of the program. As such, it is critical for public acceptance of the policy that decisions regarding the distribution and use of this value are taken in an unbiased and transparent manner. The criteria for determining allocation should be applied in a comparable manner in different sectors, including for buffering consumer exposure to allowance prices in various sectors.

The goal is to avoid excessive transfer of allowance value from one sector to another while still taking full advantage of the primary purpose of a cap-and-trade system for resources to flow to least-cost solutions. Furthermore, the criteria should be applied fairly to all impacted parties within a given sector or group. USCAP recommends that the following factors be taken into account in determining the fair and equitable proportion of allowance value that should be distributed to the following entities and purposes:

END-USE ENERGY CONSUMERS (e.g., residential/commercial/industrial electricity, natural gas, and transportation fuels consumers)

The purpose of directing allowance value to end-use energy consumers is to avoid disruptive price shocks that could accompany the initial phase of implementing

the climate protection legislation described in this document. USCAP recognizes that energy consumers are not equally exposed to price impacts and therefore recommends that the distribution of allowance value, either directly or indirectly, to end-use energy consumers be based on the relative impact of energy prices and price increases on household and commercial/industrial consumer budgets.

— *Electricity and Natural Gas Consumers:* Because most of service Local Distribution Companies (LDCs) are regulated, unlike other impacted sectors they will be required to pass through the entire value of allocated allowances to their end-use consumers. This will directly facilitate the key objective articulated earlier for any allocation—facilitating the transition for consumers and businesses as consumers of electricity. Consequently, USCAP recommends allocating a significant portion (e.g., 40%) of emission allowance value directly to these entities specifically to dampen the price impact of climate policy on electricity and small natural gas customers, particularly in the early years of the emission constraint.

The magnitude of allowance value allocated to LDCs should reflect, but not exceed, the share of capped emissions attributed to the consumers served by the LDCs, and then be phased-out. Consumers would realize this value through some combination of rate adjustment and demand reduction through programs designed to improve energy efficiency and promote zero- or low-emitting energy technologies.

— *Transportation Fuel Consumers:* USCAP recommends the judicious use of allowance value to ensure that consumers' transportation fuel impacts from allowance prices are generally proportionate to their electricity and natural gas impacts. As with the power sector, allowance value could be applied both to demand management, e.g., providing vouchers or subsidies to consumer purchase of high efficiency and electric vehicles, public transportation and other means to reduce transportation fuel consumption, and to direct cost mitigation, e.g., direct rebates to low-income end-use consumers or offsetting existing consumer taxes on transportation fuels.

Transportation fuel consumers will see a price signal from both inclusion in an economy cap-and-trade program and implementation of complementary fuel standards. Congress should establish policies that provide transparent communication to fuel consumers so they understand carbon-based price signals. Moreover, policymakers should avoid taking actions that interfere with the inclusion of the price of carbon in transportation fuels.

Adequate oversight and accountability provisions will need to be implemented to ensure that all allowance value dedicated to end-use energy consumers serve its intended purpose. Finally, allowance value for end-use energy consumer protection should be reduced or phased out entirely over the appropriate time period.

ENERGY INTENSIVE INDUSTRIES WITH TRADE-EXPOSED COMMODITY PRODUCTS

Manufacturers and industries that deal with certain commodity products that are both energy-intensive and trade-exposed (which may include, but not be limited to, chemicals, oil refining, aluminum and other non-ferrous metals, iron and steel, cement, non-fuel minerals, pulp and paper, glass, ceramics, and rubber) will be particularly challenged by U.S. climate policy if they face competition from countries that have not committed to an internationally recognized GHG-emission-reduction path. In such cases, there is risk of "leakage," by which we mean the shifting of production and GHG emissions from the U.S. to these other countries.

To remedy this situation, USCAP recommends that an adequate amount of allowance value be provided to U.S. manufacturers facing such competition (determined by objective criteria). These allocations could, for example, be based on net incremental costs (e.g., direct compliance costs, and direct and embedded allowance costs such as in energy pricing) due to climate policy borne by the affected facilities, to the extent these costs can be reasonably estimated and updated with respect to continued economic activity. USCAP recommends that these allocations be tied to any GHG-related competitive imbalance and reduced or eliminated when the GHG-related competitive imbalance is reduced or disappears.

COMPETITIVE POWER GENERATORS AND OTHER NON-UTILITY LARGE STATIONARY SOURCES These emitters may face significant compliance costs during a period in which there are no practical ways to capture CO_2 or replace otherwise valuable assets with low-emitting technology. As with energy-intensive manufacturers, USCAP recommends that these entities initially receive an allocation of allowances based on their net incremental costs that can clearly be attributed to climate policy.

For competitive power generators, specifically, this allocation should initially be sufficient to cover the portion of their compliance costs that they cannot readily pass through to customers in higher prices. Climate legislation should establish a transition to a full auction for these allowances, based on a reasonable schedule for the expected broad deployment of low- and no carbon stationary technologies. Under this schedule, the allocations to large stationary sources would phase out as it becomes practicable to deploy these new technologies. This approach should avoid imparting undue economic gain or harm to large stationary sources, while facilitating and providing strong incentives for their owners' timely investment in low carbon alternatives.

For both energy intensive manufacturers and large stationary sources, USCAP recommends the following principles guide the distribution of allowance value:

— Allowance value distribution over time should avoid imparting either undue economic gain or loss, while contributing to incentives for such entities to make the major investments in new, low-carbon technology and efficiency gains necessary to transform the economy.

— The underlying basis, in principle, for allowance value allocation to these entities ought to be the net incremental costs that can clearly be attributed to climate policy.

— Estimates of net incremental costs should be determined in a reasonable, objective and transparent manner suited to each industry sector or sectors.

— A variety of factors will influence net incremental costs (and, for energy intensive manufacturers, their eligibility for allocations). These factors include:

- energy intensity and relative GHG intensity;
- exposure to international competition from countries that have not committed to an internationally recognized GHG emission reduction path;
- the extent to which market, contractual or regulatory regimes allow the cost of compliance to be passed through to customers; and
- the elasticity of demand and supply for energy-intensive products.

LOW-INCOME CONSUMERS, WORKER TRANSITION AND TRAINING Impacts of a climate program could fall most heavily on those least able to afford it unless these costs are mitigated. Allocations to LDCs on behalf of their customers will help to address this need, but will not fully address other costs such as increases in transportation costs or indirect costs embedded in other essentials, such as food and clothing. These impacts are best addressed by direct rebates to low-income consumers. Rebates to low-income consumers should be based on the relative impact of energy prices and price increases on their household budgets.

Sufficient allowance value should be directed to worker transition and training to provide opportunities for all Americans to participate in and take advantage of the transition to a new energy economy.

TECHNOLOGY SUPPORT Advancing technology research, development, demonstration and deployment, and promoting technology transformation and avoided deforestation are critical needs that will not be adequately spurred by the cap alone. There are recommendations in other sections of this *Blueprint* regarding the most appropriate methods for distributing allowance value to support these needs. They should receive sufficient allowance value so that these

investments, combined with the price signal from the cap are sufficient to drive key technologies to commercial viability.

There is a need to address costs associated with meeting complementary measures such as increased vehicle performance standards, renewable fuel and energy efficiency standards, without penalizing firms that have already made substantial investments in efficiency and low-carbon technologies. The use of complementary measures to force emissions reductions in some sectors allows capped sectors not subject to those measures to emit more, lowering the market price of carbon while leaving the overall cap unchanged. The overall effect may be to shift costs on to entities subject to the complementary measures and their customers.

ADAPTING TO THE CHALLENGE (e.g., resources needed to help vulnerable people and ecosystems at home and abroad adapt to the impacts of climate change):

— A federal climate bill should include a national strategy, based on the best available science, to empower natural resources managers at the national, state, local and tribal levels to identify, prioritize and protect ecosystems at risk from climate change. The investment in natural resources must be dedicated (i.e., multi-year funding that is not subject to annual appropriations), so that resource and wildlife managers can plan ahead in their adaptation projects knowing funding is secure and to ensure funding goes exclusively to climate change-related projects.

— Sufficient allowance value should also go to reducing the vulnerability in public health, water resources, infrastructure, and other key sectors. Attention should be paid to the adaptation needs of the communities most vulnerable to climate change impacts. Where possible, priority should be given to approaches that protect, utilize and enhance ecosystems and the services they provide to help human and natural communities adapt to impacts of climate change.

— Consistent with our recommendations regarding international principles in Section 2, a sufficient share of allowance value should be dedicated to promote international engagement and cooperation through bilateral and multilateral channels to help developing countries in addressing both community and ecological needs to adapt to unavoidable climate change.

As technology implementation, adaptation, and economic transitions occur, the emphasis and the proportionate share of funding to any category should shift. An allowance value framework should ensure that for any given period, allowance value is directed to categories as appropriate to achieve the long-term objectives of the climate policy.

The goal is to have free private sector allocations phase-out as low-carbon technologies become the investment alternative. While it may be preferable to establish a clear and reasonable period for this transition in legislation, it may be necessary to extend or shorten that period depending upon the timing of the commercial viability of low-carbon technologies.

D. Credit for Early Action

Providing credit for early action is an important tool. With the free allocation of allowances there will be competitive imbalances for early actors. Certain approaches could create disadvantages for those actors who took or plan to take early actions to reduce emissions in comparison to those actors who did not or do not plan to take early action. Therefore, if these conditions exist, USCAP recommends:

— The federal climate protection program should recognize, encourage, and provide credit for real and verifiable reductions of direct or indirect GHG emissions resulting from actions taken by entities at domestic facilities prior to the enactment of federal legislation, including actions to comply with state and regional GHG cap-and-trade programs.

— Credit for early action should be awarded from within a set-aside of allowances created specifically for the purpose of rewarding early action. Congress should ensure that there is an adequate set aside of allowances under the cap for crediting real and verifiable early action reductions.

— Congress should direct U.S. EPA to establish by rule, as soon as possible, criteria and procedures for awarding credit for early action. These procedures should include options for receiving credit for early actions through: a) a project-based approach, or b) an entity-wide approach.

— Under any approach, the applicant should be required to provide evidence adequate to demonstrate the reductions are real and verifiable and are voluntarily undertaken as part of a GHG reduction or energy efficiency effort. Awarding credit for early action on the basis of achieving emission reductions below a sector-specific emissions benchmark established by rule may be one way to address the criteria of *additionality*. Financial additionality (i.e., investments made beyond standard return on investment practices) is not an appropriate criterion for awarding credit for early action.

— U.S. EPA should be directed to provide credit for early actions that are taken both retrospectively, from a specified date—such as no earlier than 1995—and prospectively from the date of enactment until such time as the mandatory program becomes effective. Credit should be provided for the accrual of reductions that occur after the specified retrospective date as a result of the creditable early actions. In developing standards, EPA should take into account the need to make use of what will be a limited set-aside for this purpose with the need to provide meaningful awards for qualifying early actions.

— Documentation requirements may differ, given different project types and the time periods when reductions occurred. Registries need to be able to accommodate different types of early action reductions. However, the administrative requirements and complexity associated with providing evidence of early actions should not be excessively burdensome (i.e., it should not preclude entities that are truly deserving from receiving credit).

— U.S. EPA should be provided authority to make use of information submitted under existing voluntary reduction programs (e.g., EPA Climate Leaders and DOE 1605 b) to the extent such information meets robust criteria and procedures for approving applications for crediting early actions.

5 TECHNOLOGY TRANSFORMATION

As we noted in the *Call for Action*, there are a number of technologies that are currently available that emit little or no GHGs, such as wind, solar, hydro and nuclear power, hybrid vehicles and numerous energy efficiency technologies. The cost-effective deployment of existing technologies to improve energy efficiency and reduce GHG emissions should be a priority, as it will yield emission reductions in the near-term while new technologies are developed.

A robust technology transformation program that results in substantial investment in new energy efficiency and advanced low emission technologies is a critical complementary measure to a national strategy to cap

and reduce GHG emissions. USCAP recommends creation of such a technology transformation program with two objectives:

— Federal support for pre-commercial, early commercial and higher-risk phases of technology research and development for technologies that represent "breakthrough innovations" and significant improvements in the cost and effectiveness of known critical path technologies for avoiding, reducing or sequestering GHG emissions. Examples of these critical path technologies include:

- carbon capture and storage (CCS) technologies for both power generation facilities and other industrial facilities;
- energy storage technologies, including vehicle battery technologies as well as storage systems for intermittent energy sources;
- emerging zero- or low-emitting and renewable energy or process technologies;
- advanced technologies, materials and chemicals that facilitate greater energy efficiency and reduced energy losses in all sectors, including transportation, buildings, industry, and power generation; and
- advanced low-carbon fuels and the vehicle and power generation technologies that enable their use and provide pathways to de-carbonization of the transport and electric generation sectors.

— Federal support to promote early demonstration and deployment of technologies with a known ability to avoid, reduce or sequester greenhouse gas emissions, but which are slow to achieve broad market acceptance due to high costs associated with "first-mover" adoption and implementation costs. Examples of technologies that would fit under this category include:

- information technologies, such as "smart grid" utility infrastructure and energy management systems in buildings and vehicles, to increase the efficiency of electricity delivery and use;
- carbon capture and storage technologies for power generation facilities and other industrial facilities; and
- a variety of emerging low or zero-emission vehicle and electricity technologies.

To achieve both of these objectives, the program should provide necessary resources for key infrastructure needs that require a proactive government role in siting, cost recovery and investment, such as a CO_2-CCS pipeline network or a more robust electricity transmission network to bring zero- or low-emitting energy supplies, such as renewable power to market. Some technology innovation support, such as R&D funding as well as loan guarantees or other deployment incentives, should ideally start upon passage of the legislation (before trading begins) to create an immediate economic stimulus and to kick-start the innovation process.

USCAP believes there are a wide range of technologies that are essential if the United States is to achieve real, substantial, and lasting reductions in greenhouse gas emissions while growing the U.S. economy. The purpose of this technology program is to complement and enhance the pull for technological innovation under a market-based program, and should not be seen as substitute for a well-designed market-based program.

TECHNOLOGY TRANSFORMATION FUNDING

Funding for the technology transformation program needs to be transparent, predictable, and accountable, and should be designed to help reduce long-term costs to the final consumer. The federal funding mechanism should not be subject to annual appropriations and should attempt to leverage private investment as much as possible. Additionally, Congress may choose to institute other measures, such as tax-exempt bonds, supplemental rate charges, loan guarantees, or other innovate financing mechanisms to provide additional funding.

Specific to the early demonstration and deployment, Congress and the appropriate agencies should also leverage private investment, through tax incentives, loan guarantees, and other means, to accelerate the demonstration and deployment of existing low-emission technologies or imminent technologies that can help

achieve critical reductions in the near term. USCAP believes that early demonstration and deployment of these low-emission technologies should be accelerated with predictable incentives that decline over time as experience grows. Similarly, incentives for low-GHG vehicle and fuel technologies would be phased down as a function of vehicle or fuel sales.

PERFORMANCE CRITERIA: USCAP recommends that Congress (or the appropriate implementing entity) establish performance criteria to select and prioritize funding of technologies. While specific criteria should be developed and administered by the implementing entity, the distribution of funding should address the following general criteria:

- *Environmental Impact*—the technology, in the form that is deployed, should significantly and measurably reduce GHG emissions.
- *Cost Effectiveness*—Funding should be awarded to emerging technologies with the greatest potential for widespread, low-cost deployment. Wherever possible, competitive processes should be used to achieve this goal.
- *Rapid and Long-Term Technology Deployment*—Strike an appropriate balance between technology that can be deployed within a reasonable timeframe to provide GHG reductions as quickly as possible and technology that will achieve the transformation needed to drive significant long-term emissions reductions.

More information on technology transformation for specific low-emission technologies is included in the sections on complementary measures that follow.

6 COMPLEMENTARY MEASURES FOR COAL TECHNOLOGY

Over the longer-term, a cap-and-trade program with a decreasing cap and a market price for CO_2 will drive development and deployment of new lower emission coal technologies with carbon capture and storage (CCS). In the near-term (until 2025), however, CO_2 prices under a cap-and-trade program with effective cost containment measures may be too low to fully cover the higher initial costs of these technologies. This may increase the risk of delaying the deployment of CCS, which could significantly increase the long-term cost of a climate policy. It could also "lock in" CO_2 emissions in the power sector over the long-term through development of new coal facilities without CCS.

To advance the goal of energy security in the mid- to long-term there should be a rational strategy to repower, retrofit or replace existing high emitting coal plants with low emitting coal technologies to help meet current and future electricity demand in the United States. To increase commercial deployment of CCS while

preventing excessive run-up in natural gas prices due to fuel switching, USCAP recommends that Congress provide substantial financial incentives and needed regulatory certainty to facilitate and accelerate the early deployment of CCS technology.

Specifically, USCAP recommends Congress immediately:

— Direct all relevant federal agencies to develop a unified, comprehensive national strategy and by no later than January 1, 2010, promulgate all necessary rules to implement a strategy to address the key legal and regulatory barriers, as well as any other issues that, if not addressed proactively, could impede commercial-scale CCS deployment.

— Increase funding to complete, by no later than January 1, 2013, a national assessment of the capacity for geologic storage of CO_2.

— Increase funding for early grants to fully demonstrate the viability of CCS in commercial practice. This program should establish at least five (5) gigawatt (GW) of CCS enabled coal fueled facilities operating with an emissions rate of no more than 1100 lbs/megawatthour (MWh) (or an equivalent rate for synthetic natural gas facilities), including at least one pulverized coal retrofit, by no later than 2015.

USCAP recommends that Congress provide funding for the programs listed above in calendar year 2009 through enactment of comprehensive climate protection legislation or through another appropriate vehicle. Whatever mechanism is used, USCAP recommends it be a dedicated and protected trust fund that is outside of the annual appropriations process to provide a stable source of funding.

To ensure new coal and other solid-fueled facilities are developed in a manner that speeds the deployment of CCS, USCAP recommends Congress include provisions in the comprehensive climate protection legislation that:

— Ensure no free allowances are provided for power generation that is associated with facilities that are initially permitted[1] after January 1, 2009.[2]

— Require all new coal and other solid fueled facilities emitting more than 10,000 tons of CO_2 per year that are initially permitted after January 1, 2013, to emit no more than 1100 lbs of CO_2 per MWh; and require all new coal and other solid fueled facilities above this size threshold that are initially permitted after January 1, 2020, to emit no more than 800 lbs of CO_2 per MWh—provided that USCAP's CCS direct cash payment funding recommendations (see below) are adopted and provided further that EPA and other agencies have promulgated, not later than January 1, 2013, final regulations necessary to enable the permitting of required CO_2 transport and permanent geologic storage facilities.

  In the event that either of the two conditions above are not met by January 1, 2012, the applicability of the initial performance standard shall be delayed until 3 years after both conditions have been met. EPA should review the emissions performance standard for new coal facilities at least every five years and determine whether it is economically and technologically feasible to achieve emissions rates that are less than 800 lbs of CO_2 per MWh.

— Require all new coal and other solid fueled facilities that emit more than 10,000 tons of CO_2 per year that are initially permitted after January 1, 2009 and before the applicability date of the initial performance standard for new units in the previous paragraph to be retrofitted such that they emit no more than 1100 lbs of CO_2 per MWh. Compliance with this retrofit requirement shall be required

[1] "Initially permitted" by a certain date means the facility received its final Clean Air Act preconstruction approval by that date and commenced a continuous program of actual on-site construction within 18 months of such approval, even if the approved permit is cancelled or modified after that date.

[2] This recommendation is not intended to preclude allowance allocations to LDCs that reflect, but not exceed, the share of capped emissions attributed to the consumer served by the LDCs as set forth above in Section 4-C.

[3] Congress could provide authority to waive this retrofit requirement or to extend the retrofit compliance date, for certain units whose permit applications were determined to be administratively complete prior to January 1, 2007 and that, prior to January 1, 2009, were subject to a binding agreement that requires the owner/operator of the unit to significantly reduce or otherwise offset the unit's lifetime carbon dioxide emissions and where compelling circumstances associated with such units justify the need for such treatment.

within four years* after a total 2.5 GW of commercial scale power plants with CCS, capturing in the aggregate at least 5 million tons of CO_2 per year on an annualized basis, are in commercial operation in the United States; or a total of 5 GW of commercial scale power plants with CCS, capturing in the aggregate at least 10 million tons of CO_2 per year on an annualized basis, are in commercial operation world-wide (with power plants that capture at least 2 million tons of the world-wide total located in the United States.), whichever occurs sooner.

— Create a program for direct cash payments for sequestered CO_2 from coal and other fossil fuels in both power generation and certain industrial operations (e.g., cement or hydrogen production facilities). These payments will be made on a first-come-first-served basis for the first ten years of operation. The payments will be set using a sliding scale payment per ton of CO_2 sequestered, based on the level of capture achieved. Payment levels should be adequate to cover the incremental cost of CCS, which is currently estimated to be $90/ton for high levels of capture at the first few projects. In addition there would be a provision for a floor payment of up to $30 per-ton in years 11-20, depending on the level of capture achieved.

The program should be divided into tranches of generating capacity, with an initial tranche of 3 GW at the highest payment level, with successive tranches receiving lower per-ton payments. Eligibility for payments should terminate for CCS projects commencing operation after on the order of 72 GW of CCS have been deployed in the United States. This will encourage early action to deploy CCS and such payments should be available for all CCS projects, whether they are new construction, re-powering, or a retrofit of existing facilities.

— Promote replacement of existing coal-fired generating units and early reductions of CO_2 emissions by adopting additional incentives to replace existing high-emitting units with low and zero-emitting resources with similar availability and dispatchability.

Elsewhere in this *Blueprint* we describe linkages between our recommendations for emission reduction targets and timetable, with cost containment, allocation of allowance value, and complementary measures for coal technology as well as other sectors. There are also linkages within the package of recommendations of complementary measures for coal technology. For example, support from all USCAP members for the performance standard for new coal facilities recommended above is contingent upon enactment of the direct cash payments as is also recommended above, as well as Congress providing the authority, deadlines, and funding to ensure promulgation of the rules that are needed to govern CCS deployment.

With these linkages in mind, as part of a national climate protection program, Congress should establish a dedicated, stable, long-term source of financing through the use of allowances or their value to ensure adequate funding is available to implement the recommended provisions that will maximize wide-spread deployment of CCS. USCAP believes all funds dedicated for these purposes should be subject to proper oversight, but be available for expenditure, without further appropriation or fiscal year limitation.

7 COMPLEMENTARY MEASURES FOR TRANSPORTATION

Achieving the USCAP economy-wide emission reduction targets and timetable will require a systematic approach that addresses interdependent policy objectives in the transportation sector including:

— lower carbon intensity fuels (including low-carbon sources of electricity);

— improvements in vehicle, engine and equipment fuel efficiency;

— innovations in vehicle propulsion systems to enable the use of low carbon fuels (including, but not limited to plug-in hybrids and electric vehicles);

— greater use of less-carbon-intensive forms of transportation;

— reductions in vehicle miles traveled (VMT);

— improvements in the efficiency of the transportation system;

— planning and infrastructure to support these changes; and

— consumers, operators, and other end users who are willing to adopt and use these new technologies, fuels and use less-carbon-intensive forms of transportation.

Implementing these actions is a shared responsibility of fuel providers, vehicle and equipment manufacturers, consumers and other end users, and public officials who set policy direction and plan and manage transportation infrastructure and land use. We believe these policy objectives can be achieved through the inclusion of fossil-based transportation fuels in an economy-wide cap-and-trade system in combination with environmentally effective and cost-effective complementary measures for all of the major components of the transportation system. Development of these complementary measures, including the methodology for lifecycle GHG intensity of transportation fuel described below, should account for the potential for leakage from uncapped sectors or regions, as well as credible GHG reduction programs in effect in countries providing fossil-based or biomass-based fuels and feed stocks destined for the U.S. market.

A. Fuel-Related GHG Performance Standards

The Energy Independence and Security Act (EISA) of 2007 established a Renewable Fuel Standard (RFS) that mandates the use of an increasing volume of different categories of congressionally prescribed fuels through 2022. While EISA07 mandates a timeline for the use of specific types and quantities of renewable fuels based on GHG qualifications, the extent of actual GHG reductions that will occur as a result of the RFS, relative to "business-as-usual," is uncertain.

To address these uncertainties and prevent the creation of conflicting regulations on transportation fuels, USCAP recommends that Congress instruct EPA to develop appropriate methodologies for determining lifecycle carbon intensities of various transportation fuels on an equivalent basis. EPA should develop this methodology in a manner that strives for both national and international alignment, including for those

methodologies related to the treatment of land use changes that can be reasonably attributed to the production and use of transportation fuels.

In addition, EPA should expeditiously develop a process for gathering data and determining the actual lifecycle GHG performance of the transportation fuel pool. These are the critical first steps for developing and implementing a transportation fuel GHG performance standard and ultimately for evaluating compliance with such a standard.

Based on this work, EPA should develop and promulgate a challenging, yet technologically and economically achievable GHG performance standard for the transportation fuel pool. This standard should be implemented as soon as practicable after the methodology work is completed and EPA has considered the results of the assessment of overall transportation sector GHG emissions reductions as per Section 7-D. Specifically, as part of this assessment EPA should consider the degree to which existing programs and market conditions are or are not sufficient to substantially reduce the lifecycle carbon intensity of the transportation fuel pool. Congress should assure that the RFS ceases to apply at the time that the GHG fuel performance standard takes effect.

B. Vehicle-Related GHG Performance Standards

EISA07 also raised Corporate Average Fuel Economy (CAFE) standards. It requires the National Highway Traffic Safety Administration (NHTSA) to set maximum feasible standards for light duty vehicles for 2011 through 2030 and achieve a standard of at least 35 mpg in 2020. The law also authorized use of an attribute-based approach for administering the CAFE program, extended the availability of dual-fuel vehicle credits through a phase-out period ending in 2020, and mandated fuel economy programs, including fuel economy performance standards, for work and other medium- and heavy-duty trucks. These vehicle fuel economy programs have a scope and structure that are consistent with the need for complementary measures for on-road vehicles, as stated in the *Call for Action*, and can serve as the basis for such measures going forward.

In the case of commercial medium- and heavy-duty on-highway vehicles, USCAP recommends Congress give priority focus to over-the-road diesel on-highway vehicles (e.g., line-haul semi-trailer units) which account for approximately 80% of carbon emissions by diesel fueled vehicles. Measures should address idle reduction technologies and infrastructure and incentives for increasing the deployment of known fuel efficiency retrofit technologies such as low rolling resistance tires, improved aerodynamics, etc. through programs such as EPA's SmartWay Initiative.

C. Reducing Carbon-Intensive Travel, Educating Consumers, and Improving Transportation System Efficiency

Reducing carbon-intensive travel and enhancing the efficiency of the transportation system will be essential to limiting GHG emissions to climate-protective levels consistent with those called for in the USCAP *Call for Action* and this *Blueprint for Legislative Action*. To this end, we urge Congress and the Administration to articulate and implement strong policies that will reduce GHG emissions from carbon-intensive travel, stimulate investments to improve system efficiency, and foster GHG-efficient development patterns and infrastructure. These policies should be a significant focus of the next federal transportation bill, as well as national climate protection legislation, including policies to:

— incorporate GHG measurement and accounting in transportation infrastructure funding and planning and reward GHG emission reductions that result from improvements to transportation infrastructure;

— require federal agencies, and encourage state and local agencies, to systematically review policies that affect the pricing of transportation systems and services and to modify such policies to make them as supportive as is practical with the national goal of reducing GHG emissions;

— require federal agencies to develop and implement durable, performance-based programs to inform and motivate consumers and other end users to adopt lower GHG-emitting transportation choices and practices and

— require federal agencies to reform public fleet vehicle programs to achieve documented, performance-based GHG reductions.

D. Overall Transportation Sector GHG Management Policy

Congress should require EPA, in collaboration with the Department of Transportation (DOT) and other federal and state and local agencies, to carry out a periodic in-depth assessment of current and projected progress in transportation sector GHG emissions reductions as part of the overall review USCAP recommends in Section 3.

This assessment should examine the contributions to emissions reductions attributable to improvements in vehicle efficiency and GHG performance of transportation fuels, increased efficiency in utilizing the transportation infrastructure, as well as changes in consumer demand and use of transportation systems, and any other GHG-related transportation policies enacted by Congress.

On the basis of such assessments EPA, DOT and other agencies with authorities and responsibilities for elements of the transportation sector should be required to promulgate updated programs and rules—including revisions to any authorized market incentives, performance standards, and other policies and measures—as needed to ensure that the transportation sector is making a reasonably commensurate contribution to the achievement of national GHG emissions targets.

8 COMPLEMENTARY MEASURES FOR BUILDINGS AND ENERGY EFFICIENCY

USCAP believes that one of the most immediate steps Congress can take to begin to address climate change is pursuing policies and measures that improve the energy efficiency of the U.S. economy. Seventy-six percent of all electricity generated by U.S. power plants is used to operate buildings. Emissions reductions are available and cost effective even without considering the cost of emission permits, but a wide variety of disincentives exist that impede their adoption.

We recommend aggressive promotion and implementation of GHG reduction programs that collectively will help drive investment in cost-effective energy efficiency by encouraging utilities and consumers to improve efficiency when the cost of doing so is lower than the cost of an equivalent amount of energy in the form of electricity or natural gas. These programs include state- or utility-sponsored conservation and efficiency programs, tightened building codes and standards, and appliance efficiency standards.

Specifically, USCAP recommends that Congress enact and the Administration adopt:

— *Codes and Standards:* Codes and standards for buildings and end-use technologies should be established, implemented, and updated. The federal government should take action to improve the energy efficiency of its buildings and assist states in developing and implementing building codes and efficiency standards. These standards must be updated on an expedited and aggressive basis and updates must occur regularly to keep up with technology advancements. The U.S. should participate formally in international efforts to develop uniform codes and standards for end-use technologies.

— *Expand National Incentives for Buildings that Out-Perform Energy Efficiency Codes:* Current tax credits, incentives, and rebates should be extended and supplemented to allow for performance-based incentives for new and retrofit buildings, residential and commercial, owned and rented. Energy efficiency outreach and education programs should be fully funded.

— *Create National Incentives for Equipment and Appliances that Out-Perform Minimum Standards:* Effective upon passage of the legislation, provide incentives to manufacturers and/or retailers who successfully deploy very high efficiency devices.

— *Tax and Regulatory Policies:* Policies should help align incentives for consumers to invest in energy-efficient products and processes, and for manufacturers to develop and deploy these technologies. Policies encouraging the rapid deployment of such new technologies should make clear the need and propriety of cost recovery, especially for regulated entities like utilities that require some assurance that they will be permitted to recover the costs of such substantial capital investments before they would undertake them in many instances.

— *Measurement and Accounting Protocols for GHGs:* Department of Energy (DOE) and the EPA should collaborate and draw on existing and rigorous efforts to develop a common protocol for measuring and accounting for energy reductions and calculating associated greenhouse gas benefits.

— *Align Utility Incentives to Pursue and Promote Energy Efficiency:* Congress should clearly encourage the alignment of state and other authorities' regulations and ratemaking by placing a high priority on delivering cost-effective energy efficiency and demand management programs.

— *Encourage States to Improve Efficiency:* Congress should track and report states' progress in improving overall energy efficiency (e.g., weather-adjusted per capita residential consumption) and consider rewarding states that demonstrate faster progress (e.g., through smart utility regulation, improved buildings codes enforcement and appliance standards) with additional funding for efficiency.

— *Energy Labeling for Buildings and Loan Underwriting:* Building labels should be established that provide the market with information on the value of energy savings. Loan underwriting should be required to account for a building's energy cost, as reflected on the label, and should also account for transportation costs associated with where a home is located. This recommendation is consistent with federal and state laws and regulations precluding the practice of "redlining," or mortgage discrimination.

U.S. CLIMATE ACTION PARTNERSHIP MEMBERS

Alcoa
American International Group, Inc. (AIG)
Boston Scientific Corporation
BP America Inc.
Caterpillar Inc.
ConocoPhillips
The Chrysler Group
Deere & Company
The Dow Chemical Company
Duke Energy
DuPont
Environmental Defense
Exelon Corporation
Ford Motor Company
FPL Group, Inc.
General Electric
General Motors Corp.
Johnson & Johnson
Marsh, Inc.
Natural Resources Defense Council
NRG Energy, Inc.
The Nature Conservancy
PepsiCo
Pew Center on Global Climate Change
PG&E Corporation
PNM Resources
Rio Tinto
Shell
Siemens Corporation
World Resources Institute
Xerox Corporation

For more information about
USCAP, please contact

Meridian Institute
1970 L Street NW, Suite 500
Washington, DC 20036
Phone: 202.554.6450
Fax: 202.554.6441

Lighthouse Consulting Group, LLC
1150 Connecticut Ave. NW, Suite 717
Washington, DC 20036
Phone: 202.822.2600
Fax: 202.822.2156

The members of the USCAP wish to acknowledge the valuable assistance provided by the Meridian Institute in guiding and facilitating our discussions leading to this important agreement.

USCAP

www.us-cap.org

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
VISION FORESTRY LLC
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

R. Neil Sampson

Organization(s) you represent

Vision Forestry LLC

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Carbon fees or taxes represent an easily-administered, but politically-difficult approach. Cap and trade requires more significant and long-term administrative infrastructure, but should, in the long run, achieve more economically efficient solutions to the problem of reducing GHG emissions. A hybrid with taxes on mobile sources and caps on fixed sources might be the most efficient of all.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture and forestry, if included in emissions controls under a cap, would pose an insurmountable administrative burden to achieve minor reductions. Under a cap and trade, they should remain outside the cap but eligible to produce offsets. If a tax were included, on fossil fuels, for example, ag and forestry would pay their share.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

There needs to be a combination of free and auctioned allowances to mitigate initial economic shock. Too many free allowances will reduce the economic efficiency of the system. If ag and forestry are given free allowances, there should be a limited supply.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

If a federal program is created, it should supersede state or regional programs. Administrative responsibilities and registries can be delegated to state or regional programs, but there should be a uniform set of standards nationwide.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

New agencies are not a good idea. EPA can administer cap and trade, using technical agencies like USDA for specific technical standards for forestry and agriculture, or for allocating allowances to participating landowners if that is part of the program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Regulation should remain where it currently resides. Eventually, this will become "just another commodity."

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Don't know. Derivatives haven't fared well in recent months.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

We have not identified negative impacts in programs to date. Trading on the Chicago Climate Exchange has had benefits for participating farmers and forest owners, and brought new money into rural communities.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Small landowners, in general, face higher costs to participate in markets and are thus disadvantaged. It may be necessary to use program revenues to supplement existing conservation and forestry programs aimed at small landowners. The risk, however, is that these revenues will simply replace appropriated funds and those programs will continue to be under-funded in spite of the new revenue source.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

The program design should consider transitional policies, such as a cap that gets stricter over time, initial allowances, etc.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

The public lands can be a contributor to the national goal, but should not become part of a market system. There are several reasons for this. One, these lands are almost always the least productive lands in a region, and the additional carbon they can sequester is inconsequential, in spite of their extent. Second, the management on these lands is so tied up in political wrangling and agency process that any hope of altering their management to produce carbon stocks and maintain them is misguided.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Dampening market price rises can be done by allowing more offsets to come into the market at price points. This can be an early aid to transition costs. Research and development are likely to become the main damper on both emissions and costs in the long run.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

There are informal, over the counter carbon trades in the international arena, but there are only a few that include agriculture and forestry.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary offset program can be coupled with both bonus allowances and performance standards to provide alternative routes for landowners based on their business conditions and opportunities. More, rather than less, opportunity should be provided if possible.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

If the government issues allowances, they should be limited. If there is an offset market, the government should stay out of it.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Don't know

17) What should the criteria be for measuring (quantification, verifiention, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Market offsets should be quantified, monitored, and verified. The experience of the Chicago Climate Exchange should be reviewed in this regard.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

This can get very detailed, and should be left largely to administrative rulemaking.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

This, too, should be left largely to rulemaking, recognizing the experience of the existing voluntary markets.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should allow for both, with pre-calculated values left largely to the scientific community and the technical agencies, along with the specific rules for a project-based approach.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Allowances should be granted or auctioned to emitters; offsets should come from outside the cap. Offset standards should provide for equivalency.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Contract lengths must be flexible and will almost certainly need to be for lengths adapted to landowner tenure and needs. Permanence must be achieved through a public registry that assigns liability for reversals caused by intentional actions on the part of either seller or buyer, and maintains a reserve to cover no-fault reversals such as if a buyer goes out of business and is not available to renew a carbon contract at the end of the contract period.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The CCX is an example of good-faith early action on the part of many emitters that has created an exceptional learning experience for both emitters and offset providers. It is the primary opportunity for agriculture and forestry to begin the learning experience that will be needed as carbon management becomes more important in the future. A federal program should recognize early action in CCX (whose protocols are based heavily on the Department of Energy's 1605(b) Voluntary Reporting Guidelines) and "grandfather" those emission reductions and offsets into the federal program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also

be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should be given credit for their actions. Different benefits should be able to be stacked if actions are taken to intentionally achieve and maintain those different benefits.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Assistance from public programs should not be counted against market projects for carbon. If public assistance disqualifies carbon offset projects, agriculture and forestry are effectively removed from the program. The experience with CCX, which allows cost-shared programs to participate, is that the addition of a carbon contract and its requirements on top of the USDA or state program alters (and improves) management. Annual reporting and verification are strong incentives that supplement USDA rules.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Reversals that are the result of intentional action result in contract violations under carbon market trading, and the violator should be held liable. No-fault reversals should be covered by a reserve pool held by the public agency (registry) that can be built from a small contribution of carbon credits by each participating pool.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress should avoid trying to write specific rules. The authority should be delegated to EPA with the requirement that they establish a management Council at the Cabinet level to assure technical participation and influence from USDA, DOE, USDI and others.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The main obstacle is cost, most of which is created by the rules of the standards. Field measurement and monitoring is expensive, and the more precision or frequency required

creates important cost differences. Some standards have very stringent project planning requirements that elevate costs. There can also be heavy discounts, from baseline setting and additionality requirements, permanence, leakage calculations, or other forms of discounting that reduces the amount of tradable offsets to the point where projects are infeasible. Many of these requirements have been proposed as part of the policy studies available to Congress, and it is hoped that most of them are avoided in the process of designing a program that includes agriculture and forestry. If they are not avoided, the program will promise participation that is never realized.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? *Please respond in 300 words or less.*

Existing programs have sufficient authority, but are not sufficiently funded to support agency expansion of effort or adequate landowner participation.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The opportunities in agriculture and forestry are highly region-specific, as are the potential supply of offsets and their associated costs. Market opportunities in agriculture and forestry offer another economic opportunity to help retain working lands in farming and forestry, but land values for development tend to overpower them without additional effort for protection from state and local government. Unless a federal program can balance the desire for highly precise carbon accounting and risk-free protection against loss with the need for widespread participation, the result is liable to be a gold standard program with few or no participants. Such efforts have been tried and continue to be promoted, but with little success. Learn from efforts like CCX and CCAR.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation/reforestation	Excellent	Excellent	Medium	Medium
Forest Management	Moderate	Good	Medium	High
Avoided Conversion	Moderate	Moderate	High	Medium
Urban forestry	Low	Moderate	High	Low

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Manure management	Excellent	Excellent	High	Low
Improved grazing management	Moderate	Moderate	Low	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Continuous No-Till	Good	Good	Medium	Medium
Improved crop management	Moderate	Moderate	Low	Medium
Conversion to grass	Good	Good	Medium	Low

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
WASHINGTON STATE DEPARTMENT
OF NATURAL RESOURCES;
WASHINGTON STATE DEPARTMENT
OF ECOLOGY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Peter Goldmark; Jay Manning

Organization(s) you represent

Peter Goldmark: Washington State Department of Natural Resources;
Jay Manning: Washington State Department of Ecology

Address

Department of Natural Resources: [Redacted]

Department of Ecology: [Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Peter Goldmark: Washington State Commissioner of Public Lands (statewide elective);
Director of Dept. of Natural Resources;
Jay Manning: Director, Washington State Department of Ecology

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Cap-and-trade should be the central policy for reducing greenhouse gas emissions but must be complemented by other policies and incentives that can help reduce emissions outside the cap, where actions do not respond to price alone, and address market barriers. The science is clear that we must reduce emissions. Only a cap assures those reductions. By combining an enforceable emissions cap with a trading component, covered entities will be able to use the power of the market place to find the least cost reductions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Forest land ownership and management, including timber management, and agriculture land management, should not be included within the scope of a cap in a cap-and-trade program. Forests are net carbon sinks in Washington State, and the forest sector is characterized by a very large number of individual landowners, making this sector inefficient to include in the cap. Even where forests may not be a net sink, other types of incentives to reduce emissions would be more appropriate than inclusion in a cap-and-trade program or a carbon tax. The Western Climate Initiative (WCI) has excluded forest and agriculture land management from the scope of its proposed cap. Emissions from the manufacturing plants associated with forestry and agriculture should be included in any emission reduction program as they are in the WCI.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The type of business and the competition it faces need to be considered when looking at how to distribute allowances. Energy intensive manufacturers of commodities that trade in international markets are typically price takers. If they are competing with manufacturers in countries that do not restrict greenhouse gas emissions, they will be unable to pass on costs associated with purchasing allowances. Pulp and paper, wood products, and food processing are in this category of manufacturing. These manufacturers should get allowance without cost for at least a transition period that is subject to review and

extension. To the extent agriculture and forestry land management sectors are not covered under the cap, there is no need to allocate any allowances to those sectors. However, consideration should be given to using some of the allowance revenues to fund forest and agriculture sequestration incentive programs.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

It is important that there be one carbon market and one carbon price in the US however the national program should be informed by the regional cap-and-trade initiatives. The seven states in the WCI are a microcosm of the US. As a result, the distinctive features of its member states have been considered and built upon in the regional cap-and-trade design. For Washington, its important forest and agriculture sectors are recognized as an important source of offset projects. In addition, its strong base of renewable energy is also recognized in the establishment of the initial 2012 allowance budget. States like Washington that have used their own time and resources to move the issue of dealing with climate change forward over the past eight years should be recognized.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

At its heart, any program that reduces greenhouse gas emissions is an air pollution control program. EPA has experience in developing and implementing these type of cap-and-trade programs. However, protocols for forestry and agricultural projects should be developed in close consultation with the agency with appropriate scientific expertise so that these offsets will meet commonly understood criteria for offsets such as additional, verifiable and real.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Any carbon market will be connected to and will impact other markets, particularly in electricity and should be regulated with other similar markets. Therefore, the CFTC is likely the appropriate regulator. Because carbon dioxide is a byproduct of everyday activities such as electricity generation and transportation, the CFTC must have the appropriate authority to regulate the market, the capacity to oversee it on an on-going basis, the ability and accountability to quickly take action if anything seems amiss, and take quick and effective enforcement when appropriate. Insufficient oversight of this market could lead to huge economic disruptions. .

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

At this time, we believe that derivatives in the carbon market should be traded through highly structured instruments in a well regulated transparent futures market that is open to participation by anyone. However, as indicated in the answer to question 6, it is critical this market be appropriately overseen with swift and sure action if any signs of manipulation or excessive speculation are seen.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

A cap-and-trade program or a carbon tax will put a price on carbon. That carbon has been treated as an externality of fossil fuel combustion has been called the biggest market failure ever. Increases in energy prices could impact residents of rural areas unless they have real transportation options; food prices could increase, although the literature is not clear on that point. For forestry and agricultural land owners, the ability to market offset projects for use to meet compliance obligations should help retain working forests and agricultural lands and the communities that depend on them. Also, renewable biomass should be considered carbon neutral in a federal program and thus not subject to the cap. This will further assist both sectors.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Any revenues that accrue to the federal government should be used to provide research and development financing for the development of alternative energy sources, including cellulosic ethanol and distributed back to states that will have to forego the opportunity to implement their own cap and trade programs and the revenues associated with selling of allowances. States should be required to use this funding to help low and moderate income citizens transition to a clean energy economy, fund energy efficiency programs, and

provide incentives to sectors not covered by the cap to either reduce emissions (waste) or increase storage potential (forestry and agriculture).

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

To the extent these businesses manufacture commodities that are sold in the international market place and are energy and trade intensive, transition assistance in the form of free allowances should be provided.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Federal land should be treated as part of a baseline forest carbon sink, managed using complementary programs to retain and expand that sink. State-owned trust lands should be treated the same as private lands with respect to eligibility to participate voluntarily in an offset program.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

The program should be designed to include appropriate cost containment measures such as offsets, banking (but no borrowing), and multi-year compliance periods. A strategic reserve of allowances may be needed to help mitigate impacts of weather on hydroelectricity for example. However, at this time, we do not believe a price cap should be included in the program. A price cap functions as a tax, and reductions will only be taken up to that cap.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Accurate emissions data is critical to create an effective trading system that results in sufficient emissions reductions and to ensure that the appropriate number ofallowances is distributed. The EU ETS over allocated allowances during its learning phase due to its lack of such data lead to significant over-allocation of allowances. Cost containment measures such as banking and multi-year compliance periods tend to reduce market volatility; the relationship between allowance allocation, allowance markets, and electricity regulation must be understood and addressed to avoid unintended consequences; and offset project development must be rigorous to ensure they result in real and verifiable reductions. Lack

of credibility is undermining the CDM offset projects. We are unaware of any program that requires carbon reductions in agriculture and forestry although most if not all cap-and-trade programs recognize carbon storage in some manner. .

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

The forest and agriculture sector should participate voluntarily in an offset program, and should also be targeted recipients for incentives using the value of allowances (see #9).

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Offsets should be limited sufficiently to ensure the technology-forcing effect within the capped sectors, but the offset opportunity should be robust enough to ensure real efficiency gains for achieving target emission reduction levels under the cap.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The distribution of available offset credits should be primarily controlled by the marketplace, not by Congress. In the beginning of the program when offset projects are just getting started, the states (not Congress) could act as an aggregator of offset projects and on behalf of the developer, sell the credits into the market place.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Criteria should ensure that offsets be real, additional, verifiable, enforceable, and permanent. These are common criteria for offsets.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Criteria should include administrative simplicity, and if possible use standard professional forestry measurement methods. Offset credits should be registered up-front based on modeling, and actually credited and paid for based on actual performance, with a provision for true-up.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Verification should confer confidence in the offset quality, such as be being accomplished by independent third-party verifiers, or equivalent system.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Either standards-based or project-specific, with standards as a default but an opportunity for project-specific approaches.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Both should be equally fungible. If an offset project cannot guarantee permanence, it may need to be discounted; that is, not an equal ton-for-ton recognition.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Permanence can be addressed through a reserve pool of allowances, buffer accounts, insurance or contract terms. The details need to be resolved in the regulatory development process so that the rules can be responsive to the various types of offset projects that may be developed. The statute should only require permanence as a criterion.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Any existing offset project should be reevaluated under the criteria developed for the national program before being accepted. Consideration will also have to be given as to whether or not the starting point for the allowances in the federal system already includes the reductions associated with those offset projects such that they cannot be considered

"additional." To the extent current offset projects are not accepted in a federal system, some level of compensation to the project developer should be considered.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Offset projects that are used to meet a compliance obligation must meet rigorous criteria so that there is confidence in this element of the program. As we are seeing with the CDM, lack of confidence can result in a dismissal of the entire approach, and we believe that offsets are a critical component of a cap-and-trade program. Additionality presents challenges for all types of offset projects. In particular for forestry, states have varying degrees of forest practices act requirements and will not have the same "business as usual" starting point. Consideration should be given for creating a federal baseline that would bring "opportunity" states up to a given level while allowing those states such as Washington with very vigorous forest practices standards credit for taking early action so that operators in those states are not unduly disadvantaged as compared to operators in other states. We do not dispute the difficulty of this approach but the reality of different starting points between states is an issue that has to be addressed. Stackability should be allowed.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Allowing offset credits for projects that were funded in whole or in part by a government program would allow a private entity to profit from that government funding. We do not believe that should be allowed as a matter of public policy. That said, it could be difficult to determine in all cases what activities have benefited from government investment or intervention. This is an issue that will require deeper analysis. For projects that are undertaken for reasons other than carbon capture or reduction but result in same should be eligible to for offset credits provided all the criteria are met.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Liability provisions should include typical contract compliance provisions, such as insurance or bonding to guarantee performance by the offset seller, with an obligation for the seller to purchase substitute offsets in the event of a project reversal. Government

should oversee the liability provisions, and perhaps establish a reserve pool of allowances to account for natural reversals.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Development of protocols, including the type of projects for which protocols will be developed must be delegated to an agency. The ability to refine these protocols must be retained in order to retain credibility in the program. EPA should be in charge of protocol development but should be directed to consult with the agencies with appropriate expertise. For example, forestry protocols should be developed by or in close consultation with an agency with forestry expertise.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Accurate inventories of forest carbon storage applicable at the subregional or landownership level.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

We do not believe that current programs provide sufficient incentives. Some portion of the revenues from the sale of allowances could be used to provide incentives to keep forested lands as forests, particularly in those areas where development pressures exist.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Existing regional initiatives such as RGGI and WCI should be consulted in the development of the federal program. EPA should be required to formally consult with these organizations. Any allowances or offset credits that have been issued by a regional cap-and-trade program must be exchanged on a dollar for dollar basis with federal allowances if the regional programs are preempted. Consideration should be given as to the capacity of EPA to directly run a cap-and-trade program for all 50 states. It may be

more manageable if the states were divided into regions with regional implementation of federally created criteria. The states must retain their authority to adopt other greenhouse gas reducing programs and to use their historical authorities such as land use planning. The federal government must connect greenhouse gas emission requirements to federal transportation funding.

Washington state convened a multi-stakeholder forest carbon working group in 2008 to examine how forestry can participate in a cap-and-trade program. Our responses are consistent with consensus recommendations contained in the working group's December 2008 report accessible at www.ecy.wa.gov/climatechange/2008FAdocs/11241008_forestreportversion2.pdf . The workgroup, authorized by 2008 Washington legislation, included representatives of large and small forest landowners and manufacturers, environmental organizations, the power sector, climate and energy advocacy organizations, land trusts, and state, local, and tribal government.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	**Cost** for agricultural producers and private forestland owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)
Avoided conversion of forest land to non-forest uses, such as through transfer of development rights and other land use practices	E	G	M	M
Urban tree planting	M	G	M	H
Forest management, including increasing carbon storage in forest pools and/or in long-lived wood products (using the 100-year method)	E	G	M	M

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	**Cost** for agricultural producers and private forestland owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at sequestering carbon or reducing GHG emissions (Excellent, Good, Moderate)	**Ability** to verify carbon sequestration or GHG emission reductions (Excellent, Good, Moderate)	**Cost** for agricultural producers and private forestland owners to implement (High, Medium, Low)	**Capacity** of agricultural producers and private forestland owners to implement immediately (High, Medium, Low)

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
WESTERN GROWERS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Cathleen Enright
Stacey Satterlee

Organization(s) you represent

Western Growers

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Vice President, Federal Government Affairs
Director, Federal Government Affairs

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Western Growers believes that if Congress chooses to enact legislation to regulate greenhouse gas emissions, a market-based cap-and-trade system is the most effective regulatory instrument. However, no matter which type of program Congress chooses to enact, it is critical that the program work economically for the agriculture community generally, and specifically for specialty crop producers.

We are not aware of any data that addresses the economic impact/viability of the various types of program approaches on the specialty crop industry or the costs of carbon sequestration for specialty crops. This type of research is critical for understanding the positives and negatives of the various approaches on the specialty crop industry, and would allow us to develop a more informed opinion on what approach makes the most sense for producers. In particular, research on the economic impact of each of the three general approaches (carbon taxes, cap and trade, hybrid) on specialty crop producers implementing a variety of carbon offset practices would be very useful in understanding the numerous bills on climate change issues.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agricultural sector must not be subject to an emissions cap. In terms of the investment versus the return, attempts to cap agriculture's two million farms and ranches in climate legislation would be too costly and burdensome. We believe that it would be wise to consider Australia's Carbon Pollution Reduction Scheme which excluded agriculture from the cap because it determined that including agriculture in the scheme would be difficult due to "the problems associated with measuring agricultural emissions at so many locations across Australia."[1] The agriculture community is vast, diverse, and widespread, and emits a relatively small percentage of our nation's greenhouse gasses--requiring every farm nationwide to measure emissions would not be cost effective, and would put an inequitable burden on the producers of our nation's food supply.

Greater environmental benefits can be achieved by including the agricultural sector in offset allowances component of a regulatory program, but not regulating agriculture under an emissions cap. U.S. farms and ranches managed by crop, livestock and poultry producers can provide low-cost, real and verifiable carbon "offsets" that:

[1] http://www.climatechange.gov.au/greenpaper/factsheets/fs5.html

--Greatly lower the costs to society of a cap-and-trade system while achieving real greenhouse gas emission reductions.

--Allow changes in energy production technologies and investments in capital and infrastructure to occur, while providing market liquidity and low-cost emissions reductions to help the market function properly.

--Provide additional environmental benefits in the form of cleaner water, air and better wildlife habitat, while enhancing the fertility and productivity of the soil resource needed to provide food, feed, and fuel.

Any cap and trade legislation must fully recognize the wide range of carbon mitigation or sequestration benefits that agriculture can provide. The entire U.S. Agricultural Sector can play a significant role in helping to reduce domestic greenhouse gas (GHG) emissions through a market-based cap-and-trade system by sequestration of carbon on agriculture lands, and reduction of emissions from livestock through dietary improvements and manure management. Crop, livestock and poultry farmers and ranchers can play a significant role in ensuring that a market-based cap-and-trade system will succeed in reducing GHG emissions.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

We think there needs to be a balance between the distribution of allowances--those given at no cost to mitigate against the economic impacts of a cap-and-trade program, and those that are auctioned. Allowances for the agriculture sector should be allocated at no cost to projects that may not yet qualify to participate in an offset market but that may have future potential for greenhouse gas reductions. They should also be used as a tool to reward early actors who have been reducing GHG emissions and/or sequestering carbon for years. We also think additional research is necessary into what practices might prove to increase sequestration, and to encourage these practices if they are found to be effective.

We would encourage Congress to look for lessons to be learned in how allowances are distributed from programs that are already in place, including the European Union's Emissions Trading Scheme (ETS).

We are also concerned that if all emission allowances are auctioned, it would essentially be creating a new tax for the specialty crop industry and the business community at large. This increased cost for the specialty crop agricultural community would undoubtedly result in higher prices for consumers.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

The only existing cap-and-trade programs that we are aware of that includes the specialty crop industry is the California's AB 32 and the Western Climate Initiative (WCI). However, although WCI includes agricultural emissions in their economic analysis they do not include reductions from this sector,[2] hence, the research is not complete enough to determine how linkages to these program might impact specialty crop producers. We believe that a federal program should take into account any existing and emerging U.S. state and regional programs. But further research on the effectiveness and economic costs of various state-based, regionally-based, and federal-level program blends would be important for making informed decisions on which complimentary program type would be most effective for specialty crop producers.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

Whether or not a new or existing government agency regulates said program, the USDA should promulgate the rules and administer the agricultural-related carbon offset portion of the program: USDA has the statutory authority provided in the 2008 Farm Bill, the institutional resources and the technical expertise necessary to create and administer an agricultural offset program that works for production agriculture. The USDA has a track record of working with farmers as well as studying, modeling and measuring conservation and production practices that sequester carbon and that promote appropriate manure management and nutrient application on agricultural lands. The USDA should be given adequate flexibility in implementing the offset program that allows them to account for new technologies and practices that emerge, which result in emission reductions from agricultural sources.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

We believe that the Commodity Futures Trading Commission is equipped to regulate a carbon derivatives market. Using the CFTC to regulate the carbon derivatives markets instead of establishing a new agency will reduce the cost of a carbon reduction program to the U.S. taxpayer.

---

[2] http://www.westernclimateinitiative.org/ewebeditpro/items/O104F20435.PDF

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

All regions and populations in the U.S. and world-wide are intrinsically linked to and affected by events in the U.S. agricultural community. A carbon reduction program that imposes emissions caps on the fuel, energy, and fertilizer industries would result in burdensome costs to the specialty crop industry, impacting farmers, rural communities, associated industries and businesses, and eventually American families that consume fresh fruit, vegetables and tree nuts.

If a carbon reduction program is enacted, businesses that support the specialty crop segment of the agricultural industry such as trucking companies and businesses within the agricultural community such as processors, packers, and cooling facilities will undoubtedly face increased costs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

If a negative impact on the U.S. economy is to be avoided, proceeds from the program should be used to assist businesses in meeting program requirements and to compensate for higher operating costs. These assistance programs for the specialty crop community might include reinvestments in rural communities, rebates for higher energy costs, rebates for higher fertilizer costs, and tax breaks or incentives to minimize negative impacts. However, the economic costs of a carbon reduction program for the specialty crop industry need to be researched and fully understood before determining the best way to offset any negative economic impacts.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

While research is needed to understand specialty crops costs to implement any type of carbon reduction program, there is an expectation the industry will face both higher direct and indirect costs. Examples of potential cost increases include: fuel costs for transporting produce, higher fertilizer costs and capital investment requirements for new irrigation systems and new technologies. Therefore, transitional assistance may be one element in an overall incentive package to encourage adoption of a carbon reduction program and to ensure participants in the program have the financial wherewithal to remain in business. Still, much research is needed to determine the best means of assisting specialty crop participants and ensuring they remain strong contributors to the overall U.S. economy.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Not applicable to specialty crops.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Any cap and trade legislation passed in Congress needs to make economic sense for the agricultural community. An abundant and affordable domestic food supply is integral to a robust U.S. economy. Western Growers believes that legislation must be structured so that the value for farmers and ranchers exceeds the costs to them, their communities, and the US economy, all the while achieving the desired benefits for the climate. For the specialty crop industry, the economic impact of a carbon reduction program industry needs to be fully researched before determining whether market forces are sufficient for the sustainability of the industry.

13) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

Being the first multinational carbon trading program, the ETS has produced some valuable insight for a large scale carbon trading programs. For example, the ETS uses phases of several years to compensate for weather and other economic discrepancies year to year. In addition, the EU system has demonstrated that need for more transparency and consistency

in the distribution of emission allowances by allocation.[3] The EU allows its member states to allocate allowances to businesses individually. In some cases, individual countries were allocating more credits than were needed for businesses to operate normally, thereby encouraging no change in emissions. Of specific note to Western Growers is the EU's extreme limitation on the use of forests/trees as carbon sinks, and the exclusion of other agricultural commodities as carbon sinks and offset allowances. This has provided little incentive to implement GHG reducing practices.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Although there is not specific research that discusses how these options would impact specialty crop producers, in general we believe that the combination of a voluntary offset program and bonus allowances for agriculture activities should be considered over a program that only adheres to one of these options. Further research of the economic impact/viability and positive/negative aspects of these types of programs for specialty crop producers would allow for a more detailed opinion on this topic.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

We believe that limiting the number of offsets issued by the government for agricultural activities would only lead to stifling innovation in this sector. EPA estimates predict that agricultural and forestry lands can help to reduce up to 20% of US GHG emissions on an annual basis. Therefore, we believe it is unwise and market distorting to place an artificial cap on the amount of domestic offset allowances a covered entity can use to meet its yearly obligations. The goal of any climate change legislation should be to remove as much GHG from the atmosphere as possible.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

[3] http://www.climnet.org/EUenergy/ET/NAPsReport_Summary0306.pdf

We do not believe that there should be artificial limits on the number of offsets, so there should not be any need to prioritize who gets them and how much.

Congress should ensure that an offset program is structured to enable specialty crop producers to participate.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

We believe that using the results of scientific research should be the cornerstone of any agricultural offset quantification program. USDA should be tasked to review and evaluate the scientific literature, field studies and private sector (individual or company) data for common offset practices and quantify the benefits each. This program would serve as the clearinghouse for acceptable agricultural offsets. The verification program should be standard-based to encourage greater participation and should consider using strategies that do not entail high costs to agricultural producers including allowing for "group verification" for smaller-scale projects to allow small growers to participate in the program. Additional research on various quantification, verification, and monitoring programs and their economic impact/viability and positives and negatives for the agricultural community would assist us in developing a more detailed opinion on this topic.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

We've identified below some criteria that could be used to assess carbon offset projects, but there is not research on which criteria are most important for assessing specialty crop carbon offset projects. In general, some of the criteria that have been used to assess carbon offset projects include: Verification; Permanence; Leakage; Community and Environmental Integrity; Additionality; Start date/timeframe; Business and project transparency; Offset quality; and Stimulation of innovation/co-benefits.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

If climate change legislation is enacted, Congress should delegate authority to USDA to design a verification and monitoring system to determine specialty crop offset practice compliance. Additional research on the types of verification and monitoring systems and how they might economically impact specialty crop producers would allow us to form a more detailed opinion on this topic.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Research specific to specialty crops does not exist on this topic. The science involving agricultural offsets is still evolving and rapidly changing, so a one-size-fits-all program may not allow for necessarily future adjustments based on further research and practical experience. Additional research on the relative economic impact/viability (including flexibility, efficiency) of the two types of programs on specialty crop producers

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

As we discussed above, we do not believe there should be an artificial limit on offsets; hence, we do not support an arbitrary mathematical relationship between offsets and allowances for specialty crop producers. Current estimates predict that agricultural and forestry lands can help to reduce up to 20% of US GHG emissions on an annual basis. Therefore, we believe it is unwise and market distorting to place an artificial cap on the amount of domestic offset allowances a covered entity can use to meet its yearly obligations. The goal of any climate change legislation should be to remove as much GHG from the atmosphere as possible. As discussed previously the current science behind agricultural offsets is evolving and rapidly changing so proposing a pre-set relationship between offsets and allowances at this time could lead to inefficiencies in the marketplace and run counter to the stated goal of legislation.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Any factors used to establish the permanence and duration of specialty crop offsets under the program should enable contracts to be sufficiently flexible to recognize the nature of the agriculture business, including Acts of God and unintentional losses of carbon.

Again, we could not identify research that addressed the most important factors for specialty crop producers specifically.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

We believe that existing offset projects established through a voluntary market or system should be considered under any new regulatory offset program. If the credits developed under existing programs meet the requirements of a federal cap-and-trade program, they should be eligible to be traded. In addition, with specific reference to agriculture, Congress also should consider current practices that reduce GHG emissions even if those practitioners are not participating in an existing system. The alternative to continued

farming for the growers may be development, which will most certainly result in increased GHG emissions.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

As discussed above, we believe that producers who have adopted technologies that result in decreased GHG emissions should be included in any new program and their current practices should be accounted for. In California, two specific examples of these practices are the phasing out VOCs from pesticides and the establishment of new emissions standards from agricultural diesel engines. Growers that are participating in these costly projects should not be restricted from counting associated GHG reductions in any new carbon offset program.

In addition, greenhouse gas offset market participants should not be excluded from also participating in other markets for environmental services that currently exist or may arise in the future. Allowing producers to "stack" credits will maximize the economic viability of carbon sequestration, ensuring that more projects are undertaken and synergies with other environmental priorities are developed.

New climate programs also should complement existing conservation programs within the Farm Bill. We believe that "additionality" and "stackability" should be a part of any new program. Restrictions to this effect could reduce the number of producers participating and projects implemented, negating the purpose of a climate change program and perhaps adversely impacting other environmental programs.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

These activities should be eligible to participate in any federal program, and should be treated in the same manner as activities that were not paid for in part by Federal or state government programs.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Unintentional reversals should not be addressed through liability. Moreover, focusing on liabilities and penalties when the science behind offset programs is evolving so quickly might hinder the growth of any program.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

The protocols and procedures for the agricultural offset program should be developed under the authority USDA. USDA has the statutory authority provided in the 2008 Farm Bill, the institutional resources and the technical expertise necessary to create and administer an agricultural offset program that works for production agriculture. USDA has a track record of working with farmers as well as studying, modeling and measuring conservation and production practices that sequester carbon and that promote appropriate manure management and nutrient application on agricultural lands. USDA should be given adequate flexibility in implementing the offset program that allows them to account for new technologies and practices that result in emission reductions from agricultural sources.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

The obstacles faced by specialty crop producers differ based on the practice to be implemented and on the individual business (commodity, location, business size, etc.). However, in general the obstacles faced include research, education, access to technical expertise, unintended consequences and application to small-scale, high-input businesses, particularly those limited in flexibility by climate and economic performance.

Please consider the issue of conservation tillage which serves to sequester carbon in the soil. In California, where specialty crops account for 92% of the state's total crop value[4], only 2% of farms used conservation tillage in 2004.[5] The biggest obstacle created by conservation tillage is in disruption of furrow or surface irrigation. In addition, vegetation on the surface may require an increase in fertilizer application rates that may exceed regulatory allowances and result in increased production costs. Finally, the soil may develop a crust with shallow distribution of soil salts and lead to unfavorable seed germination environments (alleopathy and lower soil temperature).

Winter crop cover provides an additional example of obstacles. Winter crop cover is easily used with warm season crops such as tomatoes and beans. There is the additional cost of seeding, approximately $28 per acre.[6] However, winter crop cover may also push back

[4] http://gov.ca.gov/press-release/2736/
[5] Horwath WR, Mitchell J, Six J. 2006. Tillage and crop management effects on air, water and soil quality in California. Conservation Tillage Workgroup. http://ucce.ucdavis.edu/files/filelibrary/5334/34869.pdf
[6] http://attra.ncat.org/attra-pub/covercrop.html

planting, which may reduce crop yield. As with conservation tillage, fertilizer application may increase and additional irrigation may be necessary. In preparing the field for the specialty crop, there may be additional soil preparation and tillage.

Reducing use of nitrogen fertilizers reduces N2O emissions and is achieved by not exceeding the amount of nitrogen fertilizer that a specific crop needs. Nitrogen fertilizer reduction would save costs for fertilizers, but requires more knowledge on the crop fertilizer requirements. Specialty crops that are currently using fertilizer can make this adjustment. It was estimated that the cost to reduce N2O emissions was approximately $4700 per metric ton N2O or $15 per ton of CO2.[7] Not providing an excess of nitrogen may reduce crop yield.

Burning biomass rather than fossil fuels reduces CO2 emitted and can substantially reduce production costs. This applies to all agriculture, not just specialty crops. However, it was estimated that a million British thermal units (BTUs) released from biomass will cost approximately $1.45 to $2.16, while the same amount from coal costs only $0.80. This cost is equivalent to $10-$20 per ton of CO2 emissions.[8]

Composting agricultural waste reduces methane and CO2 emissions, however, there are high capital and annual costs of approximately $359-424 and $81.59-93.25 (year 2000 USD/metric tons of CO2), respectively.[8] Similarly to biomass burning, this technology could be used by all of agriculture as well as specialty crops, but the initial costs may be more prohibitive with smaller specialty crop farms.

Lastly, although irrigation is not a method to reduce greenhouse gas emissions, it is one of the largest obstacles that specialty crop producers face. As mentioned, furrow irrigation, which is commonly used in the specialty crop industry, can be disrupted by surface vegetations. Surface irrigation can be blocked by low/no-till practices. One solution is the installation of a subsurface drip irrigation system. This type of system is expensive to implement and requires precision farming using GPS to position each year's crops directly over the irrigation lines.[7]

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

There is currently little incentive provided by the government to aid specialty crop producers in the implementation of methods to specifically reduce or offset greenhouse gas emissions.

---

[7] McCarl BA, Schneider U. 1999. Curbing Greenhouse Gases: Agriculture's Role. http://sanrem.cals.vt.edu/1010/McCarl1999_curb%20gas%20agriculture.pdf
[8] Horwath WR, Mitchell J, Six J. 2006. Tillage and crop management effects on air, water and soil quality in California. Conservation Tillage Workgroup. http://ucce.ucdavis.edu/files/filelibrary/5334/34869.pdf

In California, there are some current programs that offer incentives for agricultural growers to implement changes that might also provide GHG reductions. These programs include grant monies under the Carl Moyer program that allow producers to obtain more efficient diesel engines, and the Environmental Quality Incentives Program that encourages producers to increase water and air quality near their operations. Similar federal level grant programs might provide additional incentives for specialty crop producers to implement practices that reduce or sequester GHG emissions more readily.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Specialty crops are a valuable part of U.S. agriculture. Specialty crop production accounted for 42% of U.S. crop production in value, but only 3.2% of crop land.[9] Producers of specialty crops are not provided subsidies like program crops such as corn, wheat, oilseed crops, and cotton. A government based greenhouse gas reduction program may benefit the program crops, but importance should be placed on increasing the involvement of specialty crop producers, increasing the technological options available and creating incentives for specialty crop farms.

There are a number of areas of research that need exploration to determine what types of greenhouse gas reduction programs and practices would work most effectively for specialty crop producers:

1) What is the economic impact of the various types of program approaches on the specialty crop industry? What is the economic impact of each of the three general approaches (carbon taxes, cap and trade, hybrid) on specialty crop producers implementing a variety of carbon offset practices?

2) How effective and what economic costs are associated with various state-based, regionally-based, and federal-level program blends? Would it be more efficient to have just one federal program? Or should efficiencies found in current regional and state-level programs be used in formulating a new GHG program?

3) What is the relative economic impact on specialty crop producers of the various types of carbon reduction programs: voluntary offset programs, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards?

4) What are the economic impact/viability and positives/negatives of various quantification, verification, and monitoring programs for specialty crop producers?

---

[9] Paggi MS. 2007. Specialty Crops and the 2007 Farm Bill. Paper prepared for American Enterprise Institute project on Agricultural Policy for the 2007 Farm Bill and Beyond.

5) What is the relative economic impact/viability of pre-calculated values versus project-based approach for carbon offset practices used by specialty crop producers?

6) What factors are most critical for specialty crop growers when determining the duration and permanence of carbon offset projects?

7) What are the costs for implementing and maintaining greenhouse gas reduction technologies and which are the most effective? Which is Congress most likely to financially support?

8) How can a small farm utilize biomass burning and composting to reduce greenhouse gas emissions?

9) What technologies can be developed to reduce fossil fuel use and greenhouse gas emissions from on farm vehicles and vehicles used for transport of finished produce?

10) How can a specialty crop farmer switch to a different irrigation system that does not use furrows? What irrigation systems are compatible with carbon sequestration techniques?

11) Soils can only sequester carbon up to the point at which they reach a steady state. This may be 15-20 years. What technologies can be used to lengthen this time, or increase the amount of carbon that can be sequestered?

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
NA				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
NA				

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No/Low-till agriculture practices	Moderate	Good	Low	High
Grass Plantings	Moderate	Good	Low	High
Biofuel substitution	Excellent	Good	High	Medium
Reducing N20 fertilizer application	Excellent	Excellent	Low	High
Riparian Buffers	Moderate	Good	Low	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
WESTERN INSTITUTE FOR STUDY
OF THE ENVIRONMENT
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Michael E. Dubrasich

Organization(s) you represent

Western Institute for Study of the Environment

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

No. (1) Climate models predicting temp change from CO2 are wrong. Global temps have been falling for the last 10 years despite increasing CO2. Sun, oceanic phases are primary climate drivers. Credible predictions are that global temps will continue to fall for the next 30 years. Restricting CO2 will have no effect. (2) Warmer means more rain, longer growing seasons, more ag productivity, more ag income. If we could make it warmer, we should. (3) Taxes/fees place undue burdens on faltering national/world economy. (4) Cap-and-trade doomed to market failure just as credit market has failed due to securitized derivatives. Cap-and-trade stocks/shares are toxic assets.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No. (1) Restricting CO2 emissions will have no effect on climate. (2) Taxes/fees place undue burden on faltering national/world economy.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Cap-and-trade creates a false currency doomed to catastrophic market collapse when the bubble bursts. Controls on CO2 emissions will not affect climate, but artificial trading schemes will bankrupt country. No allocations, no costs, no centralized command-and control of ag/forestry sectors would be best. Centralized controls have always failed, leading to economic dislocations, misallocations, and in the worst cases, mass starvation. Take note of Soviet, Chinese ag failures that resulted in tens of millions of deaths.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

No. Regional programs doomed to failure. A study commissioned by the Western Business Roundtable, found that the Western Climate Initiative (WCI) greenhouse gas (GHG) cap-and-trade plan could chase away tens of billions of dollars in high technology investment from the West to other regions and would further stress the West's already strained electricity grid, increasing the threat of potentially catastrophic power outages.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

No. Please. No cap-and-trade. Terrible idea. No effect on climate but huge disruption in an already reeling economy.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

No. No cap-and-trade. Guaranteed market failure. Gov't. mis-regulation of derivatives has caused the worst economic collapse since the Great Depression. Creation of new fiat instruments will bankrupt ag/forestry sector, and other sector, leading to unimaginable pain and suffering, with absolutely no impact on climate.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

No. Please. No cap-and-trade, no fiat instrument markets, no more economic strangulation. Cap-and-trade of CO2 based on demonstrably false climate models. Limits on CO2 emissions will NOT affect climate but will bankrupt country.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Yes. Carbon reduction programs will strangle rural and urban economies, yet will have zero impact on climate. All pain for no gain.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Best to have no carbon reduction program and no redistribution of wealth/revenue. Please do not do this.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

No. No carbon reduction program means no additional costs to businesses/consumers. No program means no disruption of the economy. The CO2 scare is false. The remedy for a hoax is to ignore it. Please come to your senses.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Please stop incinerating public lands. Let-it-burn programs are destroying forests, watersheds, habitat, public health and safety, and leaving a legacy of scorched earth behind. Any "sequestration" is undone by catastrophic megafires and the aftermath of decay.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Fiat carbon derivatives are baseless and without intrinsic value. Any market in them is a chimera, with or without price controls.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU carbon trading scheme has collapsed twice. Carbon futures are worthless. The lesson is that false markets in non-commodities are Ponzi schemes doomed to failure. Some may get rich quick, but long-term players will lose everything. Markets must be backed by actual wealth, not fiat paper based on nothing but transitory (and deeply misguided) regulations.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Best option is no carbon reduction program at all, voluntary or mandatory.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The nature of the question reveals its own fatal flaw. Offsets issued by the Gov't. are false currency, flat money based on nothing of intrinsic value. The scheme is doomed to catastrophic failure, massive economic disruption and losses, but absolutely no effect on climate.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

No. Please, no. The job of Gov't is not to allocate false and worthless currency, which is what offsets are. You will undermine this country, our economy, the ag/forestry sector, and the Gov't. itself. No offsets, please.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

All carbon offsets are illegitimate. They are false, fiat instruments based on nothing of intrinsic value. Empty promises require no quantification or monitoring.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

There are no criteria for degree of phoniness. All offsets are false. Offset programs are chimeras based on lies.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Don't. Save yourself the trouble. Offsets are unnecessary and empty of value. Verification of fraud is itself a fraud. Please do not burden this country with a fraudulent program based on a hoax.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Neither. No offset program, no cap-and-trade, no carbon reduction program, no carbon taxes, no more hoax and fraud. Please.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

There is none. Creating false relationships between phony, fiat instruments is an exercise in futility doomed to catastrophic failure.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Contracting for false promises in an unmeasureable non-commodity is doomed to failure.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The CCE is going to fail in a flameout of economic dissolution. All investments will disappear into thin air, much as securitized mortgage derivatives have vanished. Note that the mortgages were based on real homes with real worth, and yet they still melted away to nothingness. Fiat instruments based on non-commodities of no intrinsic value can only be propped up for so long, and then poof! they will be gone. Please do not invest the capital of this nation in such false markets. Only tragedy can ensue.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

The creation of false markets in non-commodities is doomed to failure. Real markets trade in real wealth. Landowners must be paid for what they produce or else the economic system will implode. Payments for non-commodity values are fraught with corruption and false promises. Similarly, takings of real property for non-commodities are terrible actions that threaten to undermine our constitutional republic. Land rents for productive uses are reasonable, but most Gov't handout programs are counter-productive and prone to corruption and deceit.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Cost share and technical assistance programs have wasted $billions with no return to taxpayers and no real benefits to landowners. The private sector is better equipped to make investments and sell expertise. The Gov't handicaps the private sector with misguided programs. As a private consultant I advise my clients to avoid cost share and Gov't assistance programs because they devalue and mislead.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Such as catastrophic megafire emanating from unkempt and unmanaged Fed land? That happens every year in the millions of acres with no, none, zero reparations to the private landowners for real losses. In the West we are well-experienced in coping with Fed-caused disasters and the uncaring, unapologetic Fed response. Let-it-burn fires do tens of $billions in damages to private lands and regional economies every year while Congress sits unmoved and blind to the pain you inflict.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Delegation of authority has castrated Congress and led to injustices that have inflamed public sentiment against you and the Fed Gov't. Isn't it time for you to assume responsibility?

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Megafires, wolves, jumping mice, salmon, prairie dogs, evolutionarily significant units, distinct population segments, confiscatory taxes, economic catastrophes, lawsuits, water diversions, reneging on irrigation contracts, usurpation of water rights, usurpation of grazing rights, dam demolition, usurpation of access rights, condemnation, skyrocketing fuel and fertilizer costs, consumer demand collapse, housing market collapse, unfair competition from the Gov't, burdensome regulation, etc.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Since greenhouse gas emissions do NOT impact global climate, it would be best if the Gov't. did nothing to further incentivize or regulate private ag/forest producers. Existing incentive and regulatory programs should be downsized and sunsetted since they are largely counter-productive to the well-being of the ag/forestry sector overall.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The climate crisis is a false one. The climate is not changing rapidly. The global climate is in a neoglaciation trend and is slowly cooling due to cosmological (Milankovitch) cycles. CO2 emissions have no effect on global temperatures. Atmospheric CO2 concentrations lag temperature changes by 40 to 800 years.

However, we DO have a huge forest fire crisis today. Millions of acres of unhealthy forests burn every year, denuding whole landscapes, filling the air with smoke, killing wildlife and destroying their habitats, baking soils and causing massive erosion into rivers and streams, crippling rural and regional economies and draining the budgets of our public land management agencies. The true damages and losses are anywhere from 20 to 40 times the costs of fire suppression, which alone has grown to over $2 billion per year.

We need some practical solutions (other than more of the same only worse, which is the current policy and is not practical at all). Restoration forestry offers practical, pragmatic, utilitarian methods and techniques aimed at preventing catastrophic megafires.

Restoration forestry is the art and science of returning forests to heritage conditions of fire resilient, open and park-like structures. Our forests today are often crowded thickets,

overladen with fuels, and prone to catastrophic fires. Restoration forestry removes the excess fuels and puts forests back into their historic condition, as they existed before Euro-American contact.

The objectives of restoration forestry include maintenance and enhancement of multi-aged, low density stands with a predominance of older, fire-resilient trees. Restoring historical conditions sustains forests by protecting them from total mortality canopy fires, by and by enhancing the capacity of forests to grow trees to old ages.

Our old-growth trees arose under much different conditions than today. The forest development pathways of pre-Contact eras were not punctuated by catastrophic stand-replacing fires but instead were the outcomes of frequent, seasonal, light-burning fires in open, park-like forests. Those fires were largely anthropogenic (human-set by the indigenous residents). Because the fires of historic eras were frequent and seasonal, they gently removed fuels without killing all the trees. The widely-spaced trees thus survived repeated burning and grew to very old ages.

Modern fires in dense thickets, untempered by frequent, seasonal, anthropogenic fires, cause total tree mortality. No trees survive the infrequent holocausts, and so no trees attain old-growth status. In fact, modern fires routinely kill old-growth trees that withstood multiple fires in bygone eras. Modern fires, burning in dense, build-up fuel conditions, often convert heritage forests to more or less permanent brush fields.

Forest fires emit as much as 100 tons per acre of oxidized carbon. Decay after severe fires can release 5 times that amount over the next 50 years. When older forests burn, it can take hundreds of years to re-sequester the carbon lost to the fire. Without rehabilitation, burned forests often burn again in a decade or two, preventing any long-term carbon sequestration recovery. If the burns are severe enough, brush replaces forest and carbon sequestration recovery is effectively lost for hundreds or even thousands of years.

By restoring thicket forests to their historical norm of open, park-like conditions, and in addition restoring historical anthropogenic fire regimes, forests can be saved from catastrophic incineration and conversion to brush.

"Restoration forestry aims to bridge the environmental disconnect, reacquaint people with their forests and restore forests to their historic grandeur. Using history as a guide and modern science as its primary tool, restoration forestry acknowledges the many values people expect from forests, such as the need to keep forests biologically diverse and productive, and the importance of ensuring the safety of forest communities. It addresses the economic realities, ecological challenges and social demands of making forests great again.

Restoration forestry will create beautiful, natural forests, and encourage productive use of resources that might otherwise go up in smoke. It sets forth a feasible way to provide abundant wildlife habitat, safe communities, clean air, sustainable energy, greenhouse gas storage to help address global warming and a dependable source of wood products. At the same time, it returns to the landscape forests that look and function much like they did hundreds of years ago." — Thomas M. Bonnicksen, Protecting Communities and Saving Forests: Solving the Wildfire Crisis Through Restoration Forestry.

We must address out forest fire crisis now. The very best thing Congress could do now to protect, maintain, and perpetuate forests, and to prevent excessive carbon emissions, is to mandate and fund landscape-scale restoration forestry on Federal lands.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
None				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
None				

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
None				

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
WESTERN UNITED DAIRYMEN
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Michael L. H. Marsh, CPA

Organization(s) you represent

Western United Dairymen

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Chief Executive Officer, Western United Dairymen

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Western United Dairymen (WUD) does not support a carbon tax or fee methodology to reduce greenhouse gas (GHG) emissions. From a dairy perspective, we do not have sufficient science-based data available to us to be able to effectively cope with this type of emissions reduction strategy. Additionally, our emissions sources are widely varied both individually and regionally, and biologic in nature, making a carbon tax system highly difficult to implement equitably for the entire spectrum of our dairy farming practices.

We do believe that a cap and trade system represents the preferred approach to reducing GHG emissions, but only if agriculture is not in the capped sector. As mentioned above, our emissions are, for the most part, biologic in nature and are heavily influenced by environmental and weather considerations. This makes for an extremely difficult scenario to control through a capping system.

We have heard discussions that some organizations want the largest CAFOs emitting over a certain threshold level to be capped. These larger CAFOs have the most potential to accomplish GHG reductions. Placing them under a cap will destroy the economics of GHG capture and will be a strong disincentive to accomplish additional reductions, causing these operations to only do that which is mandated and no more. A few large operations can provide reductions equivalent to many smaller ones. This economic reality should be recognized; large CAFOs should not be subject to a cap.

We caution that any carbon reduction strategy implemented too precipitously could very likely result in significant disruption within the dairy farming community.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agricultural GHGs must not be controlled by regulatory technology developed for "smokestack" industries, and a capping system is in no way appropriate for agriculture. Agriculture can participate, however, by being a resource providing offsetting opportunities for capped sectors. WUD has recently administered a grant program for the California Energy Commission to develop methane digesters on several dairy farms. This type of voluntary effort could be enhanced by the opportunity to provide offsets to the carbon marketplace. Additionally, if dairy carbon capture and destruction opportunities are to be realized, the economics must be positive. Capping emissions will remove that incentive,

but allowing offsets to be provided to other industries will enhance the positive aspects of carbon control.

There is burgeoning interest within the dairy farming community to find ways and means to reduce carbon emissions. Dietary strategies, management practices, manure handling and treatment technologies are all being discussed by farmers. It is critical at this juncture to build a system that will encourage entrepreneurial endeavors and imaginative enterprise by dairy farmers, not mandate problematic and rigid regulatory approaches.

The following 7 principles of a carbon reduction program for agriculture should be observed:
(1) Agriculture should not be subject to a cap, but can provide offsets.
(2) USDA should be the location responsible for developing the science and technology aspects of any carbon reduction program for agriculture. The approach should be bottom up, not top down by regulatory edict.
(3) Credits should be stackable for maximum environmental benefit.
(4) Early actors must be rewarded and eligible to participate.
(5) A mix of reduction measures and strategies should be allowed.
(6) Adaptability research on the effects of climate change on agriculture should be a high priority.
(7) Barriers preventing implementation must be removed.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Agriculture should not be capped. However, there must be costs for allowances to the capped sector in order for a market to function. WUD is interested in encouraging innovative carbon reduction strategies. We suspect that if agriculture was capped, it would be unable to compete in the marketplace to obtain the necessary allowances.

Additionally, the transaction costs associated with a cap and trade program should be the responsibility of the capped sector, and government administrative costs should be borne by those regulated sectors.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

WUD is concerned about the validity of carbon offsets that enter the marketplace. California has created the California Climate Action Registry (CCAR), and has done so with the intent of installing a very technically sound and scientifically supportable carbon

accounting system. The CCAR methane digester protocol, for example, can provide a model for other programs. However, there must be a substantial linkage on a regional, national, and international basis in order to have an effective program and avoid suspect or invalid reduction claims entering the marketplace. The goal of any U.S. program should be to ensure a level playing field for our producers. For agriculture, USDA is the appropriate place to develop the bottom-up system of measurement and accounting that will be necessary. It is also important to coordinate with other countries and not travel this road alone nor in a vacuum.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

A new agency should not be created. Any carbon program for agriculture needs to be as easy and straightforward as possible so that smaller producers can participate as well. USDA is the appropriate place to house any agricultural or dairy GHG reduction program. It should be noted that USDA has significant experience in this arena, with a strong air quality unit in Portland, Oregon, that works closely with western agriculture. Therefore, WUD is comfortable that the regional aspects of program development unique to western states can be clearly identified within a national structure. We suggest that a significant amount of additional discussion is necessary before any program is rolled out. Should there be "tiers" of offset validity? Is there agreement on techniques of reduction measurements? Do GHG reductions accomplished by control measures initiated for other regulatory purposes qualify as marketable offsets? These are a few of the programmatic questions that are best discussed and answered at the USDA.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Agricultural commodities are currently traded in a market regulated by the CFTC. The carbon market is now subject to the CFTC and should continue to be in the future. A different regulator will create confusion.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

The carbon market must be adequately regulated to maintain consistency and order. Within that regulated structure flexibility is necessary, but reductions must be verifiable.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Climate change legislation may very well have significant implications for certain populations. Anything that will increase costs for one sector and not reduce costs in an offsetting sector for the same population will restrain economic recovery and progress - something that we should very carefully avoid in the current economic climate. Increased costs in the transportation and energy sectors will have negative implications throughout the economy, and will add to the cost of food. Any increases (and we believe them unavoidable) in these necessary items, place a disproportionate burden on sensitive populations.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Agriculture depends on a healthy population of farm workers for both permanent and seasonal jobs. Any disruption to that population, such as increases in their transportation costs, will adversely affect agricultural productivity. Additionally, increased costs of doing agri-business could result in fewer jobs on our farms. The income to farms that could result from selling carbon offsets could mitigate this consequence.

A broad rural development approach is indicated.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes, transitional assistance should be available for both financial costs and for management resource demands.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Dairy's role in public lands utilization is indirect at best. However, there must be an agreed upon determination of who benefits from the public resources, such as biomass, that might be utilized. Should it revise public lands leases, belong to the government, or accrue to the lessee?

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should be determined solely by a regulated market. A daily limit on price changes is likely to be necessary, as with other commodities, to provide reasonable stability. There should be no upper price limit unless there is also a floor price boundary.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Europe has experienced extreme carbon price volatility. A US system must function and develop in a sustainable, science-based manner with verified credits to allow sound business planning by market participants.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary offset program will be best for agriculture. Allowances should not be a factor since agriculture must not be capped. Credits must be verifiable and science-based.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

There should be no limit on offsets available annually or over any other period of time. The marketplace should prevail in a traditional supply and demand situation. However, there is opportunity to "tier" credits in a regulated market - valuing those credits, such as methane

reduction by combusting digester gas, higher than less measurable credits such as those from soil sequestration.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The marketplace should determine and prioritize the distribution of available offsets.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

These criteria already exist under CCAR and RGGI. It would be easier to borrow from the existing programs than to reinvent the wheel.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

There are currently several criteria in use such as CCAR, RGGI, and the CCX. Some are more rigorous, but the offsets are of known quality. Some are is easier to verify an offset, but questions to the quality of the offset can be raised. The latter may not be appropriate for regulatory purposes. Using the existing criteria in RGGI and CCAR instead of creating something new seems a reasonable and efficient approach, but some degree of simplification or support of the verification process needs to be considered so smaller producers can participate.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

This task is best performed by USDA for the agriculture sector, with Congress providing the enabling legislation. Using the existing criteria in RGGI and CCAR instead of inventing something new seems a reasonable and efficient approach, but tasking USDA with researching and developing some degree of simplification or support of the verification process needs to be considered so smaller producers can participate.

Additionally, within USDA, at the Natural Resources Conservation Service, provision is made to certify Technical Service Providers (TSPs) for conservation related services - such as Comprehensive Nutrient Management Plan preparation on behalf of the NRCS. If this same model of technical support service were to be provided for carbon offset validation through the NRCS, smaller operations would have better access to the carbon marketplace

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

CCAR is field-based project by project verification. A standards based approach is much simpler and less costly, but the quality of offset may be questioned, especially in a regulatory setting. Resources should be made available to USDA to further research and develop a methodology for appropriate rigor, but with some simplification of method to support the required rigor.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

There should be no allowances for agriculture, since we should not be capped. However, for an offsets market to function there must be some degree of scarcity. In order to achieve the goal of reducing emissions, allowances in the capped sector must be limited; this also helps create demand for offsets to develop.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The "vintage" system works for other emissions - some reductions are likely to have value for specific lifetimes. Long-term policies, such as the Renewable Fuels Portfolio Standard will have implications for the kinds and types of offsets valued in the marketplace. Any system developed must have the ability to adapt to long-term policy changes - and policy changes must also address the market response to the anticipated change.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing offset projects should be fully eligible for participation if they meet the standards of rigor established. It is important to not punish early adopters.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early-actors should be allowed to benefit from existing and continuing reductions. Credits should be fully stackable. Stacking credits can provide the necessary financial resources to

undertake expensive carbon reduction strategies that would not be supported by individual credits. Stacking will mutually enhance other environmental market activities.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Even with a flourishing carbon market, it is anticipated that carbon control technologies in agriculture will not be adequately reimbursed to stimulate widespread adoption. Cost share programs such as the USDA-NRCS Environmental Quality Improvement Program are necessary or projects won't happen. In the case of digesters - we understand that none in US or EU are funded solely with producer resources, needing to be stimulated with public funding. The original reason for the practice should have no bearing on the eligibility for GHG credits - the primary factor should be verifiable reductions.

However, government funds should not be used to buy credits. Bringing government funds into an active marketplace will be disruptive and competitive to private participation.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

The CCAR process issues offsets ex-post facto, so that there are no questions as to whether the offsets are real. Offsets must have been generated and verified before they are sold. This helps with the transparency of the offsets.

If offsets are forward credited and if a default is beyond the producer's control there should be no penalty - if the project is restored then additional credits can be earned. If the project is not restored then credits would end. This question might also be considered in the context of question #22. A limited lifetime of a credit could mitigate this risk for those projects bearing higher susceptibility to disruption.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Legislation should be enabling, and is not the proper place to develop a detailed program, especially for agriculture. USDA is the appropriate agency for the science and technology development for an agricultural carbon program.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

A distinct barrier to carbon reduction practices and technologies is the cross-media environmental implications of projects, and the inability of the regulatory procedures currently in place to deal effectively with a whole-systems environmental model. A procedure to identify and credit the Net Environmental Benefit (NEB) of a project is imperative. A second barrier is the low value of credits compared to the cost of technology installations. The barriers are substantial and in California dairies have been stifled in implementing innovation and participating in well developed carbon reduction technologies. Additional research funding needs to be directed towards resolving cross-media conflicts.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No - The incentives to date have not been adequate to encourage widespread implementation of carbon reduction activities on dairy farms. The technology is available - manure digesters - but is too expensive for the majority of producers to install and maintain. Public financial support is necessary for the initial capital outlay. Better pricing of the energy produced and regulatory streamlining is imperative.

Additionally, within USDA, at the Natural Resources Conservation Service, provision is made to certify Technical Service Providers (TSPs) for conservation related services - such as Comprehensive Nutrient Management Plan preparation on behalf of the NRCS. If this same model of technical support service were to be provided for carbon offset validation through the NRCS, smaller operations would have better access to the carbon marketplace.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The dairy industry, through Dairy Management Inc., is pursuing a dairy sustainability initiative. This initiative will cover the entire spectrum of the dairy marketplace - basically from farm to fork. Additional research on dairy's carbon footprint is needed and practices to accomplish reductions must be developed. Research at USDA and at our land grant universities should be vigorously supported. Technologies beyond manure digesters, such as gasification and other thermal conversion methods, need to be demonstrated in a commercial setting. Fuel cells to couple with digester gas production appear to be

promising. Biogas cleanup technologies need to be improved. The cross-media environmental implications of all new technologies must be fully studied and considered.

Western United Dairymen endorses the following 7 Principles of an Agricultural Carbon Reduction Program:
(1) Agriculture should not be subject to a cap, but can provide offsets.
(2) USDA should be the location responsible for developing the science and technology aspects of any carbon reduction program for agriculture. The approach should be bottom up, not top down by regulatory edict.
(3) Credits should be stackable for maximum environmental benefit.
(4) Early actors must be rewarded and eligible to participate.
(5) A mix of reduction measures and strategies should be allowed.
(6) Adaptability research on the effects of climate change on agriculture should be a high priority.
(7) Barriers preventing implementation must be removed.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
WESTERVELT COMPANY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Michael E. Case

Organization(s) you represent

The Westervelt Company
D/B/A:
Westervelt Natural Resources
Westervelt Lumber Company
Westervelt Renewable Energy
Westervelt Ecological Services

Address

[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President & CEO, The Westervelt Company

The forest products industry consists of the Lumber & Wood Products sector and the Paper & Allied Products sector, which together account for approximately 6 percent of the total U.S. manufacturing GDP, producing $200 billion in products annually, and at its peak employing approximately 1.3 million people with an annual payroll of $54 billion. The industry is among the top 10 manufacturing industries in 48 states.

A privately owned company under fourth generation family management, The Westervelt Company owns and sustainably manages over 500,000 acres of forest land in the southeast U.S., and includes the production of wood products, the development of renewable energy projects, and the development of endangered species and wetlands mitigation banks among its business activities.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

It must be recognized that the result of implementing either cap & trade, a direct tax, or a hybrid approach will be higher energy prices which will be passed on to downstream customers to the extent possible. A cap & trade program in which free markets determine costs through supply and demand is preferable and offers incentives to develop projects to reduce costs within and between companies and industry sectors - cap & trade focuses on the lowest possible cost for compliance and was the basis for the country's success in controlling acid rain pollution. While a carbon tax provides revenue certainty, a cap & trade approach focuses on environmental certainty because it is based on an assessment of the level of emissions required in order to reduce emissions - our ultimate objective. Regardless of the method enacted, the regulated parties should not be placed at a competitive disadvantage to foreign competitors which are not held to the same environmental standards.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Sustainably managed forests should not be regulated or included under the cap; instead, they should be allowed to voluntarily opt into a cap & trade program through participation in offset programs. The nation's forests are recognized as the our most significant and renewable carbon sink and offer the opportunity to provide offsets to other emitting industries.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Allowances should be allocated to industries within the sectors covered under a cap and trade program as opposed to an auction scheme which is likely to result in higher overall prices. Allocating no-cost allowances to the forestry industry is a positive step, but the industry will still be disadvantaged through higher pass-through costs for its key energy and raw material purchases.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A single, nationwide standard should provide uniformity, visibility, and be less costly to implement and monitor as opposed to varying state level standards. A national program should recognize offset and early-action reductions from existing programs with verifiable standards such as the California Climate Action Registry, The Climate Registry, the Chicago Climate Exchange, and others. In many ways the existing voluntary programs complement each other and should be used as the basis for the formation of a nationwide standard.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

We believe that the USDA is best positioned to regulate forestry (U.S. Forest Service) and should be responsible for development of regulations in concert with the U.S. Environmental Protection Agency.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The Chicago Climate Exchange, an exempt exchange, provides an example of a voluntary but legally binding platform in which carbon financial instruments are traded. Sufficient state business and contract law exists, and as such forest landowners should be exempt from direct regulation by the CFTC. However; the CTFC should continue its role as regulator of derivatives, futures, and options contracts related to carbon trading.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Carbon markets should be treated similarly to other commodities, however; the registration and retirement of offsets and allowances should occur through regulated, open, and transparent markets.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Yes. Direct regulation (other than participation in offset projects on a voluntary basis) of the forestry industry will negatively impact certain populations including those in rural areas. As an example, rising energy prices resulting from the enactment of a carbon reduction scheme will impact key sector inputs (i.e. fuel, electricity, fertilizer) and will place further competitive pressure on an industry that is already struggling for survival. In areas such as the southeast U.S. where there are large concentrations of forested areas, a further contraction of the industry is likely to impact jobs and over time could lead to a reduction in forested land mass as incentives for sustainable management disappear.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Revenues from a carbon reduction program should be used to maintain the viability of the industry under regulation and could be used as credits to offset the cost of key sector inputs (i.e. fuel, electricity, fertilizer, forest management costs). Any regulatory action that lessens the ability of the industry to compete fairly on a global playing field is not in the best interests of the U.S. and its citizens.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes. The forestry industry is likely to face increased raw material, energy, and transportation costs which will place it at a disadvantage if competing against unregulated non-U.S. competitors. Transitional assistance should exist until such time as the industry is afforded the ability to complete on a level playing field.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands should be managed in a sustainable manner utilizing criteria identical to that used to measure sustainability for private land ownership. Recognized management standards include the Sustainable Forestry Initiative (SFI), the Forest Stewardship Council (FSC) certification, and the American Tree Farm System (ATFS). Carbon credits emanating from land that is not sustainably managed should not be recognized.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

A free market system which allows for the creation, banking, and trading of credits should not require governmental price controls.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Neither the ETS nor the Kyoto Protocol fully recognizes the benefit provided by forest carbon sinks, net increases in forest stock, or the retention of carbon in long-lived wood products (i.e. lumber, paper, etc.). The U.S. must take the lead in establishing the design of forest offset protocols. The role of forests in sequestering carbon cannot be overlooked.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

It is estimated that U.S. forests and long-lived wood products from our forests sequesters almost 10% of all U.S. carbon emissions. Any action that results in a disincentive to sustainably manage our forests is counter to our GHG reduction objective. A voluntary offsets program would provide adequate incentives.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No. We should create a regulatory environment that encourages and rewards - through market dynamics rather than government limits - the generation of credits.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The government should determine the regulatory environment, but the free market and not Congress should determine the number of credits generated and how those credits are distributed.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The offsets should be real, additional, verifiable, permanent, and enforceable and should recognize sequestration in both forest growth and long-lived wood products.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

A clearly defined standards based approach is preferred to the Clean Development Mechanism (CDM) approach in which participants propose their own offset protocols.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should establish the program parameters and allow the USDA or other designated agency to identify verification criteria for application by independent third-party verifiers.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A standards based approach would provide a greater level of transparency and consistency.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances should be valued equally.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Forest offset projects should require evidence of sustainable forest management practices for a period of 15 years. A 20% reserve pool for forest offsets (excluding long-lived wood products) should be established to allow for reversals and/or catastrophic events.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The program should recognize offset and early-action reductions from existing programs such as the California Climate Action Registry, The Climate Registry, the Chicago Climate Exchange, and others.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Practices that increase the amount of carbon sequestered should be fully recognized. For example, trees planted in wetlands mitigation banks cannot be recognized in carbon offset schemes even though they represent a net increase in carbon stocks. Multiple activities that provide incremental value ("stackability") should be recognized even if they exist in a single project.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Regardless of the initial purpose or the source of funds, the market should reward the creation of verifiable offsets.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Certain trading schemes - such as the Chicago Climate Exchange - require annual audits to ensure that leakage does not occur. They require that 20% of forest growth credits be

maintained in a reserve pool to account for annual fluctuation in forest growth and to mitigate shortfalls in carbon that could results from natural disasters.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress should enact general legislation that outlines its intent, and then allow agency experts to develop specific regulations. The USDA is fully qualified to undertake this responsibility.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Forest owners who already practice sustainable forestry should not be penalized by additionality rules. Without these visionary management practices - which are very costly to maintain - our existing forest carbon sinks would not exist.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No, however, the free market's demand for sustainability (via FSI, FSC, American Tree Farmer) has provided this incentive. Carbon sequestration provides an opportunity for landowners to offset the high costs of implementing and maintaining such programs. Congress should also refrain from mandatory regulation of forestry and allow for voluntary participation.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The government should promote and reward projects which utilize biomass in place of traditional energy sources. In particular, fuel switching projects to generate process steam and electricity, ethanol from cellulosic sources, wood fuel pellets for heating and power generation, and biomass gasification to produce high level industrial chemicals and transportation fuels. Biomass cannot solve all of our problems but it plays an important role in reducing GHGs and reducing our dependence on foreign oil.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Sustainable Forest Management	Excellent	Excellent	Medium	High
Afforestation	Excellent	Excellent	Medium	High
Reforestation	Excellent	Excellent	Medium	High
Long-Lived Wood Products Sequestration	Excellent	Excellent	Medium	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
WEYERHAEUSER COMPANY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Sara Kendall, Vice President, Environment, Health and Safety

Organization(s) you represent

Weyerhaeuser Company

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Weyerhaeuser Company, one of the world's largest forest products companies, was incorporated in 1900. In 2009, sales were $8 billion. It has offices or operations in 10 countries, with customers worldwide. Weyerhaeuser is principally engaged in the growing and harvesting of timber; the manufacture, distribution and sale of forest products; and real estate construction and development. Additional information about Weyerhaeuser's businesses, products and practices is available at http://www.weyerhaeuser.com.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap- and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Weyerhaeuser supports a cap-and-trade program because it provides an incentive for energy efficiency and a funding mechanism to enable the private sector to invest in cost effective technologies to reduce carbon emissions. Effective carbon emission reductions at the scale required to meet mid-century goals require new technologies. Cap-and-trade rewards entities that make investments to achieve greenhouse gas emissions reductions greater than required by a cap by allowing them to sell their excess greenhouse gas emissions reductions on the free market.

A cap-and-trade approach provides flexibility for capped entities as it provides choices in how to best meet compliance obligations. An entity can make investments in technology or upgrades to achieve emissions reductions or can purchase approved credits or offsets from another entity, which may be more cost effective. This ensures the most cost-effective emissions reductions and sequestration projects are achieved first. Proceeds from selling credits will spur investment from the private sector into new technologies needed for a lower carbon economy.

By cap-and-trade we are referring to a "classic" or "traditional" cap-and-trade program, such as the Acid Rain program. The Acid Rain program to reduce sulfur dioxide emissions is the perfect example of a how well run cap-and-trade program can successfully reduce emissions at a significantly lower cost than projected. Under the Acid Rain program, the majority of allowances were provided to capped or regulated entities at no cost and a limited number of allowances were auctioned off to help set a price signal and to account for new entrants.

An auction acts as a tax - it imposes costs only and does not provide the potential for returns. A carbon tax or auction will incent cost avoidance rather than investment in new technology. Over the last few decades more than 80% of the investment in new technology has come from the private sector. A government-run carbon allowance auction would divert funds from private sector research and development for greenhouse gas reducing technologies.

Having an auction component exposes the program to market manipulation. Unregulated or large, wealthy entities may speculate or horde allowances and threaten the continued operation of manufacturing businesses with lower profit margins. In addition, entities without a compliance obligation could enter the auction and bid for allowances and then retire them, which would both raise prices and threaten the ability of entities with a compliance obligation to continue operations if sufficient allowances are not available If this were to occur,

additional price pressures would be placed on the smaller regulated entities and on the sectors that are not in a position to pass along the costs of an auction.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Under no circumstances should forests be covered under a carbon reduction program in the United States.

- **First and foremost, forests and wood products are a net sink in the US, currently offsetting 10-15% of US GHG emissions.**
- **Second, almost 60%, or 430 million acres of US forests, are owned by over 10 million private landowners. The administrative burden of having to monitor and report annual carbon changes would be overwhelming and would have no measurable climate benefit since one of the main reasons US forests remain productive is because there is an economic value for managing forests for timber production. Year to year accounting is impractical and economically infeasible for most landowners.**
- **Third, forests are influenced tremendously by natural events such as weather, fire and insects and these events can have large impacts on rates of forest sequestration and emissions.**

It is appropriate to positively influence greater carbon sequestration in forests and forest products through enacting an offset program to work in conjunction with a cap and trade system. Offset programs should recognize carbon dioxide sequestered or emissions avoided from reforestation, afforestation, avoided deforestation, forest intensification projects, harvested wood products, and from lands set-aside from harvests for conservation purposes.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Weyerhaeuser believes that the emissions allowed under the cap (i.e., allowances) should be allocated without cost to capped entities, especially during the initial phases of the cap-and-trade regime. A mandatory cap-and-trade program will impose significant additional costs on regulated entities to remain in compliance with the cap. Free allocation of allowances will lessen the overall initial impact of such a program and will prevent leakage of manufacturing operations and the jobs associated with those operations to political jurisdictions that do not impose costs for regulating greenhouse gases. The allocation of allowances should be equitable and an entity should not benefit from an over allocation of allowances. Therefore, the distribution of allowances in the early program years should be based on methodologies appropriate for each sector and which recognize early action to reduce GHG emissions. A regulated entity should not be able to monetize an

allowance until it has exceeded its reduction obligation. If entities are forced to purchase allowances , the monies that could otherwise be dedicated to innovative technologies or facilities improvements/upgrades would be diverted to cover the cost of auction. Economic studies should also be engaged to facilitate future policy adjustments.

If Congress decides to auction some percentage of the allowances, we urge that allowances be distributed at no cost to the energy intensive sectors (ie: pulp & paper, cement, steel) subject to global trading pressures and are unable to pass on costs. These sectors will be significantly exposed to the threat of leakage. This point was recently affirmed by the European Parliament in December 2008 in their allocation approach for energy intensive industries. The European Parliament legislative resolution stated:

> *In the event that other developed countries and other major emitters of greenhouse gases do not participate in this international agreement, this could lead to an increase in greenhouse gas emissions in third countries where industry would not be subject to comparable carbon constraints ("carbon leakage"), and at the same time could put certain energy-intensive sectors and sub-sectors in the Community which are subject to international competition at an economic disadvantage. This could undermine the environmental integrity and benefit of actions by the Community. To address the risk of carbon leakage, the Community will allocate* **100% of** *allowances free of charge to sectors or sub-sectors meeting the relevant criteria.*

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. ROGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

As with the Clean Air Act and other environmental regulations, a federal cap-and-trade program should be seen as the national standard, with flexibility to harmonize with regional, state and local programs to manage carbon emission reductions. However, requirements of different carbon reduction programs should not be conflicting nor additive to one another. For instance, federal government requirements should not be imposed in addition to state or regional system. Akin to the way a State Implementation Program under the Clean Air Act works, state and regional programs can be recognized as meeting federal requirements. This does not mean every state or regional program has to be exactly consistent with the federal program. They need mechanisms for linkage and harmonization, such as common accounting and reporting protocols and evaluation that such systems will contribute to the national emission reduction goals. Carbon allowances generated in such systems should be mutually recognized and fungible with the national and international systems.

If the US continues on a path of regional cap and trade systems, we will end up with a patchwork of credits and emission reductions targets that need to be harmonized to avoid duplication and confusion. Similarly, in the case of a potential carbon tax, entities should not be subject to double taxation for direct and indirect emissions.

Programs should be fungible and harmonized so that emissions units are mutually recognized between different schemes to allow emissions trading between state, regional, federal, and international programs. Linking markets in this manner will help to establish a common carbon cost, facilitate access to the lowest cost carbon reduction activities, and reduce the potential effects of leakage.

Any limitation on fungibility will hamper our ability to optimize carbon reductions and credit sales and offset project eligibility.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less. Use bullets

Climate legislation should utilize existing expertise in the government to the greatest extent possible to build on the most relevant existing skills rather than create a new entity with a steep learning curve. Existing agencies would be more likely to focus on refining currently utilized processes, an approach which is both more efficient and reduces the risk of unintended consequences. Importantly, there is no existing agency that has all the requisite skills to administer a cap and trade program of the magnitude of the carbon program envisioned. There are pockets of expertise, however, that should be called upon in lieu of establishing an entirely new agency.

Specifically:

- **It is appropriate for the EPA to set, manage, and enforce caps on emissions of greenhouse gases and provide an accurate annual GHG inventory and accounting of emission reductions.**
- **The USDA should be utilized to develop, manage protocols and manage verification for offset credits from the agriculture and forestry sectors.**
- **The Department of Treasury should be involved in overseeing the carbon trading system as it touches every aspect of the economy and cannot be separated from overall national fiscal policy.**
- **Lastly, utilizing the existing skills at agencies such as the Commodities Futures Trading Commission to actually managing day-to-day trading makes great sense to ensure the market is appropriately regulated, operates transparently and functions smoothly.**

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap- and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

The market mechanism should be designed keeping the goal of emission reductions or increased sequestration as the primary objective. Products that do not contribute to that goal should not be included in the system.

The CFTC should continue its role as the primary regulator of carbon derivatives and futures markets. The CFTC's mission is directly aligned with the regulation of a cap-and-trade program and all primary commodity exchanges are regulated by the CFTC.

The stated mission of the CFTC is to protect market users and the public from fraud, manipulation, and abusive practices related to the sale of commodity and financial futures and options, and to foster open, competitive, and financially sound futures and option markets.

A cap-and-trade program would benefit from a robust futures market on one or more of the primary commodity exchanges. Benefits would include liquidity, price discovery, and price risk management, all of which are necessary to encourage efficient capital spending needed to reduce carbon emissions.

If it is determined that the market would benefit from additional oversight, carbon credits could be classified as securities which would require both CFTC and SEC oversight.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.
Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and- trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

A cap-and-trade program would benefit from a robust market that includes the possibility of developing derivatives that positively contribute to a robust marketplace for carbon. Benefits would include liquidity, price discovery, and price risk management, all of which are necessary to encourage efficient capital spending needed to reduce carbon emissions. The carbon trading scheme should encourage the greatest liquidity for commodity trading, but also ensure market stability, transparency and oversight and achieve the intended benefits to the atmosphere through emission reductions or increased sequestration.

Carbon differs from other commodities in that the buyers compelled by a compliance obligation to ensure continued operation. For this reason, it is critical to provide protection from market manipulation and disruptive speculation that could have devastating impacts on manufacturing operations trying to assure compliance. The market should be broadly accessible. This approach will work best in a trading system that utilizes offset credits broadly and provides an allocation to entities with a compliance obligation. There will not be a robust marketplace in a scheme that relies primarily on government-run auctions. An auction scheme will result in leakage of manufacturing to unregulated overseas locales.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include:

residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Forest land that is managed for sustainable wood production over the long term experiences a constant rate of carbon sequestration and storage. Policies should acknowledge that working forest lands are carbon neutral and should not be included under a cap or subject to additional obligations under climate mandated programs. This is especially important for the 10 million private landowners who own an estimated 60% of US forests. It would be extremely burdensome and costly for these land owners to perform full carbon accounting. There would be no environmental benefit because US forestlands are a net carbon sink.

Additionally, a carbon reduction program that includes a 100% auction approach would have negative impacts for manufacturing operations such as saw mills or pulp mills in rural communities. If the auctioning of allowances increases costs to a point where these operations can no longer be competitive, they may have to close or curtail operations, negatively impacting rural communities. Because the U.S. forest products industry cannot pass on costs and remain competitive in the world economy, high emission allowance prices would significantly reduce or eliminate already slim profit margins for U.S. companies. For example, purchasing allowances at $50 per ton at auction would cost AF&PA's pulp and paper manufacturers $3.6 billion or more than 80 percent of their profits. At $60 per ton, industry profits would be essentially eliminated.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

The best way to minimize the negative impacts of a carbon reduction program is to to provide an allocation of carbon allowances to covered entities without additional costs other than meeting the reduction obligation. Other beneficial cost containment mechanisms include a broadly-defined offset program, meaningful early action credit, banking of allowances, and a compliance period of greater than 1 year. For example, the Western Climate Initiative proposed a three-year period to demonstrate compliance with the reduction obligation. Emission reduction credits could be verified and serialized during that entire compliance period.

Entities that undertook early actions to reduce carbon emissions should be provided credit that recognizes those actions and not unfairly enrich procrastinators. If the federal government implements some level of auction, all revenues generated should be invested in activities that directly achieve the greenhouse gas reduction goals such as energy efficiency improvement projects or research & development for new greenhouse gas reducing technologies within the capped sectors. Auction proceeds need to help achieve the policy goals set out by the program and at the same time relieve some of the burden of increased energy costs on industries, such as the manufacturing sector, that are least able to pass along these costs.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

A cap and trade program enacted to form a foundation for an economy-wide carbon reduction program needs to allow for an orderly transition of the economy and the entities affected by such programs. Dramatic changes imposed too quickly will cause significant disruption to a healthy economy. The best way to minimize the negative impacts of a carbon reduction program is to avoid the use of auction to provide carbon permits to manufacturing entities and to provide an allocation of carbon allowances to covered entities without additional costs other than meeting the reduction obligation. Other beneficial approaches to avoid negative impacts are to use cost containment mechanisms such as a broadly-defined offset program, meaningful early action credit, banking of allowances, and a compliance period of greater than 1 year.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands should play a role in helping to sequester carbon and/or reduce greenhouse gas emissions but should be treated differently than private lands. We believe that the Forest Service should direct a response to manage public forest resources, including their mitigation capacity. Programs to promote sequestration of public lands must be distinct from offset programs involving private forests. Regulatory and management approaches between private and public lands can differ significantly, and effective and efficient greenhouse gas programs should be tailored separately to the different types of ownership.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

If a robust cap-and-trade program is in place with multiple cost containment mechanisms, a price cap, or "fix", on carbon will not be necessary. The most important step to control costs in any carbon program will be to not tax, auction or otherwise charge for the emissions allowed under the compliance cap. This will allow regulated entities to concentrate on achieving their greenhouse gas reduction goals by investing monies into research & development for new carbon reducing technologies or for facilities improvements/upgrades.

In addition to distributing emission allowances to the covered sectors freely, additional cost containment mechanisms should be used. The most acceptable cost containment mechanism is a vigorous, broadly defined offset program including forestry projects. Offsets will enhance participation in the program beyond covered sectors, as it will incent entities in non-covered sectors to create projects to reduce emissions and encourage investment in the development and deployment of low-carbon technologies. Other important cost containment

measures that should be included in a carbon reduction program are rewards for early action and the ability to bank and borrow allowances. Additionally, setting a compliance period for greater than one year allows greater flexibility for an entity to achieve emission reductions and to verify its compliance obligation.

If some level of allowance auction is used in a program, there *must* be a cap on the price of carbon to protect the participating covered sectors from excessive costs, market manipulation and artificially induced scarcity.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 800 words or less.

The primary lesson from the European Union's Emission Trading System (ETS) experience is the need to set an effective emissions cap and use adequate emission inventory methods to determine the right level of allowances to distribute to regulated entities. It is well documented that the EU ETS over allocated its allowances because it did not have good emissions information and, as a result, several entities received "windfall" profits. The over allocation of allowances resulted from poor greenhouse gas inventory data. It is important to note that that EU ETS did not require reporting prior to commencement of the trading.

Setting clear data quality objectives and obtaining accurate emissions data is essential in setting a cap. The EU ETS allowed only one year between the issuance of the directive and the beginning of trading. That was not a sufficient period for member states to develop baseline data. The United States cap and trade program for sulfur dioxide from power plants was successful because it used a historical baseline. The U.S. should require mandatory reporting for at least two years prior to initiating the cap to ensure that an accurate baseline is set and that the intended environmental outcome of reducing carbon emissions will be achieved within a cap and trade system.

The Voluntary Carbon Standard, a global consortium dedicated to improving standards and programs for offsets, has proposed potential standards for forestry management. Further, the United Nation's Clean Development Mechanism ("CDM") does allow credits for afforestation or reforestation, but not forest management. The CDM has been problematic and will undoubtedly undergo changes in the coming years as it has produced very few projects in the forestry area due to unnecessary restrictions in the program. The critical importance of promoting forest sequestration projects around the world was highlighted at the December 2007 United Nations climate change conference in Bali. At that conference, discussion focused on Reducing Emissions from Deforestation and Forest Degradation ("REDD"). Ongoing REDD discussions may provide an opportunity to bring international perspectives to this issue.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Weyerhaeuser strongly believes that a voluntary offset program is the most effective way for agriculture and forestry sectors to participate in a carbon reduction program. Offset programs will help assure economic stability in the transition to a carbon constrained economy and provide a mechanism to control costs. According to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change released in 2007:

> ***"In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fiber, or energy from the forest, will generate the largest sustained mitigation benefit."***

We support the following forest offsets:

FOREST SEQUESTRATION: The beneficial reduction of atmospheric carbon dioxide (CO2) by sequestration through photosynthesis and tree growth should be recognized by awarding offset credits for the atmospheric carbon dioxide sequestered or emissions avoided from reforestation, afforestation, avoided deforestation, forest intensification projects and from lands set-aside from harvests for conservation purposes.

HARVESTED WOOD PRODUCTS: The carbon stored in wood products sources from regions where silvicultural sequestration capacity is maintained should be eligible as offset credits. Landowners should have the first right, but no obligation, to register the harvested wood product credits. The credits should be transferable through the value chain either bundled with, or unbundled from the product, as determined by contract negotiations and terms.

PRODUCT SUBSTITUTION CREDIT: As a building material, wood requires less energy to produce, transport, construct and maintain over time and is a better insulator than other building materials such as concrete or steel. The use of low carbon footprint materials should be encouraged by granting avoided emissions credits to the builder equal to the reductions from the amount of embodied emissions in an average building assembly.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Weyerhaeuser supports the use of offsets as a flexible cost containment mechanism and an effective tool to provide incentives for reductions in emissions or increased carbon sequestration and storage outside of the capped sector. The inclusion of offsets in a cap-and-trade program is fundamental to ensuring there are cost-effective options for capped entities to achieve emissions reduction compliance in the early years of any program. Offsets will encourage innovation for both regulated and non-regulated entities. Entities that do not have the necessary technologies in the short-term to reduce their emissions will invest in offset programs to help them achieve compliance until cost effective and affordable GHG reducing technologies become achievable.

Offsets will also enhance participation in the program beyond covered sectors, as it will incent entities in non-covered sectors to create projects to reduce emissions and encourage investment in the development and deployment of low-carbon technologies. This should, in both the long and short term, result in an overall increase in emissions reduction across all sectors, covered and non-covered.

Mechanisms can be used to manage the effect that offsets will have in bringing about GHG reductions under a cap-and-trade program. If there are too many low cost offsets, not enough progress will occur. If there are not enough offsets, emission reduction costs may be too high, potentially harming a region's economy. Offsets can be controlled to manage these outcomes. By allowing a relative high percentage of offsets in the beginning of a program and adjusting down as costs come down and entities get adjusted to doing business in a carbon constrained world, adverse results can be avoided. And, if costs are too low to encourage change, the percentage can quickly be reduced.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offset credits should be available to all entities governed by or participating in the carbon trading system. Eligibility criteria should allow both domestic and international offset credits. Oversight of day to day trading should be rigorous and transparent to determine the appropriate percentage of offsets to allow into the marketplace.

The inclusion of offsets in a cap-and-trade program is necessary and fundamental to ensuring that there are cost-effective options for capped entities to achieve emissions reduction compliance in the early years of any program. Offsets will encourage innovation for both regulated and non-regulated entities. Entities that do not have the necessary technologies in the short-term to reduce their emissions will invest in offset programs to help them achieve compliance until cost effective and affordable GHG reducing technologies become achievable.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

All increases in GHG emissions reductions and carbon dioxide stocks in sinks measured from a baseline should be qualified as real, measurable, verifiable and additional to a baseline. Quantification rules should be developed for each project type and should rely on existing and developing protocols, including the 1605(b) tables for calculating long-term harvested wood product carbon storage and ANSI Forest Carbon Standards process for overall forest project carbon accounting. There is growing acceptance of internationally recognized accounting methodologies for including long-term carbon storage in harvested wood products (HWP). The methods use country statistics to calculate a decay rate based on the proportion of log that goes into various forest and wood products, the half-life of the different types of housing and other wood product end-uses, and the distribution of different kinds of wood products across these end-use categories. This method is described in the Department of Energy's 1605 Technical Guidelines (2006), also published by the US Forest Service in USFS GTR NE-343. HWP carbon accounting is also included in the 2006 IPCC Guidelines for National Greenhouse Gas Inventory for Agriculture, Forestry and Other Land Use. Many protocol's have also explicitly or implicitly included HWP carbon accounting as either a voluntary or mandatory carbon pool, including California's Climate Action Registry, VCS, Chicago Climate Exchange, RGGI's proposed forest management protocol, and the Washington State Forest Carbon Stakeholder Group (Nov 2008).

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

All increases in GHG emissions reductions and carbon dioxide stocks in carbon sinks measured from a baseline should be qualified as additional and real. An offset project should be eligible if it meets this criteria independent of the economic value of the underlying project. Weyerhaeuser does not agree with the concept of financial additionality because there is no way to validate investment or asset plans that proceed and offset opportunity and it leads to perverse economic decisions. Offsets should be eligible solely on criteria that evaluates the project's contribution to mitigating concentrations of greenhouse gases in the atmosphere.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should direct the US Dept of Agriculture (USDA) to develop rules and responsibilities for identifying and approving offset protocols and oversight mechanisms for verifying offset projects from forestry and agriculture projects. USDA should be directed by Congress to develop an offset program that

recognizes carbon dioxide sequestered or emissions avoided from reforestation, afforestation, harvested wood products, avoided deforestation, forest intensification projects and from lands set-aside from harvests for conservation purposes. Under that Offset Program approach, the USDA should be further directed to establish regulations to:

1) streamline project approval,

2) avoid lengthy approval processes, such as experienced in the Clean Development Mechanism, and

3) establish project monitoring methodologies that are simple, project-type specific, and based on commonly accepted protocols where possible.

20) Should Congress establish a standards-based approach with pre-calculated values or a project- based approach that measures field results for establishing eligible offsets under the program? *Please respond in 600 words or less.*

Forest-based offsets should be project-based and carbon reductions or sequestration should be measurable as compared to a baseline. Annual or bi-annual reports should document estimated annual carbon stock changes, as well as changes such as land sales and purchases, or any natural disturbances. Field measurements should be required to "true up" model estimates no more frequently than every 10 years, as this is the timeframe that is most consistent with current field inventory methods. Any excess carbon over estimated amounts should be available for sale, and any carbon deficit relative to estimate amounts must be compensated for by drawing down a reserve pool or by replacement of credits. This process of estimation with 10 year "true-ups" can keep measurement costs low while still maintaining project integrity.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets should only be generated from non-covered sectors, such as forestry, and should be viewed as equivalent to an emission reduction. Allowances from the capped sector should not be given to non-regulated entities.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

- **It will be essential to establish a *permanence length* or *equivalence length, for forestry offset credits. These are the* periods for which the sequestered ton of CO_2 has offset an allowed emission. As the permanence length will**

most likely be longer than most landowner's decision planning horizons , it is essential for forest projects protocols to allow project flexibility.

- ***Permanence Length***: Congress should define a permanence length for projects credits as 100 years. That is approximately equivalent to the length of time a carbon dioxide molecule remains in the atmosphere. Longer timeframes are impractical for planning and tracking.

- ***Project lengths or crediting periods*** should be shorter than the permanence length but there should be the ability to renew indefinitely. Credibility between project length and permanence length can be maintained by assigning liability for assuring carbon is kept out of the atmosphere for the duration of the ***permanence length*** to the ***seller*** of the carbon (not the land).

- Short-term or temporary credits, where the liability for the offset returns to the ***buyer*** at the end of the specified period, may have benefits to both a buyer and a seller. A buyer may be interested in a temporary offset while there is a research or capital investment in carbon reducing technology, after which the buyer would be able to more than fulfill his carbon reduction requirements under a cap. Likewise, a landowner may be interested in selling a temporary offset because there may be no interest in monitoring carbon removal for a period of 100 years. Temporary credits would carry a different value in the market place.

- We do not support permanence being defined as an easement or deed restriction. This approach is detrimental for landowners who need to realize economic gain from their landownership.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The program should give credit for early, verifiable reductions or offsets, including reductions made under voluntary programs such as the Climate Vision Program, Climate Leaders, Chicago Climate Exchange, etc.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing Landowners to "stack" credits?
Please respond in 600 words or less.

All increases in GHG emissions reductions and carbon dioxide stocks in sinks measured from a baseline should be qualified as real, measurable, verifiable and additional to a baseline. With respect to stackability, forest and agriculture offset

projects should be able to sell other types of environmental credits using the same project area where the environmental benefits are separable. These activities should include but are not limited to: wetland mitigation banking credits, biodiversity offsets, recreation, hunting etc. However, these credits should in no way influence the value of the carbon credit, which should be quantified and valued purely on measurable changes in carbon sequestration or storage above a specified baseline for a specific period of time. Credit should be provided for early actions that reduce GHG emissions or increase sequestration and storage of atmospheric carbon dioxide taken over the past decade.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs *(i.e.* cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The value of an offset project should be quantified and valued in the carbon market purely on measurable changes in carbon removals above a specified baseline, regardless of intent. The carbon reduction program should primarily target program elements on their ability to achieve lowered concentrations of atmospheric carbon dioxide in the atmosphere with considerations given for economic disruption and transitioning to a low-carbon economy. The intent of an entity undertaking a beneficial project is irrelevant.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner? *Please respond in 300 words or less.*

Offset project "reversals" should be separated into "intentional reversals" and "unintentional reversals". Intentional reversals can be dealt with by assigning liability for carbon removals over the permanence length to the project proponent (seller) and not the land. If there is an intentional reversal the project proponent is liable for the amount of credits that have already been sold at current market rates.

Project proponents should be able to use a number of tools to hedge against the risk of unintentional reversals and insure that carbon is removed from the atmosphere for the duration of the permanence length (e.g. 100 years). This includes, but is not limited to:

- **Banking: allowing a forest owner to "bank" some of all of any annual carbon stock gains as a hedge against future reductions**
- **Private Insurance: obtaining insurance against carbon stock losses, wherein the insurer would be backed by either like-kind carbon pools or could provide a payment to purchase replacement carbon reduction units (credits)**

- **Registry Reserve or Buffer pools: require placements of "reserve credits" in a registry reserve pool proportional to the risk of reversal. This risk assessment should not be cumbersome and should reflect real risks of natural reversals (e.g. fire).**

- **Force majeure safe harbor: In the event an unintentional reversal has reduced the carbon stocks by an amount greater than the project proponent had place in a reserve pool or had banked (and there was no insurance), project proponents should be able to enter a force majeure safe harbor. Under this safe harbor the landowner must track the reduction of emissions and must accrue additional removals by regrowing the carbon stocks equal to the amount that has been depleted. During this time no additional carbon credits can be sold; however there is no immediate liability for the emissions.**

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures'?
Please respond in 300 words or less.

Protocols and procedures for the offset program should not be detailed in legislation and instead, should be delegated to the US Department of Agriculture (USDA) for development consistent with the broad program criteria that the Congress would establish. Congress should direct the USDA to develop an Offset Program that recognizes carbon dioxide sequestered or emissions avoided from reforestation, afforestation, harvested wood products, avoided deforestation, forest intensification projects and from lands set-aside from harvests for conservation purposes. Under that Offset Program approach, the USDA should be further directed to establish regulations for 1) streamlined project approval, and 2) project monitoring that are simple, project-type specific, based on commonly accepted protocols where possible and to develop rules and responsibilities for identifying and approving offset protocols and oversight mechanisms for verifying offset projects from forestry and agriculture projects.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Forest carbon offset markets should be carefully structured to minimize transaction and compliance costs—this will encourage the necessary level of participation from landowners and project developers to reach scale. Rules should not be structured to favor certain types of landowners over others. Additionally, the protocols and verification requirements should be feasible and affordable for all types of landowners.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? *Please respond in 300 words or less.*

Establishment of a voluntary offset program that fully recognizes the range of forest and forest products contribution towards the mitigation of climate change will provide significant positive reinforcement for private investment in forests. Enhanced flexibility should be used to incubate innovative forest carbon activities and otherwise increase opportunities for landowners to participate.

Part III: Carbon Reduction Program Additional Thoughts
Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Weyerhaeuser grows and manages an abundant, renewable resource -- biomass from our sustainably managed forestlands. This biomass should be a key element of the country's renewable energy strategies.

This biomass fuel source helps reduce our dependence on fossil fuels and contributes to the reduction of greenhouse gas emissions. Weyerhaeuser produces renewable energy at our operations from biomass such as bark, wood residuals, and wood extractives from pulping. Overall at Weyerhaeuser, biomass fuels supply about 67% of the energy needs for our manufacturing facilities. In some cases, we sell this biomass-based energy to the market. We are leaders in the use of highly efficient co-generation, such as combined heat and power, which is much more efficient than stand-alone generation.

Weyerhaeuser has partnered with Chevron to form Catchlight Energy, a joint venture company focused on developing cellulosic ethanol from non-food sources. The joint venture will research and develop technology for growing and converting cellulose-based biomass into economical, low-carbon biofuels. One of the innovative avenues we are exploring is the practice of intercropping on some of our forests in the U.S. South: growing dedicated energy crops like switchgrass in between rows of trees.

Weyerhaeuser is also exploring opportunities for other materials that could be developed from renewable biomass, including carbon fibers, textiles and materials that could replace many fossil-fuel based substances.

Modification of Renewable Fuels Standard (RFS). The RFS has restrictive definitions that will make it difficult to produce the significant amount of biomass feedstocks necessary to meet the volume requirements established in the RFS. It is likely that biomass feedstocks grown through innovative solutions like intercropping would be ineligible for use to meet the RFS. Intercropping includes growing an agricultural crop such as switchgrass in between the rows of trees on forestlands. The renewable biomass definition needs to be expanded to recognize all renewable biomass feedstock resources, including energy crops grown on forestlands.

Renewable Electricity Standard (RES). A federal RES should be crafted to recognize the forest products industry's existing investment in renewable energy. The policy should qualify existing renewable power, include a broad definition of biomass, and provide credits to energy efficiency, electricity generated & used on-site, and combined heat and power. Any definition of renewable biomass included in an RES should include all forest and plant material as well as dedicated energy crops like switchgrass grown in between rows of trees.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness at** *sequestering carbon or reducing* GHG *emissions (Excellent, Good, Moderate)*	**Ability to** *verify carbon sequestration or* GHG *emission reductions (Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to implement *(High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Forest Management	**Excellent (active forest mgmt)**	**Good**	**Depends on baseline**	**Depends on baseline**
Avoided conversion	**Moderate**	**Moderate**	**High**	**Low**
Afforestation	**Excellent**	**Excellent**	**Depends on location- high in US**	**Low-Medium**
Harvested wood products	**Good**	**Good- using 1605b) methodology**	**Low**	**High**
Conservation forestry	**Moderate**	**Good**	**High and depends on baseline**	**Medium**

Please list specific types of ***practices associated with livestock operations (e.g. manure, management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness at** *sequestering carbon or reducing* GHG *emissions (Excellent, Good, Moderate)*	**Ability to** *verify carbon sequestration or* GHG *emission reductions (Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to implement *(High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness at** *sequestering carbon or reducing* GHG *emissions (Excellent, Good, Moderate)*	**Ability to** *verify carbon sequestration or* GHG *emission reductions (Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to implement *(High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
WINROCK INTERNATIONAL

Winrock International Response to U.S. House of Representatives Committee on Agriculture on climate change options

Winrock International, April 9, 2009
Tim Pearson [Redacted] Sandra Brown [Redacted]

Name	**Timothy Pearson and Sandra Brown**
Organization you represent	**Winrock International**
Address	[Redacted]
Email	[Redacted]

Winrock International is an independent, nonprofit organization that works with people in the United States and around the world to increase economic opportunity, sustain natural resources, and protect the environment. Winrock matches innovative approaches in agriculture, natural resources management, clean energy, and leadership development with the needs of our partners. By linking local individuals and communities with new ideas and technology, we seek to increase long-term productivity, equity, and responsible resource management to benefit the poor and disadvantaged of the world.

Over the last ten years, Winrock's portfolio has totaled more than $9 million to support carbon supply assessments, development of field carbon measurement methods, development of carbon sequestration and emissions avoidance projects (both terrestrial and clean energy), and transfer of knowledge and build capacity to local governments.

Select questions have been answered below to reflect Winrock's Ecosystem Services Unit technical expertise while avoiding purely political or administrative issues:

Part 1: Carbon Reduction Program Design

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not? (300 words or less)

Worldwide deforestation is responsible for between 17 and 20% of all emissions. Within the US, forest sequestration offsets at least 10% of all emissions. In this context exclusion of land use from any program does not make sense. In addition, forestry and agriculture projects unlike almost any other greenhouse gas mitigation projects can be implemented immediately without any new technologies and at the same time provide direct benefits to the environment and local communities. These co-benefits include protecting biodiversity, enhancing water quality, decreasing erosion, increasing aesthetic and amenity values for local populations.

The least controversial approach to including agriculture and forestry would be to allow open participation in an offset market.

***13)** What, if any, lessons can be learned from the European Union's Emission Trading Scheme (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry? (600 words or less)*

Internationally, the Kyoto Protocol's Clean Development Mechanism (CDM) includes carbon sequestration projects through afforestation and reforestation of lands not forested prior to 1990. Several lessons have been learned from the CDM. First, we can learn from the ETS that exclusion of forestry and agriculture projects from major trading platforms can destroy the market. Forestry credits from the CDM were excluded and as a result to date only 3 out of 1560 CDM projects are land use based.

From the CDM we also learned that creating a system that does not allow full fungibility between allowances and credits in all sectors will greatly damage demand for the non-fungible credits. Under the CDM, credits from forestry were temporary while all other credits were permanent.

We also learned from the initial approach of CCAR that to require permanent easements to ensure permanence and thus fungibility is a non-starter. This requirement was unappealing to many landowners decreasing interest in the implementing projects. In contrast, the buffer approach of the Voluntary Carbon Standard (VCS), the American Carbon Registry (ACR) and the new Forestry Protocols of CCAR is appealing to both buyers and sellers – it allows fungibility and covers the risk of reversal.

Part 2: Carbon Reduction Program Administration and Implementation

14) *What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors? (600 words or less)*

For the atmospheric greenhouse gas perspective, the most effective approach would be to cap agriculture and forestry.

For individuals in the agriculture and forestry sectors the optimal approach would be an offset program. Such a program would be voluntary in terms of participation but would allow open access to trading on a compliance market.

Bonus allowances for land use projects have value and are a valuable addition to any future system but may not have the atmospheric integrity that market-based mechanisms retain.

Agreed upon performance standards will decrease entry costs to the market and reduce a proportion of the uncertainty and therefore increase confidence in registered projects. The design of performance standards is critical as benefit to the atmosphere only results when overcrediting and undercrediting are balanced. Avoided deforestation within the US is an example of a project-type where no performance standard could be possible.

17) *What should the criteria be for measuring (quantification, verification and monitoring) and accounting for the legitimacy of offsets under the program? (600 words or less)*

It is critical that measurement occur for all land use projects to predefined precision targets (for example plus/minus 10% of the mean with 90% confidence level) with a portion of the carbon credits deducted if the predefined standards are not attained. This requirement is needed for projects to enter into a carbon market as it gives confidence to the investor that the emissions reductions are real. Precision targets should be across the project so that project proponents can select where to invest optimally in their monitoring plan. Independent verification of claims of offsets is critical to maintain legitimacy.

18) *What should be criteria for assessing offset projects? (300 words or less)*

To maintain the credibility of offset programs it is essential that there is independent third party verification of offset claims (including the test for additionality), a credible baseline has been developed, a credible monitoring system is in place, and leakage issues are addressed. Third parties (internationally or nationally approved verifiers) should verify that measurements and monitoring protocols have been correctly applied and that they have been used correctly to support the offset claims. Without project-specific data and independent verification market confidence will not be maintained.

20) *Should congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing offsets under the program? (600 words or less)*

A project-based approach with field results is important to ensure that the claimed offsets are real and to maintain market confidence in offsets. Pre-calculated values can be used for minor carbon pools or emission sources but empirical project based results are needed for major pools such as the trees or soil. Performance standard baselines are appropriate for most land-use project types except for reducing deforestation (conversion of forest land to other land uses) where a site-specific proof of deforestation risk cannot be avoided.

22) *Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility (300 words of less)*

We strongly favor the use of risk buffer which across the portfolio of projects can cover the risk of reversals. The approach of the Voluntary Carbon Standard (VCS) or the American Carbon Registry (ACR) are excellent examples. The use of temporary credits (non-fungible and so unattractive) and permanent easements (unattractive to landowners) has been shown to be far from optimal.

Clearly putting forestry and agriculture under a future cap would guarantee permanence, however, it is likely that serious opposition would exist against such an approach.

24) *The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits? (600 words or less)*

It should always be clear that the purpose of any future program is climate change mitigation. If early actors were undertaking the sequestration activity due to consideration of greenhouse gases then it is fair to recognize these activities—many such projects underwritten by several utility companies were implemented with such a goal in the mid 1990s under the US EI program. However, where the activity

occurred due to concerns unrelated to mitigation of GHG emissions – generally financial – then credit should not be allowed. The clear example is no-till agriculture. A significant proportion of farmland in the US is under no till conditions regardless of greenhouse gas considerations and providing greenhouse gas offsets to these landowners will result in a net increase in greenhouse gases in the atmosphere.

The solution to additionality and stackability is an additionality test. Any project proponent should face the burden of proving that the activity would not have occurred without carbon finance. Stacking of credits should be encouraged as long as no one market activity alone would provide sufficient motivation to implement the activity.

Part III: Carbon Reduction Program Additional Thoughts

Any carbon reduction program implemented by the Unites States should include options for credits to be obtained from international activities as long as they met the standards set by a national offset program. There are many opportunities to implement land-use-based carbon offset projects in many developing countries that would meet multiple goals such as poverty reduction, environmental benefits, and improved livelihoods. A wealth of experience has been gained in implementing voluntary carbon offset projects, either through reforesting/afforesting degraded lands or through reducing emissions from deforestation. These voluntary projects have gained international recognition through the application of high standards for monitoring and met internationally acceptable verification standards (e.g. projects under the BioCarbon Fund).

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation/Reforestation	Excellent	Excellent	Low/Medium	Medium
Forest Management	Excellent	Excellent	Low/Medium	High
Avoided Deforestation	Excellent	Excellent	Medium/High	Medium
Urban Forestry	Excellent	Excellent	Low/Medium	Medium

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Grazing/pastureland practices	Moderate	Moderate	Medium	Medium

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till agriculture	Moderate	Moderate	Medium	High
Reduced N fertilizer use	Good	Moderate	Low/Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
WISCONSIN SOYBEAN
ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Dean Weichmann

Organization(s) you represent

Wisconsin Soybean Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am a director with the Wisconsin Soybean Association. I have filled out this questionnaire as a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

I feel that a carbon tax program would be superior to a cap-and-trade program for the following reasons.
1) Carbon taxes would be more transparent, that is, less likely to be gamed or corrupted.
2) Carbon taxes would be easier to administer, fossil fuels can be taxed at their sources or where they enter the country. Cap-and-trade would require a vast industry of highly paid professionals to administer (accountants, lawyers and scientists)
3) Carbon taxes could be kept simple with no exemptions favoring those with influence.
4) Price responses to carbon taxes would be stable and predictable while price changes as a result of cap-and-trade would be volatile and less predictable.
5) Revenue from carbon taxes could be used for carbon sequestration programs, energy conservation programs and rebates to consumers.
6) Carbon taxes could be implemented more simply and quickly avoiding delays inherent in complex cap-and-trade.
7) Carbon taxes would cover all fossil fuels and uses, unlike cap-and-trade which primarily affects electricity.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes, while we would like to be favored we realize that to be effective everyone needs to be affected. I the same way we would expect to benefit from a carbon credit program or conservation program

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

No one should be favored. No cost allowances would be unfair and likely to create resentment.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?

Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Since a carbon reduction program, either one, would affect consumers in proportion to their consumption it would be inherently slightly progressive. The affluent use more. However, the poor are affected proportionally more. A per capita rebate of most of the revenue would be most fair since it would make the tax more progressive.

A portion of the revenue should be used for carbon sequestration and conservation efforts. Agriculture would stand to gain by carbon credits offsetting increased costs for fuel.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

A carbon tax program should be phased in slowly and predictably so as to mitigate negative impacts due to higher costs. HR 1337 has such a provision.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

HR 1337 sets the price of carbon initially and is adjusted based on effectiveness of the program. We believe that predictable, steady increase in the price of carbon is best.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The UE experience shows that cap-and-trade does not work well and that at minimum allowances need to be auctioned off and not given away.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Our goal should be to remove as much greenhouse gasses as possible; caps on offsets would reduce the effectiveness of that effort.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

A market based, competitive system should be used. While the tax portion of the program would be set, the carbon price on offsets could be market based. That way the money used for offsets would be most effective.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

We believe that the USDA should promulgate the rules and administer an agricultural offset program

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Establish carbon sequestration based on science.
Extremely accurate technologies are available to measure soil carbon content. USDA can develop a properly constructed science based model
to help maximize agricultures offset credits for carbon sequestration.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A combination of these approaches would be best, with lower payment for standard and higher value for verified results.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should not be disadvantaged by being excluded from compensation for their efforts. We do not want to provide incentives to end beneficial practices in order to restart them later.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

We believe that the USDA has a proven record of working with farmers, as well as studying, modeling and measuring carbon sequestration on agricultural lands.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

There are costs as well as savings for many producers switching to continuous no-till. For many this is simply a difficult change in mind set. Education may be an important component to successful change.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Both systems, carbon tax and cap-and-trade will initially translate to higher energy costs. This is appropriate since this internalizes the external cost of pollution and climate change. Eventually reduced consumption will drive down supplier prices thus part of the cost will be borne by OPEC.

Producers of non-fossil fuels such as ethanol, biodiesel, biomass, wind and solar will be more competitive. Farmers can benefit from increased use of these alternative sources of energy as well as payment for carbon sequestration.

HR 1337 has no provision for applying funds to carbon sequestration. We think this is important to agriculture as well as addressing climate change.

HR 1337 authorizes the Treasury Department to impose a carbon equivalency fee on products imported from non-carbon-taxing countries. We think exported products should also be protected by export subsidies that equalize the differences between countries as to carbon taxes.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
DAVID WOLFE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

David Wolfe

Organization(s) you represent

Cornell University

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Yes, with initial emphasis on easy-to-monitor sectors (e.g., energy sector power plants).

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes, but there should be a plan for gradually (over the next several years) phasing in more complexity and detailed monitoring into the program. This should be linked with funding for research to improve our ability to monitor GHG emissions and carbon, and identify approaches to motivate land managers to adopt best management practices associated with mitigation

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes, linking with RGGI and with REDD (Reducing Emissions for Deforestation and Degradation) will be important

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Rather than forming a new agency, better coordination among several federal agencies should be tried first. USDA and USGS could play important roles for agriculture and

forestry aspects of cap and trade. There will also be a need for better coordination between federal and state programs and agencies.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Those farmers or other land managers with small acreage would not benefit much from payments for carbon sequestration given market prices for carbon today and projected for the near future. Thus, only large land-holders would benefit creating inequity.
Those farmers whose business focuses on long-distance shipping would be most negatively affected by high carbon taxes on gasoline if that is a result of new legislation.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Provide a low-cost loan program for farmers to adapt to negative economic consequences.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, as indicated in Question 9, above, provide a low-cost loun pgm for adaptation

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public land management should be at the forefront of this effort. First priority should be conservation of existing carbon stocks if forests and grasslands (e.g.m REDD program-Reducing Emissions for Deforestation and Degradation). Also, working with researchers to develop best management practices for forests

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU has not involved agriculture because of a number of barriers, including: 1) questions of long-term nature of building soil carbon stocks; 2) questions regarding duration or permanence of carbon stored; 3) uncertainties regarding the complex biological and ecological processes; 4) high variability in offset quantities at the farm level; and 5) leakage (production shift to regions unconstrained by GHG mitigation objectives). 6) "Additionality" has been another barrier (i.e., having to prove that net emission reductions are beyond what would have happened anyway due to other factors motivating change in management). This additionality requirement is a mistake in my opinion.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected

agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

All of the above should be on the table as options for those developing this program. Initially the program should be voluntary to allow education outreach to land managers about the issues. Gradually, incentives for adoption of "best management practices" well-documented to reduce GHG emissions and/or store carbon should be built into the program.

The program could be a joint federal-state effort. Where the federal govt provides incentives to states. For state to obtain the federal financial incentives they must develop programs to educate land managers, begin approaches to monitoring, document adoption of identified best management practices, eventuall document reduced greenhouse gas emissions, and carbon storage increases.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Within the agriculture and forestry sector only a few aspects of carbon offsets can currently be realistically quantified and monitored. These might include carbon stocks in trees, use of renewable energy sources on the farm, energy generated by manure digestors, quantity of biochar added to soils for sequestration purposes.

Beyond these, the high variability in offset levels at the farm or natural areas levels will prohibit accurate monitoring, at least in the short term. For now, this problem can be addressed by increasing the geographic extent and duration of the accounting unit. Accounting units might be at the watershed or "foodshed" level, or larger, and contracts should be multi-year in duration.

Adoption of best management practices can be emphasized for those aspects particularly difficult to quantify.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The high variability in offset levels at the farm or natural areas levels will prohibit accurate monitoring in many cases. For now, this problem can be addressed by increasing the geographic extent and duration of the accounting unit. Accounting units might be at the watershed or "foodshed" level, or larger, and contracts should be multi-year in duration

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Project-based approach first to establish appropriate offset values for specific practices. There is a need for much more research on low-cost efficient monitoring of carbon storage.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

"Additionality" is hard to establish and eliminates many "win-win" options. It will discourage land managers from participating.
Stackability: Each ecosystem service provided by a farm or natural area is of unique value to society, and so credit/offset for each service should be given. So, for example, if better manure management is implemented to reduce nitrate contamination of waterways and also reduces nitrous oxide and carbon dioxide emissions, credit for both should be provided. Growers who have already implemented good practices (e.g. manure digestors, building soil organic matter) should not be penalized by not getting credit/offsets because they began before a new offset program was started.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

If benefits GHG emissions objectives, full credit for benefits should be given

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes, a system should be in place for doing this, based on the timeline and permanence agreements of the original offset contract. A set-aside revenue acct for "insurance" could be part of contracts.
No penalty for natural disasters.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Delegated to appropriate agencies.
USGS could play the lead role in soil monitoring for carbon offset programs.
USDA could play the lead role for establishment and creating incentives for best management programs.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Obstacles include: 1) lack of understanding of issues due to inadequate education outreach and poor framing of issues; 2) lack on any near-term benefits; 3) lack of consideration of economic realities of farming; 4)lack of capital for required investments or for better on-

farm management; 5) lack of timely information; 6) inadequate environmental monitoring and delivery of timely information; 7) lack of appropriate decision support tools; 8) lack of appropriate technology for monitoring or for implementation of new practices; 9) social, cultural, behavioral barriers.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No.
Need better education outreach up front, followed by new decision tools and guidelines for best management practices.
Also, will need a low-cost loan program for adoption/implementation

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Protect existing tree stocks of carbon				
Promote use of tree species that are used for housing, furniture, and long-term storage purposes after harvest				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Avoid winter manure applications to fields				
Contain manure runoff by use of tanks and roofed areas for storage; low temperature manure storage (e.g. below-ground tanks)				
Keep poultry manure dry				
Manure digestors to capture and use as renewable energy				
New feeding strategies and feed amendments to reduce methane emissions.				

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Reduce use of nitrogen fertilizers, esp synthetic fertilizers that are energy intensive to manufacture				
Improve nitrogen use efficiency through soil testing to improve timing of application, banding and incorporation				
Use legume rotation crops to reduce nitrogen requirements and provide nitrogen for subsequent crops.				
Build soil organic matter by reducing tillage frequency and intensity, maintaining year-round vegetative cover, adding composts, biochar, other stable carbon and organic matter sources				
Expand use of renewable energy sources on the farm, such as wind turbines on marginal land, biofuels, pyrolosis for biochar production				

RESPONSE TO QUESTIONNAIRE SUBMITTED BY WORLD RESOURCES INSTITUTE

Response to the House of Representative Committee on Agriculture's Climate Change Questionnaire

Submitted by Jennifer Layke, Acting Director, Climate and Energy Program
World Resources Institute - [Redacted]

WORLD
RESOURCES
INSTITUTE

April 10, 2009

The World Resources Institute is a non-profit, non-partisan environmental think tank that goes beyond research to provide practical solutions to the world's most urgent environment and development challenges. We work in partnership with scientists, businesses, governments, and non-governmental organizations in more than fifty countries to provide information, tools and analysis to address problems like climate change, the degradation of ecosystems and their capacity to provide for human well-being.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

As a member of USCAP, WRI believes our nation's climate protection goals can be met in the most cost-effective manner through an economy-wide, market-driven approach that includes a cap-and-trade program as a core element. Since all U.S. emissions will not be included in the cap, the legislation should include provisions to create incentives for emission reductions in uncapped sectors through qualified offsets from these sectors.

In addition, policies and measures that are complementary to a cap-and-trade program are needed to create incentives for rapid technology transformation and to ensure actual reductions in emissions occur in capped sectors where market barriers and imperfections may prevent the price signal from achieving significant reductions in emissions within those sectors. To the extent that market barriers and imperfections persist, it may be necessary to continue to use complementary sector-specific policies and measures as transitional tools. However, a goal of legislation should be to move, as soon as practicable, to a fully market-based system that relies on a uniform price for carbon to achieve the recommended reductions.

To that end, U.S. legislation should include provisions to promote, as soon as practicable, full integration of the U.S. trading program with other comparable trading systems in the developed world, and, eventually, to promote a single global carbon market. USCAP acknowledges the important role of state and local governments in addressing climate change but the thrust of our recommendations is to establish a stronger and more far reaching role for the federal government than heretofore has been the case. To that end, we call for:

- a national GHG registry;
- economy-wide emission reduction targets;
- a national cap-and-trade program that results in a unified domestic market with a single price for carbon;
- cost containment measures to protect the nation's economy during the transition to a low-carbon economy;

- a federal technology research development and deployment program; and,
- complementary measures for coal technology, transportation, and buildings and energy efficiency.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agriculture and forestry sectors must contribute to greenhouse gas abatement if we are to reduce GHG emissions by 80% by 2050. Agriculture accounts for 6% of total U.S. GHG emissions, while forestry land use, land-use change, and forestry activities, resulted in net sequestration of carbon equivalent to 17.7% of total U.S. CO_2 emissions.[1] However, greater mitigation is possible.[2] These reductions could be encouraged by including certain activities in the cap-and-trade program, establishing a carbon tax, establishing best management practices, or allowing the sectors to participate in an offsets program.

Key criteria for determining the appropriateness of regulating any sector under a cap-and-trade program are that high quality emissions data are obtainable and that coverage includes entities of reasonable size (commonly considered to be 15,000-25,000 tons per year).

- *Data quality:* At this time there is more uncertainty in calculating emissions from agriculture and forestry than combustion sources. This uncertainty must be addressed whether project types are included under the cap or as offsets.

- *Size:* Generally, few agricultural or forestry practices generate emissions in this range at the unit level. However, according to U.S. EPA's Proposed Mandatory Greenhouse Gas Reporting Rule, 50 combined animal feeding operations (CAFOs) have emissions from manure management that exceed 25,000 tons per year. EPA also estimates that all synthetic nitrogen fertilizer manufacturers emit more than 25,000 tons per year on site.[3]

While it does not seem practical to regulate all agricultural and forestry practices under a cap-and-trade program, it could be possible to regulate both manure emissions from CAFOs and emissions associated with the application of synthetic nitrogen fertilizer (through coverage at the manufacturer level). Alternatively, emissions reductions could be obtained from these sources, and many others not regulated under the cap, via offsets, carbon taxes, or by requiring adoption of best management practices.

---

[1] http://www.epa.gov/climatechange/emissions/usinventoryreport.html
[2] http://www.epa.gov/climatechange/downloads/s2191_EPA_Analysis.pdf
[3] http://www.epa.gov/climatechange/emissions/ghgrulemaking.html

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

In the first decades of the program, priority must be given to directing the value of emission allowances created through the implementation of a cap-and-trade system to:

- transform our economy;
- modernize our nation's energy infrastructure;
- smooth the transition for consumers to a low-carbon economy; and
- adapt to the impacts of global warming.

It is critical that the economic value of emission allowances be directed to achieve these and other objectives, including buffering the economic impacts on energy consumers and businesses, without undermining their incentives to reduce emissions. USCAP recommends that a significant portion of free allowances should be initially distributed to capped entities and economic sectors particularly disadvantaged by the secondary price effects of a cap, and that the free distribution of allowances should be phased out over time.

USCAP believes that the distribution of allowance value should achieve the following overarching objectives:

- **Facilitating the Transition for Consumers and Businesses:** Enable the smooth transition to a low-carbon economy by mitigating the financial impacts of climate policy on consumers, businesses and the overall economy. A judicious combination of allocating allowances and targeting of auction revenues can reduce the direct cost impact of climate policy while accelerating the deployment of energy efficiency and other cost-reducing technologies. It is anticipated that the percentage value required by consumers and businesses will decrease over time.

- **Transforming Technology and the Nation's Workforce to Support a New Energy Economy:** Provide capital to facilitate timely investment, development, demonstration and deployment of new (not yet commercially mature) low- and zero-GHG-emitting technologies. This should be done in a manner that creates economic opportunity for the nation's businesses and workforce and promotes energy security (see Section 5 of this Blueprint). USCAP recommends use of allowance value, directly or indirectly, to facilitate the rapid, early deployment of low- and no-carbon technologies, given the need for substantial progress on technology transformation. We also recommend use of additional allowance value specifically for technology research and development and for workforce training and transitional support.

- **Adapting to the Challenge:** There is a need to address both human and ecological needs for adaptation to unavoidable climate change by enhancing resilience and response to climate change impacts for affected communities (e.g., impacts on public health, water resources, and infrastructure) and fish and wildlife habitats, at the federal, state, tribal and local levels. We should also promote international engagement and cooperation in addressing both community- and ecosystem-related climate change adaptation needs.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why? ***Please respond in 600 words or less.***

State Roles in a Future Federal Cap-and-Trade Program

Determining the appropriate role of states in a future federal cap-and-trade program will be important to developing the most efficient and effective national program possible. At a minimum, state and regional programs provide valuable lessons for federal policy makers designing a national program. The Northeastern Regional Greenhouse Gas Initiative, for example, demonstrates that large auctions of emissions allowances can be an effective way to distribute allowances. States have to date "experimented" with a wide variety of policies that warrant study by federal policymakers. In devising these policies, states have taken into account the views of local and multi-state stakeholders, and any unique factual circumstances in the states.

In WRI's experience working with all three U.S. regions that have developed, or are developing, cap-and-trade programs, the most important question is not whether the existing and emerging programs can continue after a federal program is in place, but whether reductions achieved by states through existing or future measures—whatever form they take—will be real reductions in the presence of the federal cap. This is because a federal cap acts as a ceiling *and a floor* on emissions for the covered sectors, and therefore reductions achieved through state programs will not yield reductions beyond those achieved by the federal cap unless some mechanism is enacted to adjust the federal cap downward to reflect state reductions.[4]

Transition from Regional to National Program

One of the regional cap-and-trade programs—the Regional Greenhouse Gas Initiative—is already up and running, and it is at least possible that both the Western Climate Initiative and the Midwestern Greenhouse Gas Reduction Accord will likewise be operational before a federal program starts. Congress should anticipate a transition to the federal program from these regional programs. In this context, the biggest question is what to do with existing state allowances and offsets.

---

[4] A more complete treatment of this topic is contained in *Federalism in the Greenhouse: Defining a Role for States in a Federal Cap-and-Trade Program*, by Franz Litz, Esq. and Kathryn Zyla, World Resources Institute, 2009, available at: http://www.wri.org/publication/federalism-in-the-greenhouse.

Allowances
A key aspect of any transition to a federal program will be valuing the regional emissions allowances that the states have issued. Allowing holders of regional emissions allowances to trade those allowances in for federal allowances of equal or greater value would clear the way for a smooth transition away from regional cap-and-trade programs and toward a unified national program. This allowance swap could be made conditional on the voluntary phaseout of the regional program.

Offsets
It may also be desirable to provide a transition mechanism for offsets issued at the state or regional levels. Allowing holders of regional offsets to trade those offsets for federal credits equal in value would have the advantage of rewarding this early action to reduce emissions. This transition must be sequenced in a way that does not facilitate skirting of federal protocols by offset developers. While discounting according to price will provide limited relief here, it is also important to carefully establish strict eligibility timeframes.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain. ***Please respond in 300 words or less.***

WRI has not conducted analysis or other research on this issue and is unable to respond to this question at this time.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

WRI has not conducted analysis or other research on this issue and is unable to respond to this question at this time.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants. Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? ***Please respond in 600 words or less.***

WRI has not conducted analysis or other research on this issue and is unable to respond to this question at this time.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less

WRI has not conducted analysis or other research on this issue and is unable to respond to this question at this time.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

USCAP believes allowance value should be directed to end-use energy consumers to avoid disruptive price shocks that could accompany the initial phase of implementing the climate protection legislation described in this document. USCAP recognizes that energy consumers are not equally exposed to price impacts and therefore recommends that the distribution of allowance value, either directly or indirectly, to end-use energy consumers be based on the relative impact of energy prices and price increases on household and commercial/industrial consumer budgets.

- **Electricity and Natural Gas Consumers:** Because cost of-service Local Distribution Companies (LDCs) are regulated unlike other impacted sectors, they will be required to pass through the entire value of allocated allowances to their end-use consumers. This will directly facilitate the key objective articulated earlier for any allocation—facilitating the transition for consumers and businesses as consumers of electricity.

- **Transportation Fuel Consumers:** USCAP recommends the judicious use of allowance value to ensure that consumers' transportation fuel impacts from allowance prices are generally proportionate to their electricity and natural gas impacts. As with the power sector, allowance value could be applied both to demand management, e.g., providing vouchers or subsidies to consumer purchase of high efficiency and electric vehicles, public transportation and other means to reduce transportation fuel consumption, and to direct cost mitigation, e.g., direct rebates to low-income end-use consumers.

- **Low-income consumers, worker transition and training:** Impacts of a climate program could fall most heavily on those least able to afford it unless these costs are mitigated. Allocations to LDCs on behalf of their customers will help to address this need, but will not fully address other costs such as increases in transportation costs or indirect costs embedded in other essentials, such as food and clothing. These impacts are best addressed by direct rebates to low-income consumers.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance? ***Please respond in 300 words or less.***

As individual nations work to develop appropriate approaches to greenhouse gas mitigation, the costs they impose on businesses are unlikely to be uniform. American manufacturers of carbon-intensive, trade-exposed products fear that the imbalances created by aggressive climate policy in the U.S. could contribute significantly to the "offshore-ing" of jobs and relocation of industry to countries with lower standards and production costs.[5]

To remedy this situation, USCAP recommends that an adequate amount of allowance value be provided to U.S. manufacturers facing such competition (determined by objective criteria). These allocations could, for example, be based on net incremental costs (e.g., direct compliance costs, and direct and embedded allowance costs such as in energy pricing) due to climate policy borne by the affected facilities. USCAP recommends that these allocations be tied to any GHG-related competitive imbalance and be reduced or eliminated when the GHG-related competitive imbalance is reduced or disappears.

Competitive power generators may face significant compliance costs during a period in which there are no practical ways to capture CO_2 or replace otherwise valuable assets with low-emitting technology. As with energy-intensive manufacturers, USCAP recommends that these entities initially receive an allocation of allowances based on their net incremental costs that can clearly be attributed to climate policy. This allocation should initially be sufficient to cover the portion of their compliance costs that they cannot readily pass through to customers in higher prices but should be phased out over time, based on a reasonable schedule for the expected broad deployment of low- and no-carbon stationary technologies. This approach should avoid imparting undue economic gain or harm to large stationary sources, while facilitating and providing strong incentives for their owners' timely investment in low-carbon alternatives.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

WRI has not conducted analysis or other research on this issue and is unable to respond to this question at this time.

---

[5] Houser, et. al, *Leveling the Carbon Playing Field, International Competition and U.S. Climate Policy Design*, Peterson Institute for International Economics and World Resources Institute, Washington, DC: 2008.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Ensuring a smooth and orderly transition to a low-carbon economy is imperative. USCAP believes a comprehensive climate policy must include measures that contain costs and volatility while ensuring necessary investment in new technologies and actual emissions reductions—serving to protect both individual entities and the economy from unanticipated challenges. USCAP believes the most powerful cost containment measure is a robust cap-and-trade program. Complementary policies to promote energy efficiency such as those we have recommended in the USCAP *Blueprint for Legislative Action*, will reduce demand for electricity, natural gas and transportation fuels, thereby reducing demand for and the price of allowances.

We recognize, however, that other measures will be needed, such as the sufficient use of offsets, banking of allowances, and protections that ensure allowance prices are not too volatile or excessively high for sustained periods of time. Cost containment measures should be designed to:

- protect the economy while allowing a long-term price signal that is sufficient to stimulate the development and deployment of new technologies;
- drive investments in cost-effective energy efficiency;
- maintain the integrity of the overall emissions budget established by the cap for each period; and
- achieve reductions in greenhouse gases.

In order to maintain the environmental integrity of the program, USCAP does not recommend the use of hard price caps. To limit price spikes and volatility, especially in the early years of the program, USCAP recommends the establishment of a strategic reserve pool that includes: a) program-based and other government-certified offsets, including but not limited to forest carbon tons derived from offsets due to avoided tropical deforestation; and b) allowances borrowed from future compliance periods at a system-wide level (as distinguished from a firm level). Offsets and/or allowances in the strategic reserve pool would be released into the market when allowance prices reach a specific threshold price. The reserve pool auction threshold price should be set at a level that prevents undue economic harm from excessively high allowance prices (e.g., increases in the price of natural gas due to fuel switching) and encourages technology transformation, including the development of carbon capture and storage.

USCAP does believe that Congress should create a reserve price for the auction of allowances set at a level that helps to avoid prices that are too low to encourage long-term capital investments in low- and no-carbon technologies. We believe the price that could accomplish this policy objective is approximately $10 per ton at the outset of the program. This price could escalate over time at a rate greater than inflation and then flatten out around 2025, provided that the price level and overall need for this mechanism is reviewed over time as the carbon market matures and new technology is deployed. This review should determine whether the minimum starting price for auctions should be

adjusted, stay the same, or be phased out. Like all cost containment provisions, the auction reserve price should be designed and implemented in a manner that prevents market manipulation.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Several lessons can be learned from the EU ETS and other programs. First, an emissions trading system must have a robust framework for collecting and making publicly available high-quality emissions data from all regulated entities before the start of the program. Second, the emissions cap should be set based on the best emissions data available. Third, banking of allowances allows for increased price stability. Fourth, carbon markets, just like other markets, adjust to economic conditions.

High-quality, regularly reported and publicly available emissions data will enable regulators to understand what level to set a cap on emissions. It will also allow regulators to accurately implement compliance protocols and follow through on any allowance distribution rules while preventing over-distribution to some sources. In addition to these important components, making these data available on a regular basis to market participants and the general public will facilitate a robust and liquid market that is fully informed as to where emissions are vis-à-vis the cap and will allow a stable price on carbon to develop.

Europe started its program with unverified emissions data and used this information to set the overall emissions cap and in allocating allowances. The resulting cap was set higher than actual emissions with most facilities receiving more allowances than their previous or current year emissions, creating in an over-allocation of allowances. One significant issue related to the lack of verified data in the EU was the lack of publicly available emissions data after the start of the program. For over a year the market and the public did not know how actual emissions compared with the cap. This caused excessive speculation based on faulty information and high allowances prices. These prices collapsed when verified emissions data were released and the over-allocation in the program became apparent. If data were available at the start of the program, much of this speculation might have been avoided.

Another lesson from the EU ETS is that banking can allow for more price stability. The first phase of the EU ETS was intentionally designed as a trial phase with no banking from that phase into the second phase. Because there was no banking, Phase 1 emission allowance prices eventually reached zero because as of January 1, 2008 (the first day of the second phase) they had no compliance value. If banking of Phase 1 allowances were permitted, one would expect phase 1 allowance prices to have stabilized at some equilibrium level somewhat close to phase 2 futures prices thus avoiding a price collapse.

Any federal program should consider allowing for the banking of allowances to facilitate prices stability and compliance flexibility.

Finally, EU allowance prices have recently decreased as the European economy has responded to the global economic crisis. This illustrates an important lesson about greenhouse gas markets: as economic conditions vary, the carbon market adjusts accordingly. If the economy slows down, allowance prices fall, providing some relief to compliance entities and ultimately consumers. The reverse is true with the allowance price rising with greater amounts of economic activity. Higher prices send a signal to incentivize clean technologies which can be more affordable in a booming economy. In other words, carbon markets provide price flexibility in both good times and bad.

The Clean Development Mechanism under the Kyoto Protocol does allow for agriculture and forestry offsets though the EU ETS does not permit their use for compliance.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

There are a variety of options available when addressing the agricultural and forestry sectors through climate change mitigation policy. The correct option, or combination of options, will depend largely on the objectives of the policy. Three of the most commonly discussed are: voluntary offset programs, allowance allocation and performance standards.

Voluntary offset programs can be an effective mechanism for encouraging emission reductions in uncapped sectors. However, biological sequestration projects present challenges in assuring additionality and permanence, and in preventing leakage. Due to these challenges, it is anticipated that transaction costs -- including the costs of measurement, permanence assurance, and monitoring and verification -- could be higher for certain types of projects and may reduce their development. Ultimately, participation in a voluntary offset program will vary depending on the price of offsets and administrative and transaction costs. It is worth noting that the development of offset projects will not have an emissions benefit, but will reduce the cost for regulated entities to comply with the cap-and-trade program.

Another potential mechanism for encouraging emission reductions in the agriculture and forestry sectors is through the allocation of allowances from under the cap (or auction revenue) to individuals that engage in those emission reduction activities. Doing so avoids challenges associated with proving permanence and additionality, as the cap remains unchanged. Therefore, any benefit caused by the project is in addition to what is achieved through reductions in the cap. The downside to such an approach is that because the allowances or credits are not in addition to the cap, prices are not moderated in the same way that they would be from offsets.

Alternatively, projects that present challenges for additionality, permanence, and leakage tests could receive a combination of offsets and allowances. Sometimes it is difficult to assess additionality and leakage on a project-by-project basis. To address these environmental concerns, some groups have advocated reducing the number of offsets that all projects of that type receive. Depending on the actual supply-and-demand dynamics, a reduction in offsets may slow project development. This effect could be reversed by using allowances from under the cap to compensate a project for some fraction of those discounted offsets. This would allow for such projects to receive sufficient revenue to proceed, but would prevent their uncertainty from compromising the environmental integrity of the cap-and-trade program.

Another tool available to create incentives for emission reductions in the forest and agriculture sectors is the use of performance standards. Performance standards typically include the establishment of emissions targets for a particular sector or activity, or the application of standardized emission rates from a particular activity or practice. For example, a performance standard for manure management could include a sector-wide emissions rate from manure storage and management for a particular type of storage (e.g. lagoon) in a particular region of the country or world (e.g. Northeastern United States). However, performance standards could also require that individuals undertake certain actions (e.g., flaring methane emissions from manure lagoons). These sectors could still be eligible for offsets or allowance allocations, but would only receive them for benefits above and beyond what would have been achieved by the performance standard.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

There are two mechanisms for limiting offsets: firm-level limits, and system-level limits. Firm-level limits are quantitative limits imposed on regulated entities. System-level limits would cap the use of offsets, without dictating the portion that could be used for compliance by any given regulated entity. System-level limits could be administered in two ways: a "supply limit," limiting the total amount of offsets in the system, or a "reduction limit," specifying the total proportion of the emission reductions for the entire system or sector that can be met through offset credits.

Firm-level limits will likely result in lower-cost offset credits when compared with offset supply limits, as supply would not be artificially constrained and the market would have greater liquidity.

If system-level limits are established using a supply limit design, they have greater market-distorting effects because producers of offset credits do not necessarily know if they will receive credit for their project in a given compliance period. Regulators should consider that:

- Supply limits may be problematic for projects that have a multi-year crediting period if projects must reapply for crediting approval on a yearly basis.
- A limit on the available supply of eligible offset credits for use in a compliance system could have significant price implications if regulated entities compete for supply-limited pool of offsets.

Economic modeling and experience in other markets indicates that less restrictive limits on the use of offsets for compliance will tend to result in lower allowance prices, while more stringent emission targets tend to result in higher allowance prices. USCAP recommends a stringent emission target, and as a result also recommend generous limits on the use of offsets to help moderate compliance costs, especially during the period when low-carbon technologies are still achieving economies of scale and commercial maturity.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The distribution of available offsets should be predicated on the principle of environmental integrity. Any emission reduction project receiving offset credit must be required to demonstrate that it meets key offset quality criteria. Emission reductions awarded to offset projects should be demonstrated to be real, additional, quantifiable, measurable and verified (see questions 17 and 18 of this survey for additional discussion of these criteria). Offset credit should only be awarded to projects that have been certified and that have demonstrated that the underlying emission reduction project meets the requirements of the offset program. Offset credits should be awarded on an ex-post basis, that is, after the project has been approved by the administrator and has been verified to have generated emission reductions. Offset credits should not be allocated in advance of the promulgation of program requirements.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The criteria for measuring emission reductions from project-based activities and awarding offset credits should be designed to ensure that the emission reductions are

accurately and properly reflected through the design of robust and rigorous quantification methodologies and protocols, and comprehensive validation, verification and monitoring procedures.

Several precedents have been established in both the regulatory and voluntary GHG offset markets to date. Quantification methodologies should build on industry-recognized guidance such as the Greenhouse Gas Protocol for Project Accounting ("Project Protocol"), developed by the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), and the ISO 14064 (Part 2) standard developed by the International Organization for Standardization, both of which provide a general framework for quantifying emission reductions from offset projects.[6] However, these general requirements need to be elaborated into "quantification methodologies," or protocols, aimed at specific types of projects. Such protocols streamline the quantification process, taking into account data requirements and analysis relevant to a particular project type.

The task of developing protocols has fallen to a number of individual programs that verify and certify offsets. The largest of these is the Clean Development Mechanism, which has developed over 100 methodologies for project types ranging from methane capture and combustion at dairy farms to fuel switching from diesel generators to biomass-fueled generators. There are also several other notable programs that provide specific quantification methodologies for offset projects. These include, but are not limited to: the Regional Greenhouse Gas Initiative, the California Climate Action Registry, the Gold Standard, and the Voluntary Carbon Standard.

Project validation, monitoring and verification are all important components of a robust and rigorous offset program. Validation generally takes place before a project is implemented or deemed eligible to generate offset credits. Validation is performed to ensure that a proposed offset project activity or program conforms to the standards established by the program administrator.

Monitoring and verification should occur at regularly scheduled intervals over the lifetime of the offset project. The type and frequency of monitoring and verification, who conducts the monitoring and verification, and what data is collected is highly dependent on the requirements of the program and the particular project type. Monitoring and verification of offset projects is an essential practice that ensures the offset project is being implemented in accordance with programmatic requirements and that the expected emission reductions are occurring. Offset credits should not be issued to a project in the absence of a qualified monitoring and verification report.

In the voluntary market and the CDM, independent, private sector third-party validators and verifiers are used. In other systems, the regulatory administrator fulfills this role. Regardless of which entity conducts the validation, monitoring and verification, it is

---

[6] WRI and WBCSD, 2005. *The Greenhouse Gas Protocol for Project Accounting*. Washington, D.C. / Geneva; and ISO 14064, International Organization for Standardization, Geneva, Switzerland, 2006.

important that that entity not have any vested interest--financial or otherwise--in the outcome of the validation or verification procedure.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

To have a functioning market for carbon offsets, clear rules and procedures are required to define their creation and certification. Offsets must be "real, surplus (or additional), verifiable, permanent, and enforceable" in order to maintain the integrity of an emissions trading system.[7] Interpretations of these criteria vary, but their essence can be summarized as follows:

Real. An offset credit must represent an actual net GHG reduction, and should not result from incomplete or inaccurate emissions accounting. In practice, this means methods for quantifying reductions should be conservative and comprehensive in order to avoid overstating them.[8] For example, some projects may reduce GHGs at one source, only to cause emissions to increase at other sources. A frequently cited example is a forest protection project that simply shifts logging activities to other forest land, causing little or even zero net decrease in carbon emitted from logging.

Additional. Offsets are used to compensate for emission reductions that an entity operating under an emissions cap would otherwise have to make itself. The reductions resulting from offset projects must be shown to be "in addition to" reductions that would have occurred without the incentive provided by offset credits.

Determining why a project was implemented is difficult; thus, practitioners and regulators generally rely on a series of tests to determine a project's additionality. These tests can assess the regulatory, financial, technical, institutional, and/or other barriers a project or project type faces. No single approach is the best for all projects or project types, and generally a combination of tests is necessary.

Permanent. Once GHGs are emitted into the atmosphere, they stay there more or less permanently.[9] Accordingly, the offset emissions reduction must also be permanent. For a

---

[7] The concept of air emission offsets originated under the "New Source Review" program established by the United States' Clean Air Act. Under this program, offsets are required to be "real, creditable, quantifiable, permanent, and federally enforceable." These basic criteria have been modified and adopted in a general form under a variety of other offset programs, including programs for carbon offsets. Current carbon offset programs (including, for example, the one established by the Regional Greenhouse Gas Initiative in the northeastern United States) generally require that offsets must be "real, surplus, verifiable, permanent, and enforceable" or some close variation thereof. See, for example, Liepa, L., 2002. *Greenhouse Gas Offsets: An Introduction to Core Elements of an Offset Rule.* Climate Change Central, Alberta, Canada.

[8] For a full elaboration of quantification and accounting principles for offset projects, see World Resources Institute and World Business Council for Sustainable Development, 2005. *The Greenhouse Gas Protocol for Project Accounting.* Washington, D.C. / Geneva, Chapter 4. Available at http://www.ghgprotocol.org.

[9] The average residence time of CO_2 in the atmosphere is around 100 years. U.S. EPA. http://yosemite.epa.gov/oar/globalwarming.nsf/content/Glossary.html#Lifetime

more complete discussion of the various policy mechanisms available to address the issue of permanence please refer to question 22 of this survey.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

There are a number of different options available to Congress as it considers the establishment and design of a system for verifying offset projects. Monitoring and verification of offset projects is an essential practice that ensures the offset project is being implemented in accordance with programmatic requirements and that the expected emission reductions are occurring. Designing a robust and credible verification system for offset projects should not be underestimated; it is a large task that will require extensive administrative and bureaucratic resources.

Monitoring and verification should occur at regularly scheduled intervals over the lifetime of the offset project or the offset crediting period. Offset credits should not be issued to a project in the absence of a qualified monitoring and verification report conducted by an independent third party.

In the voluntary market and the CDM, independent, private sector third-party validators and verifiers are used. In other systems, the regulatory administrator fulfills this role. Regardless of which entity conducts the validation, monitoring and verification, it is important that that entity not have any vested interest--financial or otherwise--in the outcome of the validation or verification procedure.

If a private sector model is used for a U.S. offset system, it would be advisable to implement safeguards to ensure that third party verifiers do not have a vested interested in the outcome of the program. One way to address this challenge is to establish a government-managed "validation and verification fund" that project developers are required to pay into as part of the project registration process. The offset program administrator would then contract with and randomly assign a validation or verification agent to a particular project, which would be paid for out of the fund.

If Congress chooses to delegate verification responsibility to the administering agency, it will be important to include cost recovery mechanisms in the project registration system.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

There are advantages and disadvantages to both standardized and project-specific offset project qualification and quantification procedures.[10] Both project-specific and standardized approaches seek to assess whether a project differs from a hypothetical baseline scenario in which there is no carbon offset market.

1. *Project-specific:* Generally, a project and its possible alternatives are subjected to a comparative analysis of their implementation barriers and/or expected benefits (e.g., financial returns). If an option other than the project itself is identified as the most likely alternative for the business-as-usual (or "baseline") scenario, the project is considered additional. The Kyoto Protocol's Clean Development Mechanism (CDM), a global carbon offset program for projects in developing countries, requires project-specific tests.

2. *Standardized:* Standardized approaches evaluate projects against consistent criteria designed to exclude non-additional projects and include additional ones. For example, standardized tests could involve determinations that a project:
    - Is not mandated by law;
    - Is not a "least-cost" option (as defined by regulators);
    - Is not common practice (as defined by regulators);
    - Involves a particular type of technology;
    - Is of a certain size;
    - Is initiated after a certain date; or
    - Has an emission rate lower than most others in its class (e.g., relative to a performance standard)

From a regulatory perspective, standardized tests are advantageous. Relative to project-specific tests, they can reduce transaction costs for project developers, alleviate uncertainties for investors, and increase the transparency and consistency of regulatory decisions. Several U.S.-based carbon offset programs–including the California Climate Action Registry, the Chicago Climate Exchange, the Regional Greenhouse Gas Initiative in the northeastern United States, and U.S. EPA's Climate Leaders program–have adopted standardized tests.

Standardized tests are not always easy to devise, however. They are particularly difficult to implement when there is high uncertainty about baseline conditions, e.g., when it is not clear in most cases whether a certain type of project or its alternatives would be implemented in the absence of an offset market. For projects that extend harvesting

[10] International Emissions Trading Association, 2007. *Expanding Global Emissions Trading: Prospects for Standardized Carbon Offset Crediting*. Prepared by World Resources Institute, Washington, DC. http://www.ieta.org/ieta/www/pages/getfile.php?docID=2730

rotations on managed forest land, for example, it may be difficult to consistently distinguish business-as-usual from "additional" activities using standard criteria because of the wide range of circumstances under which these projects can occur. This could be a factor in deciding whether such projects should be included in a carbon offset program or supported instead by some other policy or incentive.

In their pure forms, project-specific and standardized assessments represent two ends of a spectrum that encompass a broad range of possible combinations. Most assessment methodologies used in the voluntary and regulatory markets are essentially hybrid assessments, and combine elements of both project-specific and standardized methodologies to balance the strengths and weaknesses of both.

Ultimately, any successful offset program will need to develop qualification and quantification approaches that are standardized to the extent possible, while allowing for the flexibility to make project specific adjustments where necessary. No two offset projects are the same; designing inflexible standardized protocols could potentially disallow truly additional offset projects. Individualized expert judgment is often required to ensure that reasonable and accurate estimations of a project's reductions are properly credited. It is highly important that the regulatory framework for an offset system is designed to allow for its modification over time as scientific knowledge, technology, and emission reduction requirements change.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances are two fundamentally distinct commodities.

An emissions allowance represents the right to emit one metric ton of CO_2e. Firms may receive allowances free of cost, or purchase them at auction or on the secondary market.

An offset also represents the right to emit one metric ton of CO_2e. A GHG offset is created for the reduction, removal or avoidance of one (1) metric ton of carbon dioxide equivalent (CO_2e) of GHG emissions from a specific project that is used to compensate for emissions occurring elsewhere. GHG offsets are sourced from emission reduction projects that are not covered by an emission cap, and thus are not legally required to reduce their emissions.

In the context of a cap-and-trade system, entities covered by an emissions cap are required to submit allowances and offsets equal to their total emissions. The theory behind including offsets in cap-and-trade systems is that by allowing regulated entities wider access to a larger variety of emission reduction opportunities in uncapped sectors, the cost of achieving emission reductions can be lessened. However, limits are typically imposed on the use of offsets to ensure that some reductions come from capped sectors.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Once GHGs are emitted they stay in the atmosphere for an average life of 100 years.[11] Accordingly, the emission reductions from an offset program must be permanent. Permanence is necessary for offsets because they "substitute" for emission reductions by regulated entities.

Emission reduction "reversals" occur when carbon sequestered in biological materials, such as forests or soils, is released into the atmosphere. There are two principal types of emission reduction reversals that occur: intentional and unintentional. Intentional reversals occur when human activity, such as harvesting forests or tilling soil, causes sequestered carbon to be re-released into the atmosphere. Unintentional reversals occur when natural occurrences, such as wildfire or insect infestation, cause sequestered carbon to be re-released into the atmosphere. There are three possible ways to account for these reversals:

Issuing credits on a "discounted" basis. With this approach, less than a full credit is awarded for each ton of GHG reduction. For example, credits might be discounted to account for potential future losses of sequestered or stored carbon over a certain time period.

Issuing temporary or expiring credits. Credits for reversible reductions can expire at a predefined date, or canceled if verification indicates that a reversal has occurred. In both cases, the holder of the credits (not the project developer) would have to procure replacement credits or allowances to remain in compliance. This approach has been adopted by the CDM for reforestation and afforestation projects.

Establishing an insurance or buffer system. Buyers or sellers of reversible reductions could be required to buy "insurance" in some form to compensate for reversals, or establish carbon sequestration buffers that serve the same function. These mechanisms can be structured differently or combined with requirements for landowners to commit to long-term maintenance of carbon stocks (e.g., through easements). RGGI has adopted this approach for reforestation projects.

---

[11] The average residence time of CO_2 in the atmosphere is around 100 years. U.S. EPA. http://yosemite.epa.gov/oar/globalwarming.nsf/content/Glossary.html#Lifetime

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

There are a range of options available when considering the treatment of existing voluntary offsets in the context of early action.

The voluntary GHG offset market in the U.S. lacks standardization and is unregulated, providing regulators with little certainty regarding the environmental integrity of the GHG offsets traded to date. The quality and robustness of existing voluntary programs is uneven at best, and some programs have very limited assurances that the offset projects they funded would not have occurred in the absence of their funding. As a result, awarding emission reduction credit to activities that did not result in an "additional" reduction of emissions is rewarding actors that did not provide a real climate benefit and foregoing those emission reductions that would have otherwise occurred.

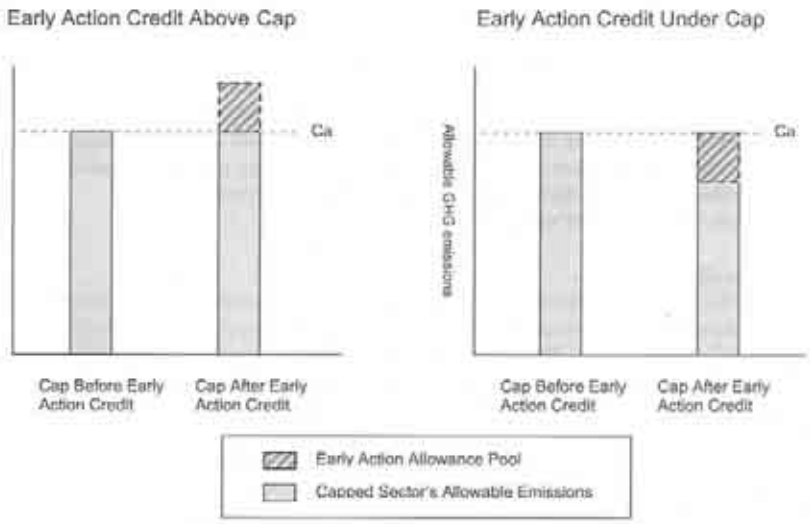
However, the market is evolving at a rapid pace and there are now several active third party certification regimes and registries that have begun to document the trading and retirement of GHG offsets. Independent, voluntary, third-party registration and certification services for GHG offsets include: the American Carbon Registry, the EPA Climate Leaders Program, and the California Climate Action Registry. Other voluntary market activities include the legally binding program under the Chicago Climate Exchange.

Early action proposals have typically addressed voluntary early action in one of two ways:

1. Setting aside allowances that come from under the cap, or
2. Setting aside allowances that are in addition to, or above the cap.

If allowances are allocated from above the cap, then the total permissible emissions from the capped sectors increases by the amount of the early action allowance allocation. If allowances are allocated from under the cap, the total permissible emissions from the capped sectors remains unchanged. Figure 1 illustrates this point.

Figure 1. Early action credit allocation



Whether early action credit comes from under or above the cap becomes important because, due to the nature of early action, it can be difficult to determine if the emission reductions being claimed are real, quantifiable and verifiable. If credits are issued above the cap, and the actions being rewarded did not actually result in a real reduction in GHG emissions, then there is no environmental benefit resulting from the early action program. Sourcing early action allowances from under the cap ensures that rewarded actions result in true environmental benefit by not increasing the total allowable amount of GHG emissions in the capped sectors.

One approach for addressing the uncertainty surrounding offset projects undertaken in advance of the cap is to limit early action credit eligibility to only those offsets registered in a reputable early action registry, as determined by the program administrator. Eligibility for offsets for early action will ideally be restricted to those projects or programs that can demonstrate the offset project implemented resulted in a real, additional, quantifiable, and verifiable emission reduction. Careful review of program eligibility requirements and methodologies by the administrator will ensure that only those emission reductions with true environmental benefit are awarded credit under the cap.

Additionally, offset credits that have been retired to meet a voluntary or mandatory emission reduction goal or mandate should not be awarded early action credit. In order to

ensure that credited activities result in an actual emission reduction, credit should come from a finite early action pool sourced from under the cap.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Additionality
Only GHG reductions that are a response to the incentives created by a carbon offset market should be certified as GHG offsets. Activities that would occur regardless of a carbon offset market (e.g., those that result from "business-as-usual" practices) should not be counted. The rationale for this is straightforward. The basic premise of carbon offsets is that they maintain net GHG emissions at a level set by a trading system's cap. Total emissions should be the same with or without an offset program. Because offset credits allow regulated sources in a cap-and-trade system to increase their emissions by a corresponding amount, offset reductions must be "additional" in order to maintain net emission levels. Crediting reductions that would occur in the absence of a cap would result in higher total emissions, as capped emissions would increase without a corresponding reduction in uncapped emissions.

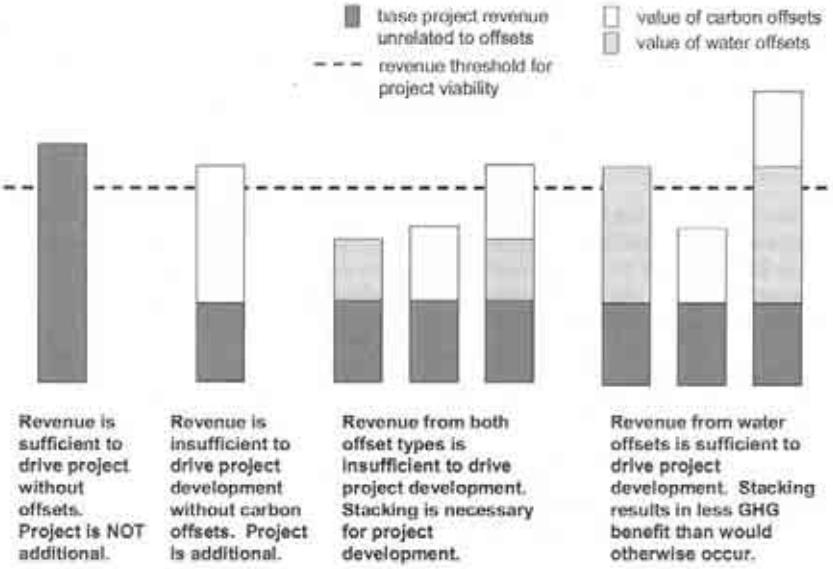
Stackability
There are instances where a given project has multiple environmental benefits. For example a project may reduce nutrient runoff and emissions of greenhouse gases. In some instances there are existing markets for those benefits. Projects could be allowed to play in multiple markets. However, so doing could reduce the environmental benefits that are obtained.

To demonstrate this tension, consider a project that provides both water quality benefits and climate benefits. In the absence of a carbon market, such a project may go forward simply due to the revenue stream provided by water quality offsets. In this scenario climate benefits are achieved, but unrewarded. Thus, the water quality market has positive spill-over effects, or co-benefits. If a GHG offset program is later created, its general purpose will be to create additional project-based reductions. Therefore, in this scenario some might view stacking to be a violation of the principles of additionality.

However, there may be situations where neither offset type alone is adequate to drive development (e.g., neither water nor GHG). In that case stacking, or participating in both markets, may be the only way for the project to go forward. One could determine when this is the case through an examination of supply curves. Alternatively, a program could be crafted that initially does not allow any one project to simultaneously participate in

multiple offset markets. Project types that do not see appreciable development could then be allowed to participate in multiple markets to see whether "stacking" helps drive project development.

Figure 2. Implications of offset "stacking"



Early Action

No producer should receive credit for a best management practice (BMP) financed through Federal conservation funding because National Resources Conservation Service (NRCS) conservation program "National Priorities" do not consider GHG abatement or mitigation potential when evaluating applications. It can be safely assumed that a producer implemented a conservation practice using these funds in order to realize a different environmental goal (e.g. NOx or SO2 reduction, water-quality improvement, increased wildlife habitat diversity, etc.). WRI has not completed a thorough analysis of state conservation funding programs and so cannot say whether or not they fund BMPs that abate or mitigate GHG emissions. If, however, they do fund those projects, then it may be appropriate to allow a producer to generate credits. Detail on how to appropriately calculate those credits is provided in question 25.

25. How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Offset credits should only awarded for activities that reduce or sequester greenhouse gases - credits should not be issued simply for implementing activities for which there are coincidental climate benefits. Agriculture and forestry sectors eligible for subsidies may be required to select a single support mechanism - subsidies or offsets – and the system could allow developers to decide which to pursue.

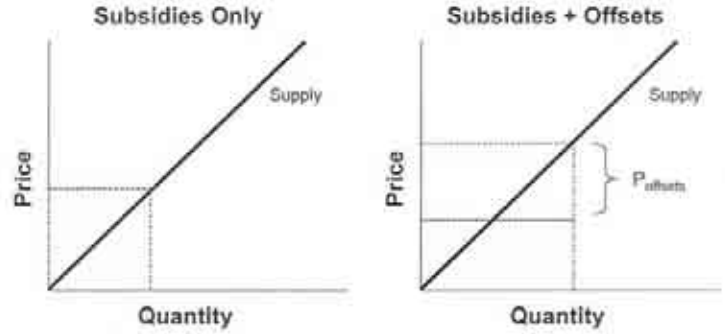
Some projects may not be viable without receipt of revenue from both offsets and subsidy programs. Consistent with a standards-based approach, determination about whether to allow for the receipt of subsidies and offset credits should be applied to entire project categories (and not individual projects), and should depend on whether or not appreciable incremental emissions benefits would occur.

Projects should receive offsets equal to the greenhouse gas reduction or sequestration that occurs as a result of the project. This can be determined at a system-level by comparing total practice adoption before the carbon market to total practice adoption with the carbon market. From this comparison, a discount factor could be derived and applied to each offset application. In cases where significant adoption is already achieved and subsidy programs are modified to allow for greater adoption, discount factors should be considered to accurately reward projects for their emissions benefits.

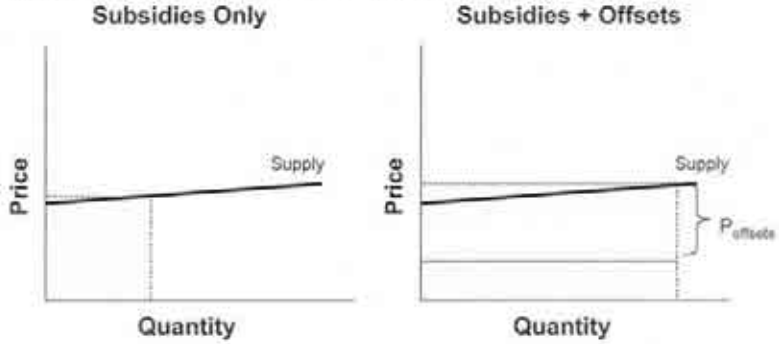
If costs are relatively constant, offsets can be rewarded proportional to the revenue from offsets as compared to subsidies. This process does not work when supply costs increase significantly with each new unit, because emissions benefits will not be proportional to new investment.

Neither NRCS conservation nor the technical assistance program National Priorities consider GHG mitigation or abatement benefits when evaluating projects for funding. State and federal conservation programs should consider GHG abatement in the future.

Figure 3. Emissions benefit of allowing projects to receive subsidies and offsets



In this example, allowing projects to receive both subsidies and offsets doubles the available funding, but only increases supply by about 50%. Therefore, the emissions benefit from the offsets program is NOT proportional to the level of funding a project receives from the offset program as compared to the subsidy program. In this case, any given application for offsets should receive offsets for only 1/3 of its total emissions benefits. Note that discounting the number of offsets rewarded will decrease total offset supply, which means the actual offset discount will be slightly higher.



In this example where the supply curve is elastic, allowing projects to receive both subsidies and offsets triples the available funding, and increases supply to nearly 3 times its original levels. Therefore, the emissions benefit from the offsets program is proportional to the level of funding a project receives from the offset program as compared to the subsidy program. In this case, any given application for offsets should receive offsets for 2/3 of the total emissions benefits. Note that discounting the number of offsets rewarded will decrease total offset supply, which means the actual offset discount will be slightly higher.

☐ This box depicts subsidy payments. Total money distributed is equal to the area of this box. These examples assume that the total subsidies distributed remains constant, and that in each example each farm receives subsidy payments at the same rate as every other farm (i.e., \$/ton CO_{2e}).

☐ This box depicts total offset revenue. These examples assume that offset price is fixed. This is because demand is assumed to be much larger than the supply from any particular category, and that there is much competition to supply offsets.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

There are three principles places to assign liability, regardless of whether the reversal was intentional or unintentional (see question 22 for definition of these terms) for emission reduction reversals in offset systems: Credit Seller, Credit Purchaser or Administrative System.

- *Credit seller liability* – the seller of the emission reduction credit is responsible for either replacing or refunding the value of the credit in the event of a reversal.

- *Credit purchaser liability* – the purchaser of the emission reduction credit is responsible for replacing the credit in the event of a reversal. Credit purchaser liability can reduce the fungibility of offsets in the system, as some will have greater confidence of permanence than others. This will be reflected in the price of the offset.

- *Administrative system liability* – the program administrator assumes the liability for replacing credits or cancelling credits in the event of a reversal. This could be accomplished by establishing set-asides of offsets or allowances. While this system can be used to keep the atmosphere "whole," it externalizes the financial impact of intentional reversals, making it a weak disincentive for these reversals.

Disincentives for intentional reversals through credit seller liability is one way to address intentional reversals, while responsibility for unintentional reversals could be shared among market participants, sellers, buyers and administrators.

It is worth noting that all of these methods for addressing reversible reductions have the effect of either increasing costs for project developers (insurance and buffer systems) or reducing the amount of compensation they receive per ton of CO_2 reduced (discounting and expiring credits), and therefore lessen the cost-reduction benefit of the offsets. But addressing reversibility is critical if carbon sequestration offsets are to be credited on the same basis as offsets involving permanent emission reductions.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Developing protocols for offset projects is a labor-intensive and time-consuming process requiring a broad range of input from technical experts. In general, offset quantification protocols should be designed to optimize the following key principles:

1. Scientific integrity: offset protocols should incorporate the most current scientific information and factors. Protocols should also be designed to ensure that they can be updated over time as the understanding of climate science and GHG accounting practices improves.

2. Adaptability: incorporating the ability to make changes to offset quantification protocols, and take into consideration project-specific circumstances and regional variations is critical to a well-designed and functional offset program.

Detailing offset quantification methodology in legislation has one key disadvantage: inflexibility. It will be extremely difficult to retroactively make changes and adjustments to offset protocols if they are detailed in legislative language. Any given offset quantification protocol has dozens of factors, calculations, and data point requirements; detailing them all in legislative language would be a huge task, and would likely not provide the system administrator the flexibility needed to account for "real-world" circumstances and considerations.

In general, the agency with the best technical expertise and ability to develop offset protocols quickly and efficiently will be best positioned to successfully contribute to the U.S. offset system design. In the event that this is not the same agency for all protocols, there should be some coordination between developing agencies to ensure consistency and integrity across the range of project categories. Because the success of any offset program will be critical to the success of the cap-and-trade program, whichever agency is tasked with implementing and monitoring the majority of the cap-and-trade program should play a central and coordinating role in the development of offsets.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

There is a wealth of knowledge available about the GHG benefits of agricultural best management practices, such as reduced tillage and cover cropping. Unfortunately, such practices have been slow to catch on in the U.S. A 2007 survey of 3,500 farmers in Iowa, Minnesota, Illinois, and Indiana found that despite being generally aware of the major benefits of cover crops, only 11% had planted them at some point in the previous five

years. Lower impact tillage practices have seen more widespread adoption, but are still not overwhelmingly used. Other GHG-relevant practices and technologies such as subsurface fertilizer application, manure management, and precision farming techniques also face hurdles to implementation; the reasons cited for reluctance to adopt such practices have ranged from cost and technical feasibility to availability of technical expertise and resources.

The same survey found that more than half of respondents would use cover crops if cost-sharing or some other financial incentive were available, and also identified a need for increased targeted education of producers on key factors such as cost, crop selection, and management. Additional reasons for non-adoption include a desire for greater flexibility in land-use decisions than existing programs permit, and the inherent time requirements of enrollment paperwork and navigating the complexities of the program. The researchers suggest cost-sharing and other financial incentives would not be as effective at increasing adoption as an approach that explicitly addresses these other factors as well. To further advance adoption of agricultural best management practices, increased resources must be dedicated to the study of the extent and relative importance of these barriers to adoption as well as to how to best design programs to overcome actual or perceived obstacles.

In order to ensure that these practices have a GHG reduction benefit, it is also critical that the science of impact assessment keep pace with the creativity with which we design offset markets and other performance-based market mechanisms for GHG reductions. As evidenced by recent debate about the effectiveness of conservation tillage at increasing soil-carbon sequestration, considerable uncertainty persists within the basic science of impact assessment. The continued improvement of our basic science understanding of these processes requires targeted and increased investment in more sophisticated monitoring and assessment of best management practices' impacts and improved modeling and quantification methodologies calibrated to collected data.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing conservation and forestry programs do not provide sufficient incentives to encourage practices that mitigate climate change impacts, sequester carbon and/or reduce GHGs. Congress should increase conservation subsidy rates and index them to commodity prices where appropriate, account for GHG sequestration and abatement in NRCS conservation program National Priorities, and more efficiently allocate available conservation funding.

Between 2006 and 2008, the global price for maize increased by 125 percent.[12] Because of this price increase, agriculture-industry representatives asked then Secretary of Agriculture Ed Schafer to allow for the penalty-free early release of land enrolled in the Conservation Reserve Program (CRP).[13] Secretary Schafer decided not to allow the penalty-free early release of CRP lands, but the agriculture industry's request exposed a significant weakness in conservation subsidy programs—they are not priced at a level that can compete with alternative uses of a producer's land.

In order to allow existing conservation programs to even consider practices that encourage the adoption and implementation of climate mitigation, sequester carbon, and/or reduce GHGs, "National Priorities" should be revised to allow for potential GHG mitigation or abatement to be used when evaluating potential projects. GHG impacts currently can only be addressed through ancillary impacts from practices that reduce nutrient runoff, reduce sulphur dioxide (SO_2) and nitrous oxide (NO_x), increase wildlife habitat diversity, etc.

Finally, Congress and/or USDA should more efficiently allocate available funding. One way to do this is to use reverse auctions for program sign-up. Reverse auctions are useful when limited conservation funds are available. A recent WRI study found that funding from a Pennsylvania conservation program that was awarded through a reverse auction in the Conestoga River watershed resulted in a seven-fold increase in the reduction of phosphorus runoff per dollar spent compared to EQIP during the same period and in the same watershed.[14]

---

[12] Leibtag, Ephraim. February 2008. "Corn Prices Near Record High, But What About Food Prices?" in *Amber Waves*. Washington, D.C.: United States Department of Agriculture. Available online at: http://www.ers.usda.gov/AmberWaves/February08/PDF/ComPrices.pdf (Last accessed March 30, 2009).
[13] Reuters. July 9, 2008. "Ag Secretary Urged to Reject early Release of Land in Conservation Reserve Program. Available online at: http://www.reuters.com/article/pressRelease/idUS159720+09-Jul-2008+PRN20080709 (Last accessed March 30, 2009).
[14] Ibid.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
WORLD WILDLIFE FUND
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Will Gartshore

Organization(s) you represent

World Wildlife Fund

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Policy Associate for Climate Change and Species, U.S. Government Relations

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

WWF supports putting a price on carbon emissions and believes the best approach is through a cap-and-trade program. This program should auction emissions allowances under a declining cap that is designed to meet short- and near-term reduction targets based on the best available science in order to stabilize atmospheric concentrations of greenhouse gases below a level that would result in global average temperatures rising beyond 2 degrees Celsius over pre-industrial levels. We believe that cap-and-trade is the appropriate approach because this is the approach that existing international and regional programs have taken, and any nationwide domestic system in the U.S. will need to align with these under a global treaty. In order to achieve a global treaty, the U.S. will need to follow through on commitments made under the UNFCCC by developed countries to assist developing countries with funding for adaptation to climate change, tropical forest protection, and clean technology financing. Using a portion of the revenues generated from cap-and-trade is the best option to ensure that such financing meets the conditions of being reliable, sustainable, new and additional over Official Development Assistance, and at levels sufficient to meet the needs.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

WWF believes that there should be an economy-wide cap on emissions that incentivizes emissions reductions from all sectors. The approach should be consistent with the international approach adopted by the UNFCCC through the Kyoto Protocol. Emissions reductions in the agriculture and forestry sectors should be achieved through positive incentives. Policies and measures, including the use of allocated allowance value to incentivize supplemental land use-based emissions reduction, should be the favored approach, rather than the use of offsets.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

WWF supports a 100% auction of emissions allowances in order to ensure the price is set appropriately. Most of the allowance value should be returned to the public in the form of public benefits, including steps to limit the impact of the program on low- and middle-income consumers and financial incentives to reduce emissions in the agriculture and forestry sectors. A portion of the allowance value should be directed towards international obligations under the UNFCCC to finance adaptation, clean technology and emissions reductions from reduced deforestation and forest degradation in developing countries. This international financing will be central to achieving a global treaty to address climate change, which is the only effective approach to solving the problem on the scale that is required. Dedicated funding through a cap-and-trade program is the only way to ensure that this funding is sufficient, dependable and new and additional, as required under the United States' UNFCCC commitments.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

A carbon reduction program will affect all regions of the country. To assist those regions or populations experiencing more negative impacts, a majority of the allowance value should be used to defer the economic impacts, including in rural communities. Some of this allowance value should also be used to spur greater clean energy investment in rural regions of the country, many of which are likely to experience a net benefit from a carbon reduction program given that most renewable resources are located in these areas.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

See responses to #3 & #8

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The federal government should include carbon sequestration in its land-use planning and decision-making given the role that public lands can play as "carbon sinks". However, WWF does not believe that such activities should currently be eligible for credits under a cap-and-trade system. WWF could be supportive of full land use-based carbon accounting in the medium- to long-term when accounting methodologies are further developed and proven and when we have higher certainty of the relationship between project- and sector-based approaches.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

WWF believes that the market should set carbon prices through a 100% auction. The volume of credits under a cap should be set by the science in order to achieve the necessary emissions reductions. The price of the credits should then be determined by the market. There should be no limit on the market price of carbon. Other mechanisms may be employed to contain costs.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The primary lesson of the EU-ETS is that carbon emissions allowances should not be given away because this creates windfall profits for regulated entities. Allowances should be required to be auctioned. The EU-ETS includes carbon reductions programs for agriculture and forestry, and these are carried out through policies, measures and other incentives. No offsetting is provided from land use-based emissions reductions under the EU-ETS. A U.S. system that supports agricultural sinks through offsets in an emissions trading system is likely to create problems in the international treaty negotiations and complicate efforts to link it to the EU-ETS and other emissions trading systems. While the Clean Development Mechanism (CDM) provides credits for land use-based emissions reductions, it uses a flawed project-based approach (rather than one that measures national-level reductions against established baselines) and is not a good model.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Allowance value from an auction of emissions allowances should be used to support activities that sequester carbon and create additional overall emissions reductions through land use activities.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

If offsets are included under an emissions reduction program, they should be carefully limited to ensure that they do not undermine the market price of carbon and the incentives this is intended to create in order to achieve economy-wide transformation leading to a

low-carbon economy. The number of offsets should also not undermine the program's goal of achieving the science-based emissions reductions targets designed to prevent average global temperatures from rising more than 2 degrees above pre-industrial levels.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

To the extent that offsets are included, they should be limited. Based on available science and methodologies, the most effective offsets would derive from REDD-based activities (reduced emissions from deforestation and forest degradation) in tropical countries. Therefore, these forestry offsets should be prioritized over offsets from other land use-based activities where the ability to measure, report and verify emissions reductions is less developed at present. To the extent that domestic agricultural offsets are included, they should be subject to the same stringency and conditions as international offsets, including the adoption of a sector-based rather than project-based approach.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

All offsets, both domestic and international, should be subject to the same stringent criteria, including high-quality measuring, reporting and verification standards and methodologies. Offsets that do not meet these standards should not be allowed admittance under the program. Those that do meet these standards should be conservatively discounted to take account of remaining uncertainty. Tier 3 of the IPCC provides good practice guidance with respect to land use-based emissions reduction.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

See response to #17. Any offsets that are included under the program should be entirely consistent with the goal of reducing overall emissions, meeting designated emissions reduction targets, and maintaining the integrity of the carbon market established under an emissions reduction program in order to achieve economy-wide transformation. Offsets should not be included if they in any way undermine these goals.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Any verification system should include independent third-party verification.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets produce no supplemental benefits to reductions achieved under the cap. Therefore, the extent to which they are included under an emissions reduction program should be directly related to the strictness of that cap. WWF supports placing the cap at a level which would achieve a minimum of a 25% reduction in emissions below 1990 levels by 2020. This is the minimum level that is required of Annex I developed countries under the UNFCCC. In order to achieve these emissions reductions, there should be a strict cap and additional reductions from entities outside of the cap should be achieved through the use of allowance value, rather than through offsets. Any offsets that are included should be discounted to ensure the integrity of the cap and the market and should be weighted towards international offsets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Entities outside the cap that seek to qualify for offsets must ensure permanence as part of the qualification criteria. Steps may include buffering, liability insurance, risk policies, etc.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The inclusion of existing offsets projects or credits in a newly established national carbon reduction system should be discouraged because they do not produce supplemental reductions and have not been evaluated against strict criteria.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

If early actors are rewarded, it should not be through a new offset mechanism that could weaken incentives for domestic economic transformation.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

To the extent that offsets are included, they must represent real and permanent emissions reduction. Producers must ensure permanence of any offsets if the purposes of the program are to be achieved (i.e. overall emissions reductions), the integrity of the carbon market is to be maintained and perverse incentives are to be avoided. Liability should rest with the recipients of offset benefits and not with the atmosphere.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The legislation should require national-level standards and baselines to be set for inclusion of any offsets. It should provide broad guidance and sufficient safeguards to ensure offset integrity.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The extent to which forest carbon activities and other land use-based emissions reduction activities should offset domestic emissions caps or should produce reductions that are supplemental to them is directly related to the stringency of a domestic cap on emissions. Although the debate is often cast as one between those who are "pro-market" or "anti-market," this way of viewing the issue misses an important point: It is impossible to meaningfully talk about offsets or supplementarity without focusing on the level of the cap.

WWF supports a US emission commitment that contributes to limiting overall global average surface temperature increase to well below 2°C. In an analysis by the Intergovernmental Panel on Climate Change (IPCC) in its Working Group III report, a higher likelihood of limiting warming to 2°C could be achieved if industrialized countries reduced their collective, economy-wide emissions 25% to 40% below 1990 levels by 2020 while key developing countries make substantial deviations from business as usual emissions. If the United States commits to reducing emissions along these lines, it is easier to envision a component of this commitment being met through REDD (reduced emissions from deforestation and forest degradation) or other qualifying offsets activities. If a weak cap is set, these reductions must be supplemental, both to ensure the climate benefits of any cap-and-trade program and to construct a program that is equitable. Pairing REDD and other land use-based reductions with a strong overall emissions reduction commitment by the United States will also ensure that the United States, along with other developed countries, is meeting its commitment under the UN Framework Convention on Climate Change to act first to reduce emissions and to help fund emissions reductions in developing countries (including through reduced deforestation).

Recently, the United States has argued that major developing countries must also take on mandatory economy-wide emissions reduction commitments in the near future. Global emissions reductions are a zero-sum game. Any reductions achieved internationally that "offset" US domestic emissions cannot be used to satisfy future developing country emissions commitments. Policies on REDD and other international land use emissions reduction activities should be designed to ensure that industrialized countries, like the United States, do not pick all of the "low hanging fruit" in developing countries during the early commitment periods, leaving only expensive reduction options when developing countries begin taking on mandatory commitments. Otherwise, developing countries will be deprived of the most obvious way to reduce their own emissions, giving them less incentive to engage in a new global climate agreement.

To summarize, any program that involves land use-based offsets should be combined with a strong overall emissions reduction commitment that contributes to keeping global temperature increase well below 2°C (e.g., 25% below 1990 levels by 2020). The percentage of any offset component of a domestic cap and trade system should be limited and subject to stringent standards and safeguards in order to protect carbon price signals, ensure domestic reduction targets are met, and promote international climate equity.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
WYOMING DEPARTMENT OF AGRICULTURE;
WYOMING STOCK GROWER ASSOCIATION;
ROCKY MOUNTAIN FARMERS UNION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Wyoming Department of Agriculture

Organization(s) you represent

Contributors to this questionnaire:
Wyoming Stock Growers Association,
Rocky Mountain Farmers Union

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

John Etchepare, Director - Wyoming Department of Agriculture

Contributors:
Jim Magagna, Executive Vice President - Wyoming Stock Grower Association
Scott Zimmerman, WY Lobbyist/Field Representative - Rocky Mountain Farmers Union

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The Wyoming Department of Agriculture (WDA) and its contributors believe a carbon/fee program would adversely impact agriculture producers by creating higher operating costs, and by creating a situation where agricultural producers would have no way or opportunity to recuperate the added costs. Unlike the industrial sector where they tend to set the price, agricultural producers are like many end users that have to accept what the set price is and do not have the opportunity to set fair prices.

We believe a properly constructed cap/trade program would allow agricultural producers to market carbon. It must be acknowledged that agricultural producers are providing carbon offsets and are net carbon collectors or sequesters.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The WDA does not believe agriculture should be subject to an emissions cap or tax. This would result in greater costs and reduced efficiency in agriculture, leading to higher food prices. Agriculture should be given credit and recognition for the carbon offsets that result from sustainable agriculture. These benefits occur simultaneously with the benefits that agriculture provides to open space, clean air and water and wildlife habitat.

Farming and ranching practices in the Mid-West and Great Plains act as sinks for carbon, and remove and store large amounts of carbon from the atmosphere, making agriculture an important part of the solution.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

We believe agriculture should not be subject to any emission allowances.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

If a cap/trade program is developed the WDA and its collaborators believe the USDA is best suited to manage the program. The USDA with the U.S. Forest Service and Natural Resource Conservation Service have the technical expertise to measure carbon offsets, have an existing close working relationship with farmers and ranchers and can harmonize such a program with other conservation programs provided for in the 2008 Farm Bill.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

It should remain with the CFTC due to their previous expertise and experience in this type of trading.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

If a carbon reduction program is enacted not only will the agricultural industry be impacted but also the various associated businesses tied to the industry (i.e. transportation), along with family farms and ranches and small rural communities. The more remote an area is the greater the impact would be due to the transportation costs associated with the delivery of a product.

Additionally, rural communities where a large percentage of the economy is highly dependent on agricultural production could also be burdened unfairly by carbon reduction programs in proportion to their carbon emissions as opposed to industrial regions with a diverse economy.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Businesses that are affected by a carbon reduction program should receive transitional funding to offset increased costs and other adjustments needed in changing operations.

The WDA believes that the program should be phased in over a 5-10 year time frame to allow the industry to make potential changes and to help mitigate any negative impacts.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands in the west are and will continue to be an important part of the western landscape and long heritage, along with playing a major role in helping to sequester carbon. Public land management activities along with livestock grazing practices on public lands significantly contributes to carbon sequestration. It has been proven that actively growing plans sequester more carbon than plants that have not been grazed.

It should also be considered, that carbon credits should be available to public lands grazing permittees in the same fashion as they are to those on private lands. The permittees are assisting in the efficiency in the range to capture carbon and should receive credit for their assistance.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Production agriculture should only be involved for the offsets that they provide. Carbon is captured in agricultural production soils, in vegetation on farm and on rangelands, and is stored produced biomass.

We believe that performance standards would be costly to the producers and burdensome to manage. It would be almost impossible to develop standards that would account for the variability associated with agriculture, due to would have to be based agricultural production, regional differences, differences in soil types, climatic conditions, etc.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The WDA and its contributors feel any existing contracts should be incorporated into whatever Congress proposes to establish. Individual agricultural producers who have taken the time to research the opportunities and enroll some or all of their operations into an existing programs should be "grandfathered" into any new proposal.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

The WDA and its contributors believe that producers who have already undertaken activities that sequester carbon or reduce greenhouse gasses should be given full credit for those practices. Carbon reduction practices should be given full credit for all of their positive impacts and should be eligible for participation on other USDA conservation programs. "Stacking" is appropriate where there are multiple benefits.

Stacking of credits is essential to ensure continued participation of agricultural producers in not only carbon sequestration but resource conservation programs as well. If stacking is not allowed producers will be forced to choose the program on financial merit and not necessarily what is best for the resources. For example, if acreages enrolled in the Conservation Reserve Program (CRP) were excluded from participation in carbon sequestration, producers may have to return these acres to crop production when the contracts expire. If stacking is allowed this additional supplemental income may ensure the land remains in grasses and not returned to cropping.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

These activities should receive full credit for their positive influence on carbon sequestration or GHG reduction without regard to the source(s) of their funding.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

The WDA and its contributors believe if a producer acted in good faith and on the basis of sound scientific or technical information, he should not be required to return revenue or be held liable. Many external factors and sometime natural events can affect actual results and should not result in an agricultural operator be liable or forced into repayment.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

We believe sound legislation should contain adequate detail and congressional overview to assure that the clear intent of Congress is carried out in agency regulation. We strongly feel that the NRCS and Forest Service are the appropriate USDA agencies to manage an offset program due to their knowledge of the resources and familiarity with their local agricultural industry..

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Obstacle for agricultural producers and landowners are the lack of financial resources and uncertainty and lack of incentives regarding financial rewards for implementation.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Additional research dollars are needed to identify the most cost-effective, least burdensome practices. Financial incentives need to be assured on a long-term basis.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Agricultural producers can contribute substantially to the reduction of carbon and GHGs. To do so effectively, they need certainty, protection from the imposition of emission caps or taxes and consistency with current Farm Bill programs. Participation must be incentive-driven. The program must provide for voluntary entrance and exit.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
DAVID YOUNG
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Donald C. Young

Organization(s) you represent

None, member of Sigma Xi, the Research Society

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

The Congress should do neither. Carbon dioxide is not driving climate change and reducing carbon dioxide will not result in decreasing the global temperature sufficient for uniform glacier advance

The key to understanding climate change the experience of the last climate optimum: the Medieval Warm Period. In the Northern Hemisphere, we know that Vikings farmed Greenland and that wine grapes were grown in England. Thus, the period lasted long enough for the Greenland ice to melt substantially and for sea levels to rise. Another usual consequence of a climate optimum is an increasing rate of population growth due to the lack of cold weather that is more detrimental to life.

The Medieval Warm Period was a global phenomenon because the Maori were forced, by population growth or shrinking habitat or both, to explore for new land. They discovered and settled New Zealand during this time.

The Medieval Warm Period cause cannot include a drastic increase in atmospheric carbon dioxide from either natural or human sources. Other catastrophic environmental consequences are also absent. The polar bears that evolved from the brown bear 225,000 years ago survived the Medieval Warm Period that lasted far longer than our current climate optimum and probably resulted in less permanent Arctic sea ice than is being measured today. Humans thrived as did animal and plant biodiversity.

As the planet cooled after the Warm Period, humans experienced the Plague that decreased their numbers, and the much colder temperatures of the Little Ice Age (approx 1500-1800) kept the rate of population growth low, rebuilt Greenland ice and advanced Arctic glaciers. The current warm period began about 1980 and continues to the present. A warmer but lesser know period began about 1900 through 1940. In fact, the 1930's are still the hottest decade on record. Glaciers have receded from 1900 to the present; however, their recession began much earlier as the planet emerged from the Little Ice Age. The unprecedented melting that accompanied the end of the Little Ice Age cleared Alaska harbors and prepared the way to exploit the natural resources there. Glaciers began their recess after the Little Ice Age and will continue until temperatures decrease below those experienced during the cooling period of 1940-1980.

Carbon dioxide is not accused of having a role in any of these major climate changes except the current one. Why assume it plays a major role in this one?

Global Temperatures as measured by satellite have decreased since the anomalous spike of 1998 despite a 5% increase in atmospheric carbon Indeed frost still threatens fruit; our local Pear Blossom Festival has been synchronized with the pear blossoms the last few years vs. being late earlier in the decade. And wheat harvest in my birth place in Ohio has not been earlier than it was in 1944, the year of my birth.

Instituting Cap and Trade or a carbon tax or any other program that purports to decrease atmospheric carbon will do nothing but increase the cost of energy. It will not decrease atmospheric carbon for many years if at all and it will not cool the Earth, stop sea levels from rising or achieve any of the other lofty goals proponents claim.
The Department of Agriculture should concern itself with learning how food and other agricultural commodities can be produced cheaply and in sufficient quantity to feed the populace. Fuel from corn makes no sense and it simply increases the cost of a staple for the hemisphere's poor. Fuel from other crops makes marginal sense but should not be the primary goal of the Department of Agriculture.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

As noted above, carbon reduction programs are not a folly to be foisted upon the nation. However, agriculture and forestry have the potential to be carbon sinks for the growing period. The Department of Energy estimates that humans contribute 22% of the carbon dioxide burden in the atmosphere. By far the largest contributors are the micro-organisms in the soil that metabolize carbon and turn it into carbon dioxide and soil. It is well known that these microorganisms aid in agricultural production by aiding the composting process. Their work should not be interrupted or regulated (and I'd like to see Congress try to regulate microorganism metabolism).
Forestry products are truly renewable and the US needs to take more advantage of this property. New Zealand, for example, believes it can harvest its forests every 30 years while having 97% of its forests growing and harvesting 3% in order to be a major global timber provider. Surely our experts in land grant colleges can come up with similar or more efficient schemes if only their mission is made clear to them.
The constant whining and legal impediments to US timber production need to give way to sustainable production with minimal government intervention.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Just by reading the question a thoughtful person would conclude Congress is considering a complex program that would be costly to administer and, by reading my answer to the first question, would conclude the program is unnecessary.

Alternative energy, not the purview of the Agriculture Committee, is a reasonable field of research. The globe will run out of conventional fuels (and will thus solve the non-problem of increasing atmospheric carbon dioxide) Cap and Trade has not reduced local carbon dioxide emissions anywhere it has been tried. Don't do it.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

True facts about climate change need to prevail--not the overhyped or fraudulent rhetoric perpetrated by Al Gore and some UN IPCC authors. If one were to understand that climate change is a fact of life on the planet and that coping strategies rather than futile climate controlling strategies need to be communicated, the world would be a better place.

UN IPCC author Mann understood the Medieval Warm Period argument in my answer to the first question to be so devastating that he attempted to commit scientific fraud to show that the Little Ice Age was the climate norm and that humans were responsible for all the 20th century warming. The National Academy of Sciences rebuked this argument and the "hockey stick" temperature diagram disappeared from subsequent IPCC reports. Alas, the other nonsense from those reports remains.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Do not expand government. Do not promulgate cap and trade or carbon tax.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Derivatives were a major cause of the current global financial collapse. Investing instruments need to be transparent so that their risk can be fairly assessed. Government can take a role in regulating these instruments and markets that trade these instruments. It is important to ensure that investors never become over-leveraged. I'd go for a 50% margin requirement as is the case for stocks, now. Uniform standards are the key. Airlines and oil companies would probably resist increased margin requirements, but the safety of those markets would be increased.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Given the current investment climate, safety should be paramount. (a) is the best choice. Opaque is not a reasonable choice in any market no matter who the participants are.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Since rural residents no longer produce the majority of their own food, carbon reduction programs and their associated costs to the public would impact them. He who phrases the question knows the answer. All the groups mentioned would be negatively impacted by a carbon reduction program because of increased size of government and the associated increased cost and the increased taxes that would need to be collected in order to pay for the program. Don't do it. A carbon reduction program would even have a negative effect on me--a senior citizen trying to grow a few fruits and vegetables in my back yard. The inflation caused by record deficit spending will eat away the nest egg that was sufficient before the Obama Administration and the current Congress became all starry-eyed about the programs they could enact. .

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

The government should not pick winners and losers. The government has a regulatory role, but it should get out of the way, keep taxes low and reduce its own size.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

If there were no program, there would be no need for transitional assistance. Don't institute the program.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

As noted above, New Zealand believes it can harvest its forests every 30 years, have 97% of its forests standing at any one time and be a major global timber supplier. This sounds like a great idea to me. If government is involved, it should only be involved in furnishing research to private companies or advice gleaned from research sponsored at the nation's land grant colleges and universities. The Department of Agriculture needs to think about the agricultural needs of future generations. This might include turning currently non-arable land into arable land. It might include a simple project to discover how high methane concentrations can be for sheep and cows to live (and whether this concentration is lower than the explosion point). Covered livestock areas might be a major source of energy production from natural gas emitted by cows and sheep. But the cost of compression, separation and purification might be too high. Using solid carbon dioxide also captured from sheep and cow metabolism might be used to keep methane relatively cold prior to putting it in a pipeline or running an on-site generator, etc. Current livestock practices produce a lot of potential rich fertilizer products that might be utilized further. Carbon dioxide is likely to be a major product of producing the fertilizer, but if one is worried about greenhouse gases, methane is 20+ times worse and carbon dioxide and converting it to carbon dioxide is a net improvement.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Price controls don't work. Free markets can get out of whack, but price controls don't work. Didn't any of you live through the '70's? Market forces are best in the long run as long as no one individual has sufficient capital to manipulate the market. I'd be suspicious of George Soros among others.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The lessons are obvious. Carbon trading systems are incompatible with a growing economy. And they do not curb "emissions". Why anyone would feel the need to control the emission of a non-toxic gas essential for all plant life because it is an ineffective greenhouse gas is beyond me. Carbon dioxide is 6.5% of all the breath you exhale. It circulates benignly in your venous blood. It does not control the climate or the temperature otherwise I would not need to protect my fruit blossoms from frost in April. It is a dumb idea.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

This section is really in the weeds. Do not implement a carbon reduction program

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

You will need every analytical chemist and every retired analytical chemist to help you. If the inflation I predict from this an all the other bloated programs comes to pass, give me a call, I'll need to work in order to survive. However, I was enjoying my retirement.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Use and NSF-like peer review process

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Congress should leave any design to the experts and be sure to include people who are less than invested in the value of these programs

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

Standards are always better than seat of the pants. Standards can be changed if they turn out to be too harsh or lenient. The best thing is to not have any of these ill-advised offset programs

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

If only off-the shelf proven "solutions" are allowed, a produce might be held liable except in the case of natural disasters. If unproven but "promising" technology is allowed, the producer cannot be held liable.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Agency in collaboration with industry.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Cost. Risk of adapting some government mandated practice only to discover it renders their business unprofitable. An example: The oil industry invested billions to fabricate MTBE plants in the '90's to fulfill a government mandate to put oxygen in gasoline. MTBE was finally determined to be to soluble in water and made it taste bad and it was outlawed. What happens to the investment? It is lost. What happens to the government? It goes on its merry way making ill conceived rules.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

New technology is always better and creativity is at its height in a crisis. Although climate change is a fact of life and is not a crisis, programs that allow more crop product, increase forest product production with concomitant forest renewal and convert potentially more serious greenhouse gases, like methane, into the highly benign carbon dioxide woould be prudent.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Low carbon fuel is not a reasonable idea. Fuel consumption is related to its energy content; diluting the carbon in a fuel with, say, oxygen, only decreases the energy content of the fuel and increases the volume of fuel required for a given task. Hydrogen might be a viable fuel but it has safety aspects to be solved and it must be generated by electrolysis of water or by

chemical reaction of conventional feedstocks. Both these generation pathways require energy and emit carbon unless nuclear or solar power is used for electrolysis.

Biofuels are ill-advised in general because they take land out of food production. Corn based ethanol is particularly ill-advised because of the energy and nutritional requirements to grow corn and its removal from the food chain. Although soy and other oily plants make some sense for biodiesel, the resulting product needs modification by conventional diesel in order for the user to be assured of expected engine function in the broadest range of environmental conditions. There may be new crops developed for producing cellulosic ethanol or new catalysts to aid in its production. In this case the government might incent small tobacco farmers to switch to a cellulosic fuel based crop like switch grass, if it is the obvious choice, or another suitable crop.

It is far more suitable for the Department of Energy to begin discovery work, in conjunction with the nation's universities, to invent a new transportation technology that does not involve taking agricultural land out of food production. The current climate optimum seems well established. More humans will survive; more food will be needed. More shelter will be needed.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ABENGOA BIOENERGY

[Redacted]

ABENGOA BIOENERGY
ABENGOA BIOENERGY US HOLDINGS

April 22, 2009

US House of Representatives
Committee of Agriculture
Room 1301Longworth House Office Building
Washington, DC 20515-6001

Dear Chairman Peterson:

First I would like to thank you for your interest in our opinion regarding Greenhouse Gas Emissions as it relates to climate change. We are committed to support the efforts as Chairman of the House Agriculture Committee, in these matters.

Abengoa Bioenergy is a technology driven company which has invested in ethanol cellulosic technology to produce ethanol from biomass. Currently we have a pilot plant & demonstration plant in the U.S. and are ready for commercial demonstration through our Hugoton Kansas plant.

We believe the U.S. ethanol industry can benefit the nation by increasing of our energy supply, energy independence and provide tremendous economic benefit for the agricultural sector in rural America.

Our answers to your questionnaire (attached) are based on the above principals.

Thank you again for your efforts. IF you have any questions or if I can be of assistance please feel free to contact me directly.

Sincerely,

Javiers Salgado Leirdao
President & CEO
Abengoa Bioenergy

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Javier Salgado

Organization(s) you represent

Abengoa Bioenergy

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President and CEO

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

If a cap and trade or other carbon reduction program is enacted, we believe Congress should consider the role that biofuels like ethanol can play in reducing greenhouse gas emissions. The renewable fuels industry supports performance-based public policies that advance the production and use of low carbon fuels. We believe low carbon fuels offer tremendous opportunity for the current and future biofuels industry. Low carbon fuels policies should be harmonized to avoid market confusion and inequities. Further, low carbon fuels policies must be based on sound science and defensible life-cycle analysis modeling. Life-cycle analysis is the foundation for any low carbon fuels policy and must be done accurately. In order to avoid inadvertently picking technology winners and losers, it is essential that all regulated fuels are evaluated using the same well-defined and consistent analytical boundaries. If regulations are to be truly technology neutral, low carbon fuels should be allowed to compete fairly against the high-carbon fuels they replace. Each fuel must compete on its own merits. For example, if indirect carbon effects are included in life-cycle analysis, they must be considered for all fuels. Today, the estimation of indirect land use change effects of biofuels is highly speculative and uncertain. There are no consensus methods or tools to determine indirect effects. The ongoing discourse and research surrounding land use change issues clearly suggests we are not currently able to estimate indirect land use changes with any degree of certainty. The soundness and effectiveness of a policy framework based on concepts that are not fully understood would most certainly be called into question by stakeholders and consumers alike.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No, the agriculture and forestry sectors should not be covered under the "cap" in a carbon cap and trade system. Because of the broadly distributed and variable nature of agricultural and forestry producers, regulating these industries under the "cap" would prove to be extremely costly and burdensome. With a properly structured carbon reduction program, the agriculture and forestry sectors can provide real and verifiable carbon offsets; but only if these sectors are not subject to an emissions cap.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

In order to minimize cost increases to consumers, Congress should consider an approach that establishes allowances at no cost, but is flexible enough to allow later adjustments to allowances should they be necessary. In order to do this, a baseline of emissions by sector or by entity must be established. Existing reporting programs could be beneficial in gathering the information necessary for formulation of the baseline.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (I.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes, a federal cap and trade program should be harmonized with regional or state programs. This is necessary to ensure the efficiency and uniformity of carbon markets and to avoid segmentation of the carbon marketplace.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Yes, the U.S. Environmental Protection Agency should regulate an overall economy-wide cap-and-trade program, in consultation and cooperation with the U.S. Departments of Energy, Agriculture, Transportation, Interior, and other pertinent federal agencies. While a reshuffling and/or addition of resources would be necessary, the U.S. EPA has the established infrastructure and institutional knowledge to administer such a program. If an agricultural offsets program is established (which was authorized in the 2008 Farm Bill), USDA should have oversight over that program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Yes, the CFTC should continue its role as the regulator of a derivative or futures market for carbon. This is because the carbon derivatives market would likely operate in a manner similar to established commodities markets. CFTC has the institutional experience and infrastructure to oversee such a market.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market

participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes, carbon derivatives should be allowed to trade through a variety of market structures, similar to derivatives markets for energy commodities. This allows the broadest market participation possible. Further, multiple market structures allow both minor and major market actors to participate.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Depending on how the program is structures, it is possible that enactment of a carbon reduction program could have negative economic impacts on segments of the agriculture and forestry sector. If agriculture and forestry are included under an emissions cap, the economic impacts could be severe. However, if agriculture and forestry are outside of the cap, most of such negative effects would likely be avoided. Further, if agriculture and forestry are considered as a source of offsets, a carbon reduction program could actually have significant positive economic impacts on the sector.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Revenue generated under a carbon reduction program should be used to provide grants, loans, and other assistance for technology improvements to mitigate carbon emissions. Such revenues should also be used to establish public research and development programs to develop carbon mitigation best practices, technologies and strategies.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, business sectors that are subject to higher overall costs as a result of a carbon reduction program should qualify to receive limited transition assistance. A transition assistance program should provide financial assistance that is distributed on a phased basis and contingent upon demonstrated progress.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands should play a large role in carbon sequestration. Public lands, such as state and national forests, act as significant carbon sinks and should be managed in a way that takes advantage of the carbon storage benefits of these natural resources. However, policies should be structured in a way that does not adversely impact responsible commercial uses of public lands for agriculture, forestry, energy and other uses.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Yes, carbon prices should be determined by market forces, just as prices for other commodities are determined by market-based economic factors. This allows the market to determine true valuations for carbon and encourages broader market participation.,

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The climate change and energy legislation adopted by the European Commission in December 2008 is an excellent model for setting mandatory targets and combining goals to achieve increased usage of both renewable power and renewable transportation fuels. Increased usage of biofuels is mandated and default lifecycle greenhouse gas (GHG) emissions are specifically designated for various types of biofuels, with no net carbon emissions attributed to land use change. The EU recognizes that the science of land use change is too speculative to give any reliable estimate of the potential for admittedly uncertain and extremely indirect impact of biofuels on ghg emissions attributable to land use change. They also recognize that today's ethanol is the necessary bridge to tomorrow's new biofuels technologies, in that ethanol and biodiesel are the only alternatives to petroleum transportation fuels that can be used in today's vehicles and today's fuel distribution infrastructure. Recognition of the proven GHG benefits of these fuels, and mandates for their increased usage is the only way to provide the certainty for investors and lenders which is required for the commercialization of these new technologies, many of which have already been proven in laboratory and pilot scale projects.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary offsets program would be most effective for agriculture and forestry and would encourage the widest participation possible.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No, the only limitation on offsets issued annually should be the physical capacity of the U.S. agriculture and forestry sector to sequester carbon.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

If offsets are limited, available offsets should be distributed on the basis of demonstrated sequestration capacity, i.e. entities with the greatest ability and capacity to sequester carbon should be the first to receive offsets.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The 2008 Farm Bill authorizes USDA to develop protocols and guidelines for measuring offsets and accounting for the legitimacy of offsets. It is our recommendation that USDA act quickly to implement these protocols. It should be further noted that USDA has already conducted a significant amount of work in developing such tools and this research should serve as the foundation for a verification system.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

See answer to number 17.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should consider utilizing the USDA's Natural Resources Conservation Service (NRCS) or Farm Service Agency (FSA) to verify offset projects. This is because of the distributed nature of the NRCS and FSA, the agencies' established rapport with the forestry and agriculture sector, and their experience in administering conservation and environmental programs.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should consider a project-based approach to determine eligible offsets. This is because there is a wide variety of projects that may qualify for offsets and a pre-calculated "default" framework would be unlikely to capture that variety.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

See answers to numbers 19 and 20.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

See answers to numbers 19 and 20.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Congress should establish a system to validate voluntary offset projects or credits. Once validation is achieved, offset projects would be eligible to begin receiving credits under the federal program. Congress should also consider a means for issuing full or partial credit for past offsets and/or carbon reduction efforts that are validated.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

See answer to 23. Congress should consider a program to validate carbon reduction efforts undertaken by early actors and full or partial credit should be issued for those reductions.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

If the intent of the Federal or state program was to encourage or induce carbon reduction practices, the producer should receive credit for those efforts.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

In general, a producer should be required to return revenue if an offset project does not reduce carbon emissions as intended. However, producers who experience uncontrollable events that may hinder a project's carbon reduction ability should not be required to return revenues, provided that they are able to positively demonstrate the reasonably anticipated carbon reduction ability of the project.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Authority should be delegated to the appropriate government agency, which in the case of agriculture and forestry, would be USDA. It seems appropriate that NRCS would be the agency under USDA that would be best suited to devise protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

RESPONSE TO QUESTIONNAIRE SUBMITTED BY AMERICAN COALITION FOR ETHANOL

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Brian Jennings

Organization(s) you represent

American Coalition for Ethanol

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Vice President

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The American Coalition for Ethanol (ACE) appreciates the opportunity to provide comments on potential legislation the House Committee on Agriculture or other committees may take up in the future concerning climate change, greenhouse gas emissions from sources of fuel, and a potential low carbon fuels standard.

Founded in 1987, the American Coalition for Ethanol (ACE) is the grassroots voice of the U.S. ethanol industry. ACE unites ethanol producers, farm and commodity groups, businesses, and individuals behind coalition initiatives to support and promote the production and use of ethanol in the U.S. The 1500 companies, organizations, and grassroots individuals that comprise ACE membership employ nearly 1 million Americans nationwide.

In the future, low carbon energy supplies will be favored over highly carbon-intensive sources of energy. ACE believes that our nation should consider implementing a suite of policies designed to reduce greenhouse gas emissions, including a low carbon fuel standard for liquid transportation fuels. We recognize that energy policy already is moving in this direction. At the federal level, the U.S. Environmental Protection Agency (EPA) will soon release a proposed rule to implement the Renewable Fuels Standard (RFS2) contained in the Energy Independence and Security Act of 2007. The RFS2 rule will include a lifecycle analysis of various types of biofuels, so that regulators can determine whether they meet the greenhouse gas reduction standards set forth in the Act.

As this rule and other new policies are considered, ACE has cautioned EPA and others not to let policy get ahead of science, especially with respect to the theory of "indirect land use change." Studies indicate that lifecycle predictions of greenhouse gas emissions based on "indirect land use change" rely on computer models of the future that may or may not be valid. It is important to ACE that EPA monitor on-the-ground land use changes to determine the extent to which they may or may not be linked to biofuels production before incorporating these predictions into policy.

ACE would not support a legislative or regulatory approach to reducing carbon emissions that unfairly penalizes biofuels, from corn and other feedstocks, with indefensible carbon metrics generated from the theory of indirect land use change. Further, we do not support exchanging the RFS with a LCFS until we can understand more about the policy structure and economic implications of such a policy shift.

Further, if Congress is to examine lifecycle greenhouse gas emissions for various sources of transportation fuels, ACE encourages Congress to assess the lifecycle greenhouse gas emissions of all transportation fuels using the international life cycle assessment protocols ISO 14040 and 14044 the International Organization for Standardization.

As a result of the impending transportation fuels rules from EPA and the California Air Resources Board, and potential legislation from Congress, the biofuels industry, policymakers, and other stakeholders need to better understand the opportunities and challenges associated with sophisticated low carbon

energy models, policies, and markets. Further, to meet these new standards, U.S. biofuel producers will need to be able to identify how existing agricultural and biorefinery practices and new, innovative technology can help them reduce the carbon footprint of their biofuels. As an organization dedicated to helping its members better understand this issue, ACE commissioned a study by Global Insight entitled "Lifecycle Analysis of Greenhouse Gas Emissions Associated with Starch-based Ethanol" to examine the following issues:

- How agriculture contributes to and can help reduce greenhouse gases
- Lifecycle analysis of biofuels
- The direct and indirect greenhouse gas emissions associated with the production of biofuels, including a review of "indirect land use changes"
- Lifecycle analysis and greenhouse gas emissions associated with petroleum
- Identifying the marginal carbon footprint of biofuels versus the marginal impact of new sources of oil production

Some of the key findings from that report include:

It is neither fair nor accurate to attribute all current and future land clearing to biofuels.

- Changes in land use have always occurred and are not new, nor are biofuels the primary driver of them. Global population growth cannot be ignored as a factor.
- Lifecycle analysis is being used to actually quantify GHG emissions, and the scientific literature shows a huge variation in estimates of carbon release from land clearing in general, on the order of 50 percent plus or minus – a huge margin of error.
- If some land use change is due to increased biofuels production, the overriding challenge is to quantify which changes can indeed be directly attributed to biofuels.

New technology is making both corn and ethanol production more efficient, more environmentally friendly.

- Assumptions about corn production are key to the LCA and must reflect the steady increases in corn yield per acre, which have doubled between 1970 and today. Also, nitrogen fertilizer use per acre peaked in 1985 and has been trending lower since.
- Energy efficiency in the ethanol production process is advancing, leading to reduced GHG emissions. Since 2001, U.S. ethanol producers have achieved a 22% drop in total energy use. Between 2004 and 2007, ethanol plants reduced BTU usage by between 14% and 21%.

Oil is becoming less efficient and more harmful to the environment.

- With the technology coming online in corn and ethanol production, the carbon footprint is only set to improve significantly in the next ten years, whereas feedstock sources for the petroleum industry, such as oil sands, will further degrade petroleum's carbon footprint.
- Sources such as tar sands and coal have considerably higher GHG emissions than biofuels. Depending upon the energy source used in the mining of tar sands, well-to-pump emissions can be over 300% of conventional crude oil.
- The U.S. Environmental Protection Agency is currently comparing the LCA of biofuels to that of petroleum in 2005, not a fair comparison since the carbon footprint of oil will degrade significantly post-2005 as new oil sources like tar sands are tapped.
- If the indirect GHG emissions of biofuels are counted toward the carbon footprint, so should be the indirect emissions associated with petroleum production.

The report determines that computer-generated lifecycle predictions about indirect land use changes require considerably more analysis. According to the report, it is virtually impossible to accurately ascribe greenhouse gas impacts to biofuels based on indirect land use change. It also discusses how technology innovations are making both corn and ethanol production more efficient and carbon-friendly.

The full report is attached.

In addition, two peer-reviewed scientific articles recently published provide even more context regarding indirect land use change. The first article, published in the *Journal of Industrial Ecology*, shows that modern corn biofuel production facilities emit an average of 51 percent fewer greenhouse gas emissions than gasoline, thanks to technological innovation. The other article, published in *Environmental Science and Technology*, indicates that "holding domestic industries responsible for greenhouse gas emissions by their competitors worldwide through market forces (indirect land use changes) is fraught with a host of ethical and pragmatic difficulties." Both articles are attached.

Renewable biofuels can play an important role in mitigating the harmful effects of petroleum based transportation fuels. The technology innovations and advancements in biofuel production continually reduce the impact of transportation fuels on the environment and should be incentivized in any carbon reduction programs.

Finally, a new report was recently published by Life Cycle Associates, LLC, entitled "Assessment of Direct and Indirect GHG emissions Associated with Petroleum Fuels." The citation for this study is:

Unnasch, S., et al. (2009). "Assessment of Direct and Indirect GHG emissions Associated with Petroleum Fuels," Life Cycle Associates Report LCA-6004-3P. 2009. Prepared for New Fuels Alliance.

ACE has attached this report to our comments and strong encourages the Committee and Congress to review it before beginning any legislative effort to calculate into policy assumptions the lifecycle greenhouse gas emissions of fuels, including ethanol. This report highlights that current policies relying upon "indirect effects" seem only to apply indirect effects to biofuels. However, to the extent that these indirect economic effects are considered part of the biofuel lifecycle carbon footprint, indirect effects of petroleum should also be of interest. To quote from the Executive Summary-Conclusion of the report: "...the average GHG emissions (of petroleum) are expected to increase and new marginal supplies are likely to have even higher greenhouse gas emissions. Nonetheless, high cost, energy intensive marginal resources must be factored into current and future projections of the impact of petroleum based transportation fuels to the extent that marginal considerations are taken into account for alternative fuels."

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CHAMBER OF COMMERCE

THOMAS J. DONOHUE
PRESIDENT AND
CHIEF EXECUTIVE OFFICER

CHAMBER OF COMMERCE
OF THE
UNITED STATES OF AMERICA

[Redacted]

April 9, 2009

The Honorable Collin Peterson
Chairman, Committee on Agriculture
United States House of Representatives
Washington, DC 20515

Dear Chairman Peterson:

Thank you for your March 11, 2009, letter and survey discussing various climate changes options for reducing greenhouse gas emissions and the identification of the federal agency that would regulate the carbon credits and derivatives market. I commend you for reaching out to the business community in an effort to better understand the impact of potential climate change legislation on the regulated community.

Rather than responding to each of your questions individually, I believe it would be more beneficial to provide you and your Committee with an outline of how the Chamber determines whether it will support or oppose a climate change proposal. Specifically, the Chamber analyzes each congressional climate change proposal against the five principles set forth below. Such an analytical process is necessary because such a complex issue as climate change can be successfully addressed in many different ways and many different approaches. Therefore, without such analysis we would merely be commenting on a series of separate questions the answers to which could be combined in a manner that we might support or oppose depending on the combination selected.

The principles that the Chamber applies to climate legislation are:

1. It must preserve American jobs and the competitiveness of U.S. industry;
2. It must provide an international, economy-wide solution, including developing nations;
3. It must promote accelerated development and deployment of greenhouse gas reduction technology;

4. It must reduce barriers to the development of climate-friendly energy sources; and
5. It must promote energy conservation and efficiency.

These principles are the yardstick against which the Chamber measures all climate change legislation, and they have been the bedrock of the Chamber's position for many years. Two years ago, I personally provided detailed testimony before the Senate Committee on Environment and Public Works emphasizing the importance of including these principles in any climate change legislation. A copy of my testimony, which further amplifies our position, is enclosed for your convenience.

It is important to note that these core principles cannot be applied in the abstract given the myriad ways for addressing climate change. Your first question, for example, asks whether the Chamber supports cap-and-trade or carbon taxes or both. Even assuming for the moment that these are the only viable options, how can the Chamber respond without knowing, for example, whether the approach is international in scope? Or protects American jobs? Short of having a draft bill to examine and work out the potential (and inevitable) ramifications to taxes, regulations, imports and exports, energy conservation and efficiency, fuel economy, and other issues of vital importance to the business community, it is difficult to offer you a pertinent response.

Historically, the Chamber has not endorsed one specific solution or one specific piece of legislation addressing climate change for the primary reason that they failed to incorporate our five core principles. To the extent Congress does introduce a climate change bill that successfully incorporates these principles, the Chamber would almost certainly support it.

Again, I thank you for your letter and for the opportunity to provide you with the Chamber's position on this matter.

Sincerely,

TJD

Thomas J. Donohue

Statement of the U.S. Chamber of Commerce

ON: EXAMINING GLOBAL WARMING ISSUES IN THE POWER PLANT SECTOR

TO: UNITED STATES SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

BY: THOMAS J. DONOHUE, PRESIDENT AND CEO

DATE: JUNE 28, 2007

The Chamber's mission is to advance human progress through an economic, political and social system based on individual freedom, incentive, initiative, opportunity and responsibility.

BEFORE THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS OF THE UNITED STATES SENATE

"Examining Global Warming Issues in the Power Plant Sector"

Testimony of Thomas J. Donohue
President and Chief Executive Officer, U.S. Chamber of Commerce

June 28, 2007

Good morning, Chairman Boxer, Ranking Member Inhofe, and members of the Committee on Environment and Public Works. My name is Thomas J. Donohue and I am President and Chief Executive Officer of the U.S. Chamber of Commerce. The Chamber is the world's largest business federation, representing more than three million businesses and organizations of every size, sector, and region. On behalf of the Chamber and its members, I thank you for the opportunity to testify here today.

You have asked me to come before the Committee today to discuss global climate change proposals and their relation to the power plant sector. The Committee should be commended for exploring the impact of the numerous legislative proposals on power plants. If Congress follows through with legislation, but does not carefully consider the impact provisions such as mandatory emissions caps, carbon capture and sequestration, and mandatory renewable portfolio standards will have on industry, the Chamber believes the economic consequences could be severe.

The 110th Congress is performing a balancing act, striving to preserve energy security while also limiting energy use and the fuels to be used for the purpose of addressing climate change. On one hand, Congress seeks to place serious limits on energy exploration, but, on the other, continues to push for energy independence and carbon-constraining climate change legislation. The Chamber is very concerned with Congress' perceived ability to balance these two goals. If energy independence is what we truly want, we can certainly achieve it; we have more than enough energy sources (ranging from coal and oil shale to wind and photovoltaic) that, when used in conjunction with one another, can make the country energy independent, but not any time soon and perhaps not even in this century.[1] However, when we add caveats to how that energy independence must be achieved—such as legislation that reduces greenhouse gas emissions without also funding technology, or with a federally-mandated renewable portfolio standard (RPS), or by limiting oil and gas exploration on federal lands and in the Outer Continental Shelf—the balancing act will give way to one extreme or the other.

What Congress must continue to recognize, as it crafts this legislation, is that electricity is the "juice" that runs our country. And this country will depend on the sustainability of the "juicers"—coal, natural gas, petroleum, nuclear, and hydropower, to

---

[1] Edmonds, J.A., et al., *Global Energy Technology Strategy: Addressing Climate Change* (May 2007), *available at* http://www.pnl.gov/gtsp/docs/gtsp_2007_final.pdf.

name a few—for the foreseeable future. We simply cannot flip a switch and power our country exclusively on renewable energy sources. (Even if we could—and we cannot—we need energy corridors to move that electricity from rural areas to urban regions, and Congress is taking steps to shut down these corridors as well.) By promoting renewables at the expense of other energy sources, Congress is picking winners and losers—and the losers will be the power plants that generate the electricity to run this great nation.

As you know, many of this country's power companies are members of the Chamber. In fact, several companies joining me today on this panel (Duke Energy, Florida Power & Light, Murray Energy, and Pacific Gas & Electric) are Chamber members, and each has a different view for addressing global climate legislatively. Some advocate for cap-and-trade, RPS, or more nuclear. Others want an international, voluntary program, such as the Asia-Pacific Partnership. For this reason, I believe the best place to begin my discussion of how to address climate change is with the five core principles the Chamber utilizes to evaluate any proposed climate change solution. The Chamber measures all proposed climate change legislation against the following standards:

Does the legislation…

1. Preserve American jobs and the competitiveness of U.S. industry;
2. Provide an international, economy-wide solution, including developing nations;
3. Promote accelerated development and deployment of greenhouse gas reduction technology;
4. Reduce barriers to the development of climate-friendly energy sources; and
5. Promote energy conservation and efficiency.

I urge you to view my testimony today as a valuable resource. The Chamber and its members have already had the internal debate on climate change, and our five core principles are largely the result of that discussion. The Chamber has not endorsed one specific solution or one specific piece of legislation, but over the years has supported legislation that funds research, development and deployment of technology, and that promotes energy efficiency.

Let's not turn our backs on the energy companies that made America great. Instead, let us work with those companies to develop the technology to make their energy—indeed, all energy—clean, efficient, and affordable. Only then will we be able to solve the global climate challenge.

I. Preserve American jobs and international competitiveness of U.S. industry.

Any climate change solution, no matter what it is, must preserve American jobs and the competitiveness of American industry. Even areas served by large power companies (who arguably would be able to afford either the technology or the extra credits necessary to stay in business) would feel the strain, both from increased costs of doing business and other regions' inabilities to keep up. A 2005 analysis done by CRA

American borders.[8] Climate change legislation must therefore target the citizens and businesses of all nations, not simply domestic power plants and fossil fuel producers. If not, the effects on the U.S. economy, consumer prices and jobs could be disastrous.

Similarly, any long-term climate change action plan absolutely must include developing nations such as China and India. Chinese emissions are projected to increase 119 percent and Indian emissions 131 percent between 2004 and 2030.[9] Unless developing nations are engaged, domestic emissions controls would penalize domestic businesses that attempt to compete in the world market while non-participating developing nations continue to get a free ride.

The good news is, we have a mechanism to accomplish an international, economy-wide solution that has brought developing nations—even China and India—to the table: the Asia-Pacific Partnership for Clean Development (APP). The bad news is, APP is not receiving the time, attention, or funding it needs to accomplish its goals. APP is still in its relative infancy, and needs both (a) time to develop and demonstrate climate-friendly technology, and (b) increased funding from the World Bank and the International Monetary Fund.

The United States is not holding up its end of the bargain with respect to APP and technology development and deployment. The Energy Policy Act of 2005 (EPAct), which contains more than 60 provisions requiring the U.S. government to engage with the private sector and develop innovative climate and energy technologies, is embarrassingly under-funded. To make matters worse, several bills in Congress attempt to repeal and/or de-fund those EPAct provisions that have begun to make a difference.

President Bush recently announced plans for an international summit at which the 10-to-15 nations responsible for approximately 85 percent of the world's global emissions will begin a dialogue on the best way to reduce those emissions responsibly. As Council on Environmental Quality Chairman Jim Connaughton recently stated, any near-term domestic efficiency gains will be overwhelmed by the rise of coal-based power generation in China, India, South Africa, Mexico, Central and Eastern Europe, and Russia.[10] Those countries will continue to use coal because they are trying to advance their economies, trying to lift people out of poverty, trying to provide clean water, and trying to use energy to run air pollution controls. And energy is necessary for all of that. The purpose of President Bush's proposed summit is to find a shared technology-development pathway, to bring the cost of these expensive technologies down so that they will be used by China, India and other developing nations.[11]

---

[8] Task Force on Hemispheric Transport of Air Pollution, *2007 Interim Report* (June 2007), *available at* http://www.htap.org/activities/2007_interim_report/reading/TF%20HTAP%202007%20Exec%20Sum%20070612.pdf.

[9] International Energy Agency, *World Energy Outlook 2006*, *available at* http://www.iea.org/textbase/weo/index.htm.

[10] Press Briefing by Senior Administration Officials on the President's Trip to Europe and the G8 Summit, Radisson Hotel, Rostock, Germany, June 6, 2007; *available at* http://www.whitehouse.gov/news/releases/2007/06/20070606-5.html.

[11] *Id.*

III. Promote accelerated development and deployment of greenhouse gas reduction technology.

The development and deployment of affordable, widely-available climate-friendly technology is crucial to preserving jobs while controlling emissions. Carbon capture and sequestration, next-generation nuclear power, and other cutting-edge technologies must be researched, developed, demonstrated and deployed. Without widespread availability of these and other technologies, the power plant sector may not be able to continue producing power to meet local and regional demands while also satisfying aggressive carbon emissions caps.

Although some of these technologies exist, they are by no means cost-effective or commercially viable. Current emissions control technologies are too expensive for all businesses to utilize under their respective business models.[12] Larger businesses can arguably afford the high cost of this technology while continuing to turn a profit, but small and mid-sized businesses cannot.

Similarly, new technologies are far from simple to deploy. Siting, permitting, insurance coverage, and liability exposure concerns will remain major roadblocks, as will high costs for materials, labor, and construction expertise. The overall costs of wind, nuclear, and liquefied natural gas regasification facilities continue to increase due to rising costs of materials.

Carbon capture and sequestration technology is perhaps the best example of our ongoing technological struggle. *The Future of Coal*, a report released in March 2007 by a consortium of faculty and energy experts at MIT, found that, even with a high price on carbon (due to a legislative or regulatory cap or tax), coal, the leading source of carbon-dioxide emissions from electricity generation, will continue to be a major source of electricity due to its sheer abundance and an increasing worldwide demand for energy.[13] However, the report criticizes current efforts by the U.S. Department of Energy (DOE) to research carbon capture and sequestration, and calls for a $5 billion, 10-year program to research, develop and (most importantly) demonstrate on a realistic scale the technology necessary to capture and store carbon dioxide from coal-fired power plants.[14] The MIT report also cites additional hurdles, such as (1) coal gasification limitations, (2) near-prohibitive costs of retrofitting existing coal plants to capture and sequester carbon, and (3) DOE's failure to determine system costs through the FutureGen project.

The MIT study concludes that coal demand is not going anywhere, yet we are now facing imminent legislation that will constrain coal power plants' abilities to meet this growing demand while failing to provide an adequate technological alternative. It is

---

[12] Paltsev, S., et al., *Assessment of U.S. Cap-and-Trade Proposals*, Apr. 1, 2007, *available at* http://web.mit.edu/globalchange/www/MITJPSPGC_Rpt146.pdf.
[13] Deutch, J., and Moniz, E., *The Future of Coal: An Interdisciplinary MIT Study*, March 14, 2007, *available at* http://web.mit.edu/coal.
[14] *Id.*

for this reason that, if Congress does anything, it must absolutely provide comprehensive research and development incentives to stimulate technological innovation. Without such incentives, emissions controls will likely fail.

IV. Reduce barriers to the development of climate-friendly energy sources.

If Congress is truly determined to (a) cap greenhouse gas emissions and reduce those levels over time, (b) require mandatory renewables from every state, and (c) attempt to achieve some level of energy independence, it must remove all barriers to the development of clean, climate-friendly energy sources. It must stop creating barriers to "national interest" transmission corridors recently designated by DOE. And it must not only provide incentives for so-called "renewables" such as wind, solar and geothermal, but also clean energy sources such as coal, hydropower, nuclear power, biofuels, and clean-burning natural gas. If the true policy goal is to encourage energy production, there is no legitimate reason why innovative energy technology producers are left standing at the door as they get ready for the marketplace. Congress must be pragmatic about its energy strategy, and any legislation should be technology-neutral so that Congress avoids picking technology winners and losers.

V. Promote energy conservation and efficiency.

The amount of energy required to produce a dollar's worth of goods and services in the U.S. economy fell by more than 50 percent between 1949 and 2004, as a result of improvements in energy efficiency, structural shifts in industry, and other related factors.[15] From 1980 to 2004, industrial delivered energy use per dollar of industrial value of shipments declined by an average of 1.6 percent annually.[16] According to the Energy Information Administration, although energy use generally increases as the economy grows, continuing improvement in the energy efficiency of the U.S. economy and a shift to less energy-intensive activities are projected to keep the rate of energy consumption growth lower than the GDP growth rate.[17]

Chevron began tracking energy use across all operations in 1992, and reports that since beginning company-wide efforts, energy efficiency has been increased by 24 percent.[18] Since the 1992 inception of the Environmental Protection Agency's Energy Star program, Eastman Kodak Company has reduced its use of energy by more than 15 percent.[19] 3M has improved its worldwide energy efficiency by 29 percent since 1998.[20]

---

[15] U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, "Highlights of Energy Intensity Trends – Total Energy," *available at* http://intensityindicators.pnl.gov/total_highlights.stm.
[16] Energy Information Administration, *Annual Energy Outlook 2007*, at 79, *available at* http://www.eia.doe.gov/oiaf/aeo/index.html.
[17] *Id.*
[18] Chevron Corporation, "Energy Efficiency and Conservation," *available at* http://www.chevron.com/social_responsibility/energy_conservation/.
[19] ENERGY STAR Awards for Sustained Excellence and Corporate Commitment, 2005, *available at* http://www.energystar.gov/index.cfm?c=pt_awards.pt_es_winners_2005.

United Technologies Corporation improved its worldwide normalized energy consumption performance by 39 percent from 2002 to 2006.[21] These are but a few examples of how business and industry are seeking out and taking advantage of energy efficiency opportunities; there are thousands of other companies doing the same.

Energy efficiency makes good business sense: such practices, where cost-effective, often afford sizable reductions in operating costs. The flip side to this argument, however, is that companies are typically reluctant to implement cost-*ineffective* energy efficiency measures.[22] Historically, lawmakers have used policy instruments to ensure cost recovery for such cost-ineffective measures. This is the absolute wrong way to promote energy efficiency. The market should decide which energy efficiency technologies are winners and losers, not politicians. Governmental intervention should only be considered as a last resort, following careful examination of all long-term benefits and drawbacks.

This country's energy goals will be met only by a commitment to technology innovation and to *all* types of available energy sources. Power plants, the industrial lifeblood of our country, must not be unnecessarily constrained by climate change legislation without first being afforded the technology necessary to meet those controls. Just like the American public itself, diversity of domestic energy production is vital to continued economic prosperity. If you ignore this truth, you will be turning out the lights on our country's economic future—literally.

Thank you for the opportunity to testify today. I look forward to answering any questions you may have.

---

[20] 3M Corporation, "Improving Energy Efficiency," *available at* http://solutions.3m.com/wps/portal/3M/en_US/global/sustainability/s/performance-indicators/environment/energy-efficiency/.

[21] United Technologies Corporation, *2006 Corporate Responsibility Report*, at 4, *available at* http://www.utc.com/responsibility_reports/2006/2006_utc_corporate_responsibility.pdf.

[22] The exception to this rule might be businesses that act as "first movers," such as those seeking to gain technological expertise or establish primacy in intellectual property rights on energy efficiency technology.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CLEARSKY CLIMATE SOLUTIONS, LLC
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Stephen Handler

Organization(s) you represent

ClearSky Climate Solutions, LLC

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Company employee

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Cap-and-trade is the only way to ensure that there will be a known and scientifically-determined limit to annual GHG emissions in our country. Both approaches may serve to reduce the level of GHGs in the atmosphere, but a controlled cap that is progressively lowered is the best way to directly limit these emissions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

It makes sense for agriculture and private forest landowners to be able to participate by contributing carbon offsets to the program, using transparent and rigorous protocols. These sectors should not be controlled directly by a cap, because they are comprised of many, many small-scale entities and the administrative burden would be too great to include them under regulated activities. These sectors can, however, improve their practices to limit GHG emissions, and the possibility to generate carbon offsets would stimulate that action.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

It defeats the purpose of the cap-and-trade system for permits to be allocated freely.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Existing programs that have already issued credits should be grandfathered into the federal system as valid offsets, but no new projects should be certified under those standards. Existing credits will continue to hold their validity for the lifetime of the project. New carbon offset projects should be certified to a transparent, uniform standard promulgated by the US Federal government, although this standard might be based largely on existing protocols. Existing platforms and regulations should be subsumed by the federal process,

so as not to create a patchwork of standards. This is a concern because many of the entities that will be regulated operate over several states.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

I don't think trading of derivatives or futures should be allowed. This process creates too many intermediaries and undesired incentives.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants; or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Utility bill assistance for low-income households. Weatherization and energy-effiiency programs for low-income households. New investments in alternative energy sources and rebates for installations of energy efficient appliances. Smart-grid technology.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Only if rules are in place to document how the money is spent and that it is being spent in a directed effort to reduce GHG emissions and exposure to the carbon regulations.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

There should be lower limits set on the price to ensure that allowances are a meaningful instrument.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Allow for continuity between emissions reporting periods, so that allowances from one period can be used in subsequent periods.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

There are many appropriate standards in place - these tools can be borrowed from the existing panoply of voluntary market standards.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

There are many appropriate standards in place - these tools can be borrowed from the existing panoply of voluntary market standards.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

There are many appropriate methods in place - these tools can be borrowed from the existing panoply of voluntary market standards.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
SENATOR TOM DASCHLE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Senator Tom Daschle

Organization(s) you represent

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

   Please respond in 600 words or less.

A national cap-and-trade program for GHG emissions, that allows U.S. farmers and ranchers the opportunity to participate, should be enacted. A cap-and-trade system provides certainty about later emissions levels, without specifying a maximum cost, while a carbon tax provides certainty about eventual costs without specifying a maximum emissions level. A hybrid approach would allow for a market to be developed, but with an established maximum carbon price to reduce the opportunity for high prices to negatively impact the broader economy.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

   Please respond in 300 words or less.

As in other sectors of the economy, energy-related GHG emissions from the agriculture sector should be regulated upstream, at the fuel supplier or distributor, electric utility, or large industrial facility. Other, non-energy GHG emissions from farm and ranch operations are generally too small and diffuse to lend themselves to direct regulation under a broad-based cap-and-trade system. Well-designed offset credit and allowance set-aside provisions can deliver effective incentives for tapping promising mitigation opportunities in the agriculture sector. Because the cost and administrative difficulty of regulating millions of small emissions sources would be prohibitive, no GHG cap-and-trade program proposed to date would directly regulate small energy end-users, including farmers and ranchers or individuals, households, or most businesses (with the possible exception of large industrial facilities).

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

   Please respond in 600 words or less.

Congress should consider setting aside some allowances to reward early adopters that achieve emissions benefits prior to implementation of a mandatory policy. Activities and management practices that have resulted in GHG reductions and increased carbon sequestration should be rewarded as early as possible. To that end, provisions aimed at recognizing and rewarding early action should be included in the design of an emissions trading program. Set-aside allowances are especially well-suited for this purpose, and we recommend that practices like no-till farming begun in advance of implementation of a cap and trade program be eligible exclusively for these types of credits.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Some states that are developing climate change plans have explicitly identified the potential for agricultural and/ or forestry-based GHG reductions, including soil carbon sequestration (Colorado, Delaware, Massachusetts, Montana, New Mexico, New York, North Carolina, Oregon, and Rhode Island). Some state and regional climate plans have already identified animal manure methane digesters as an accepted means to achieve emissions reductions (California, Kentucky, Missouri), while others have listed this technology among potential mitigation options to be recognized in the future (Arizona, Colorado, Connecticut, Hawaii, Massachusetts, and New York). Other measures that have been identified in the context of state-level climate plans include limiting or avoiding deforestation (California Colorado, Delaware, and Utah), forest management practices, and forest-based carbon sequestration (California, Connecticut, Delaware, Montana, New Hampshire, New Mexico, Rhode Island, and Utah). The Northeast and Mid-Atlantic states' RGGI plan allows offset projects for reforestation and on-farm methane capture, but not for soil carbon sequestration.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

USDA, in collaboration with state and national agricultural producer organizations, should develop and regulate using standardized protocols for measuring, monitoring and verifying soil carbon changes that can be utilized by agricultural producers to facilitate their participation in carbon markets.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role

as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

The more stringent the policy—that is, the greater the emissions reductions it aims to achieve over a given period of time—the higher the expected price signal that would be generated under a cap-and-trade system. On the one hand, it would be in agricultural producers' interest for GHG permit (or allowance) prices to be as high as possible, so as to maximize the potential income generated by the sale of credits from, for example, soil-based carbon sequestration. At the same time, a higher GHG permit price also means higher prices for gasoline and diesel fuel, home heating oil, natural gas, fossil-fuel generated electricity, and other farm inputs. A substantial rise in energy prices or in energy price volatility—particularly if it occurs so rapidly that energy users have little time to adjust—could adversely affect farmers and ranchers, consumers in general (especially those on low or fixed incomes), and the economy as a whole, which might grow more slowly as a result. We do not endorse one approach over another, nor do we take a position on the necessity of including a cost-control mechanism in the first place or on the optimal price of GHG permits. The point here is simply to highlight some of the trade-offs relevant for the agricultural community as Congress debates key issues such as overall policy stringency and options for managing cost impacts.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Bruce McCarl, a Texas A&M Agricultural Economist, has looked specifically at how future climate-change policies could impact the agriculture sector, both in terms of imposing new costs and generating new income. His analysis concludes that such policies—provided they are implemented in a manner designed to take maximum advantage of agriculture's potential role in reducing and sequestering GHG emissions—could provide substantial net benefits to America's farmers and ranchers. Specifically, the sale of carbon credits by the agricultural sector could lead to a substantial rise in farm incomes.

That said, designing a national cap-and-trade program to fully capture this upside potential while maintaining the environmental integrity of the trading program as a whole presents a number of policy challenges. Important issues remain to be resolved to ensure, first that farmers can obtain full market value for their contributions to reducing or offsetting GHG emissions, and second that the unique nature of biological carbon sequestration activities is fairly reflected in the accounting and verification processes. The stakes are high—not only for farm families, but for the nation as a whole, which stands to benefit from capturing the relatively lowcost, near-term mitigation opportunities available in the agriculture sector. Given these stakes, the agricultural community is actively engaged in current policy discussions to explore ways to address these program design challenges.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Congress should provide funding to assist key private sector adopters to offset the costs of developing and demonstrating new measurement, monitoring and verification methodologies for soil carbon sequestration. Because costs will be highest in the early years of a national offset program, funding to enable groups to develop their own methodologies for potential inclusion within federally-established standards, will be critical to help private aggregators and technology developers address the need for robust measurement, monitoring, and verification tools.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Policy makers should avoid placing artificial limits on the use of offset credits and other mechanisms designed to recognize and reward agriculture-based mitigation efforts. Such efforts can yield significant benefits for the economy and for the environment, making it possible to meet emissions reductions goals at the lowest possible cost and as expeditiously as possible.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The EU ETS does not currently allow emissions credits for agricultural or forestry sinks to be recognized or traded within the system. This policy was reemphasized in January 2008, when the European Commission proposed changes to EU ETS for the program's third phase (2012-2020). In a Questions and Answers document that accompanied the proposal, the Commission stated that it would not allow credits from carbon sinks because "doing so could undermine the integrity of the EU ETS…" Nevertheless, the Commission did express support for using proceeds from EU ETS auctions to invest in biological sequestration "both inside and outside the EU…" The EU also is conducting significant research on sinks, in part because of a determination that soil sinks provide an effective means of reducing net GHG emissions, can help countries meet mandatory emissions-reduction targets more flexibly and with lower costs, and also create additional environmental benefits.

European countries have undertaken an Integrated Sink Enhancement Assessment (INSEA), with the explicit goal of implementing soil and forestry sink enhancement activities as part of the EU's obligations under the Kyoto Protocol "and beyond." A recent European Commission update on the INSEA states that: "Sink enhancement measures could not only turn out to be instrumental to attain climate mitigation goals, but could simultaneously become a major driver of how our natural environment is managed."

The Canadian government is also working to establish a country-wide GHG cap-and trade system, and has acknowledged it will include offset credits for agricultural and biological emissions reductions from the start of its system, which is anticipated to take effect in 2008.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

A cap-and-trade program that provides for both offset credits and set-aside allowances will give agricultural producers the flexibility to choose different levels of rigor in documenting emissions benefits and will help to deliver maximum economic and environmental benefits from low-cost mitigation opportunities in the agriculture sector. Offset credits should be available for agriculture-based mitigation projects—including soil carbon sequestration projects—that can meet rigorous standards for assuring measurement, additionality, and permanence. Set-aside allowances taken from under the cap provide a particularly effective mechanism for rewarding projects that provide important carbon benefits, but that may have more difficulty meeting these tests, such as no-till practices undertaken before the cap-and-trade program goes into effect (so-called 'early action' projects). A hybrid approach can respond effectively to the twin imperatives of (a) ensuring overall program integrity and (b) allowing for maximum participation by the agricultural sector.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

No, policy makers should avoid placing artificial limits on the use of offset credits and other mechanisms designed to recognize and reward agriculture-based mitigation efforts. Such efforts can yield significant benefits for the economy and for the environment, making it possible to meet emissions reductions goals at the lowest possible cost and as expeditiously as possible.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Congress should not prioritize the distribution of offsets; rather the market should be allowed to decide the distribution of available offsets.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

USDA, in collaboration with state and national agricultural producer organizations and the Consortium for Agricultural Soils Mitigation of Greenhouse Gases (CASMGS), should develop standardized protocols for measuring, monitoring and verifying soil carbon changes that can be utilized by agricultural producers to facilitate their participation in carbon markets. Prior to the implementation of a mandatory federal cap-and-trade program for GHG emissions, USDA should collaborate with CASMGS (which has a critical mass of expertise, scientific data, and experience with this issue) to establish standardized protocols for measuring and monitoring soil carbon for credit in GHG markets. Optimally, farmers or aggregators should be able to choose from a suite of standardized protocols that offer varying levels of cost and accuracy (since the trade-off for more accurate measurement technologies tends to be higher cost).

Each standardized protocol should, at a minimum, describe the pros and cons of the measurement methodology in question, as well as the minimum criteria to be applied when certifying carbon credits according to that standard, the costs involved, the relative availability and accessibility of the technology or instrument being used, the estimated time investment required to implement the protocol, and the degree of accuracy associated with resulting measurement estimates, including, if appropriate, the associated discount rate that would be applied to credits based on those estimates. That way every agricultural producer, aggregator, or third party verifier knows the rules, options, criteria, costs, and benefits associated with different measurement protocols, up front, before determining which methodology to utilize. USDA should revise and update the standardized protocols on a regular basis, or as improvements in the science or in measurement technologies warrant.

Finally, USDA should establish appropriate standardized protocols and certification criteria for the suite of additional activities—besides soil carbon sequestration—that could generate emissions reductions credits from the agriculture sector. Examples include activities that generate methane and nitrous oxides reductions, as well as GHG benefits from biofuels production and other options. All of these standards should be developed as far as possible in advance of carbon markets so that the agriculture sector can be optimally prepared to participate in those markets once they are established.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Standardized, certified protocols and methodologies to measure and verify soil carbon sinks should be clear, transparent, and practical in order to maximize the market's acceptance of and ability to value soil sink projects, while also maximizing agricultural producers' participation in carbon markets, and the resulting benefits to society. Substantial research and thinking has already been invested in understanding the potential for biological carbon sequestration and in devising practical policy responses to concerns about additionality, measurement, monitoring, permanence, leakage, and verification. The agricultural (and forestry) sector clearly presents some unique issues such that standardized methodologies for measuring GHG benefits in other sectors—for example, defining a 'business-as-usual' baseline against which to measure emissions—may not apply. Work by organizations such as the Consortium for Agricultural Soils Mitigation of Greenhouse Gases and Duke University's Nicholas Institute for Environmental Policy Solutions can be invaluable as government agencies such as USDA seek to develop guidelines and protocols for documenting and recognizing carbon sequestration benefits from agriculture- and forestry based projects.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

USDA should provide verification services through its extension agents and should additionally certify private verification services. This will provide farmers with a choice of using either private or governmental verification services.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

A hybrid measurement approach that links science based models with direct soil carbon measurement could help to close the gap that currently exists between practical and affordable direct measurement techniques and the needs of a crediting system that requires reasonably accurate and reliable estimates of the soil carbon impacts associated with specific projects or activities.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

Offset credits should be available for agriculture-based mitigation projects that can meet rigorous standards for assuring measurement, additionality, and permanence. Set-aside allowances taken from under the cap provide a particularly effective mechanism for rewarding projects that provide important carbon benefits, but that may have more

difficulty meeting these tests, such as no-till practices undertaken before the cap-and-trade program goes into effect (so-called 'early action' projects). A hybrid approach can respond effectively to the twin imperatives of (a) ensuring overall program integrity and (b) allowing for maximum participation by the agricultural sector.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

Additional provisions may be necessary to address the issue of permanence for biological (soil- or forestry-based) carbon sinks and to assure overall program integrity in the event that future actions or natural events cause unanticipated carbon losses. For example, a future program may establish expiration dates on soil carbon credits and/or require re-verification of credits at established intervals (e.g., every 5 years. The government agencies charged with administering these programs will need to develop clear rules and guidelines for managing project risks and associated liability issues, especially with respect to the trade and use of offset credits (for reasons discussed in the main text, the problem of permanence is somewhat less concerning in the case of allowance set-asides). In doing so, it will be important to strive for a balance between assuring program integrity and avoiding administrative requirements that are so burdensome they hinder the deployment of cost-effective carbon sequestration options.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

Set-aside allowances taken from under the cap provide a particularly effective mechanism for rewarding projects that provide important carbon benefits, but that may have more difficulty meeting tests for additionality, including 'early action' projects such as those established under voluntary markets or systems such as the Chicago Climate Exchange.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

Projects begun prior to the initiation of a nationwide cap and trade program at a minimum should receive credit for all greenhouse gas benefits achieved beginning on the

date of the implementation of the program. For example, if a farmer undertakes no-till practices prior to the implementation of the program, he or she should still receive credit for carbon sequestration or emissions reductions achieved after implementation of a new cap-and-trade program. Reward for such practices should be limited to allowance credits, since questions may be raised about whether they may meet strict tests of additionality. To receive an allowance credit, a farmer would be required to establish the baseline soil carbon content at the start of the program, for a field or fields within specified geographic boundaries, and would receive credit for greenhouse gas benefits achieved.

In addition to rewarding carbon sequestration projects for GHG reductions that occur beginning at the inception of the program, Congress should consider setting aside some allowances to reward early adopters that achieve emissions benefits prior to implementation of a mandatory policy. Activities and management practices that have resulted in GHG reductions and increased carbon sequestration should be rewarded as early as possible. To that end, provisions aimed at recognizing and rewarding early action should be included in the design of an emissions trading program. Set-aside allowances are especially well-suited for this purpose, and we recommend that practices like no-till farming begun in advance of implementation of a cap and trade program be eligible exclusively for these types of credits. The failure to recognize early reductions could generate perverse incentives to inflate baseline emissions and minimize baseline soil carbon content in advance of a cap-and-trade program taking effect.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

Since biological sinks reside within the land resource, and land ownership or management may change over time, contractual issues with respect to ownership of the soil carbon credit should be resolved prior to the sale of the credits. These issues can be decided within the underlying policy or resolved contractually on a case-by-case basis between the buyers and sellers of credits.

For example: If an agricultural producer receives payment for soil carbon sequestered on his/her land but then sells the land before the credit period is over, and the new owner tills that land, who is liable for the lost carbon—the buyer or the seller? A contract or

policy should establish ownership of (and liability for the loss of) carbon credits before the sale occurs.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

USDA, in collaboration with state and national agricultural producer organizations and the Consortium for Agricultural Soils Mitigation of Greenhouse Gases (CASMGS), should develop standardized protocols for measuring, monitoring and verifying soil carbon changes that can be utilized by agricultural producers to facilitate their participation in carbon markets.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No, the world scientific community has warned that action to reduce global GHG emissions must begin soon if some of the most serious consequences of global warming are to be avoided. In its Fourth Assessment Report, issued in 2007, the IPCC states that "mitigation efforts and investments over the next two to three decades will have a large impact on opportunities to achieve lower stabilisation levels." At the same time, the IPPC warns that "[d]elayed emission reductions significantly constrain the opportunities to achieve lower stabilisation levels and increase the risk of more severe climate change impacts" (IPPC, 2007). The agriculture sector offers a range of opportunities to achieve significant, near-term, low-cost mitigation. Any mandatory GHG cap-and trade program adopted by the United States over the next several years should be designed to maximize these opportunities by explicitly rewarding and encouraging soil carbon sequestration along with other cost-effective GHG-reduction measures from agricultural emissions sources not otherwise covered by the cap.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Reforestation	Excellent	Excellent	Medium	High
Cessation of Deforestation	Excellent	Excellent	Medium	Medium

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Improved Feeding Practices	Excellent	Good	Medium	High
Anaerobic Digestion	Excellent	Excellent	High	High
Improved Handling of Manure	Excellent	Good	Low	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Carbon Soil Sequestration	Excellent	Excellent	Low	High
Nitrogen Use Efficiency	Excellent	Excellent	Low	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ECOFOR

Responses to House Ag Committee GHG Questions
[Redacted]

Name: Gordon R. Smith, Ph.D.

Organization: Ecofor

Address: [Redacted]

Email: [Redacted]

Capacity in which responding: Director

Thank you for the opportunity to provide this input.

Ecofor has spent 15 years developing offset accounting methods, mainly focusing on forestry, soil carbon, and manure methane. I have written offset standards for registries, advised US EPA on the pros and cons of alternative GHG policies, helped buyers of offsets assess sell offers, modeled expected amounts of offsets for project developers, done third party verification of offsets, and accredited verifiers.

Having worked on all sides of the GHG business, I am painfully aware of how widely accepted offset accounting methods often do not work. Having spent this much of my working career on GHG accounting, I would like to see the US adopt policies that will work for both American citizens and be effective at avoiding climate change.

The views presented here are my own, and are not necessarily shared by any Ecofor client.

I.1. In theory either carbon taxes or a cap-and-trade would work to reduce greenhouse gas (GHG) emissions from the electricity sector. However, cap-and-trade allows the price of reductions to rise or fall as needed to achieve the target level of reductions. With a carbon tax, Congress is not likely to be able to respond in a timely manner to needed price changes. For types of emissions that are not amenable to either taxes or cap-and-trade, other policies such as technical assistance, subsidies, or mandating or prohibiting technologies might be more effective. For example, congress could prohibit incandescent bulbs or establish a standard requiring lights to produce at least a specified number of lumens of light per watt of energy used.

I.2. The most effective GHG mitigation policy depends varies by GHG source/sink type. Afforestation/reforestation could create offsets for a cap-and-trade system. However—despite what advocates from CCAR and VCS say—there is no reliable way to set baselines and determine additionality for forest management and avoided deforestation projects. Also, leakage is a problem for avoided deforestation projects and is a problem for some forest management projects. Thus, forest management and avoided deforestation should be treated as a capped sector (preferably with credits tradable with other capped sectors). Forest management and avoided deforestation should be explicitly excluded as offset types. Feel free to contact me for more information on why this is the case.

In agriculture, no rational farmer would sell a soil carbon sequestration offset that holds the farmer responsible for replacing the offset if it is reversed, and no rational buyer would buy a soil carbon offset if that buyer is responsible for replacing the offset if the farmer fails to keep the carbon stored. Thus, a subsidy for farmers to do no-till continuously for a specified number of years might work better. Reducing soil N2O emissions from nitrogen fertilizer might be best accomplished through technical assistance, subsidizing soil nutrient testing, and low interest loans for purchasing selected precision farming equipment that allows more targeted use of fertilizer. Manure methane reductions could be allowed to be offsets for 10-15 years and after that time, open manure lagoons could be prohibited. I don't know how best to handle enteric emissions.

I.3. Allocation of allowances is not my area of expertise. My understanding is that it is desirable to quickly move to complete auctioning, and if some allowances are initially gifted to historic emitters, no more than about 80% of the allowances should be gifted. Also, it is my understanding that there are a number of aspects of the auction design that are required to make auctions work properly.

If forest management is a capped sector, the baseline can be set at a carbon stock that does not change over time. Thus forest land owners would not have to purchase offsets unless they choose to reduce the carbon stocks on their lands below the baseline amount(s). Congress should not specify anything more than the cap and the amount of allowances that should be given away.

I.4. The federal program should supersede all existing state and regional GHG programs. The current programs are too limited in scope or contain major flaws in their accounting

rules. Early actors should receive some credit, such as a relatively short time window in when holders of credits serialized in existing state/regional programs (RGGI) or registries (CCAR, ERT/ACR, CCX) have the right to sell their unretired credits to the federal program manager at a price that is substantially lower than the price of federal allowances. The price offered should vary by the quality of the credits. For example RGGI credits that have strict additionality and baselines might be able to sell at half the average of clearing prices of allowances in the first three federal auctions, offsets with strong verification but week baselines or additionality (such as some types of CCAR credits) might be able to sell at one fourth the federal benchmark price, and offsets with no additionality requirement (such as CCX credits) might be able to sell at one tenth or one twentieth of the federal benchmark price.

I.5. I do not have focused expertise on this issue and thus do not have a strong opinion on whether EPA or another agency should implement GHG legislation. However, despite the baggage has as a political football, creating a GHG regulation program is very complex and EPA has experience creating and running similar programs. Thus, I think it would be more effective to have US EPA administer a new GHG program instead of creating a new agency.

I.6. I do not have the expertise necessary to have an opinion on what entity should regulate trade of GHG instruments.

I.7. I do not have the expertise necessary to have an opinion on the design of GHG derivative trading markets. However, I do have two common sense observations. One, regardless of rules for derivative trading, there should be a transparent retail mechanism for the acquisition and voluntary retirement of allowances. Two, loose regulation of leveraging and derivative trading by a wide range of different kinds of corporate entities appears to be a large part of the cause of our current economic mess. It appears that traders appear to systematically underestimate the risk and volatility resulting from many entities using essentially the same market strategy, combined with high leverage. Thus, I conclude that we need regulation to reduce the risk that the rest of us will suffer from speculation by the money guys.

I.8. Requirements that transportation fuels contain a specified amount of biofuel can drive up food prices, negatively affecting populations served by USDA nutrition programs. If emission limits apply to agricultural sectors in other countries, limits in the U.S. should not noticeably disadvantage the U.S. agricultural sector.

I.9. Two principles should be considered when deciding use of GHG revenues. One, for the bulk of the revenues, the use of those revenues should reduce regressive aspects of taxation, using a relatively efficient mechanism. Two, a modest portion of revenues should be used to stimulate transition to a low carbon economy. These revenues could be used for research and development of new technologies, purchasing promising technologies to stimulate lowering future costs of using those technologies, or governmental purchase of specified types of emission reductions from sectors not included in the primary cap-and-trade program. For example, industrial gas reductions

could be purchased by the government through a bidding program, at a much lower price per ton CO2e than occurs in the primary allowance market. Specifically, the government might choose to rent soil carbon sequestration, purchase fertilizer N2O reductions (and not have to do the level of verification necessary for offsets that are fungible in the primary allowance market), or purchase manure methane reductions for a fixed number of years (to financially support farmers' elimination of open manure lagoons).

I.10. Businesses affected by regulation generally should not receive public subsidies. However, in the case of selected business sectors that we seek to retain to benefit the public interest (e.g. we would not seek to sustain the production of gas guzzling vehicles or other high-pollution business activities) but in special cases selected business sectors might receive subsidies if the business sector is desirable and regulations significantly disadvantage the sectors relative to competitors. Also, business that conduct activities that are intended to be phased out as a result of policies might be given assistance to change their activities, and workers might be given retraining assistance.

I.11. Public lands should sequester carbon. The GHG benefits achieved on Federal lands should be included in U.S. national inventories. In general, GHG benefits achieved on federal lands should not create offsets that are sold into GHG allowance markets and used by capped entities to comply with their emission limits.

I.12. GHG markets should be designed to dampen volatility in allowance markets via market design elements such as frequent auctions, banking of allowances, and forward markets for allowances that have not yet been issued. However, there should not be a limit on carbon prices because a limit would hinder investment in development of needed low-emission technologies.

I.13. The EU ETS shows that overall economic growth (and recession) profoundly affect carbon prices. Perhaps this is not a bad thing—in economic boom times that cause higher levels of emissions we can afford to pay more for emission mitigation. The EU ETS also shows that seemingly obscure rules about what is included and excluded profoundly affect both the amount of emissions that must be mitigated and available amounts of emission reductions and offsets that may be used to meet compliance obligations.

The profound flaws of existing CCAR and VCS avoided deforestation and managed forest credits prove that we have not yet figured out an acceptable way to set baselines, determine additionality, and account for leakage in avoided deforestation and forest management projects. These projects have been given credits where baseline activity is continued, given credit for claimed emissions that no independent judge would claim would have occurred in the absence of the project, and have failed to account for market displacement of timber production.

Existing domestic and international projects show that we can do afforestation/reforestation projects. However, existing forest restoration projects being sold in voluntary markets show that project developers will claim that disturbed forests will not recover in the absence of project activities while ecological research shows that

almost always forests do recover in the absence of human intervention. Thus, forest restoration projects should probably be required to set their baselines using observed sequestration on untreated sites, and claims that the site would not regenerate should not be sufficient to establish project baselines.

We have no models for soil N2O projects. Project experience shows that the equations we all use to calculate baseline emissions for manure management projects to not accurately predict actual baseline emissions, but otherwise project experience shows that we can do manure management projects. Experience shows that farmers are unwilling to sell permanent soil carbon sequestration credits for any plausible carbon price.

II.14. (Repeat of answer to question I.2.) The most effective GHG mitigation policy depends varies by GHG source/sink type. Afforestation/reforestation could create offsets for a cap-and-trade system. However—despite what advocates from CCAR and VCS say—there is no reliable way to set baselines and determine additionality for forest management and avoided deforestation projects. Also, leakage is a problem for avoided deforestation projects and is a problem for some forest management projects. Thus, forest management and avoided deforestation should be treated as a capped sector (preferably with credits tradable with other capped sectors). Forest management and avoided deforestation should be explicitly excluded as offset types. Feel free to contact me for more information on why this is the case.

In agriculture, no rational farmer would sell a soil carbon sequestration offset that holds the farmer responsible for replacing the offset if it is reversed, and no rational buyer would buy a soil carbon offset if that buyer is responsible for replacing the offset if the farmer fails to keep the carbon stored. Thus, a subsidy for farmers to do no-till continuously for a specified number of years might work better. Reducing soil N2O emissions from nitrogen fertilizer might be best accomplished through technical assistance, subsidizing soil nutrient testing, and low interest loans for purchasing selected precision farming equipment that allows more targeted use of fertilizer. Manure methane reductions could be allowed to be offsets for 10-15 years and after that time, open manure lagoons could be prohibited. I don't know how best to handle enteric emissions.

See also the answer to question II.15. on why offset projects should not be granted allowances, but should instead be recognized as creating offsets.

II.15. Limiting the supply of offsets has a very different effect than limiting demand of offsets. The supply should not be capped by at an arbitrary amount. This would mean that the projects that get in the que win recognition but other—possibly better—projects do not. Also, when the supply of offsets is limited, the price of offsets will be the same as the price of allowances.

Instead, if policy makers wish to limit use of offsets, entities with emission limits should only be able to use offsets up to a maximum specified percentage of the compliance instruments they surrender to meet their compliance obligation. If the cap on offset use limits demand to less than the amount of offsets that could be supplied at the market price

of allowances, the price of offsets will be less than the price of allowances, and consumers will benefit and offset creators will collect less economic rent. This net social benefit can only be achieved if offset projects are issued offset credits, not granted allowances.

This said, in my opinion, offsets should be required to meet rigorous quality standards that assure that they provide the same atmospheric benefit as reduction of regulated emissions, and should not otherwise be limited.

II.16. The government should distribute offsets only in the sense that the government creates offsets by issuing serial numbers to atmospheric benefits achieved by sources or sinks that are not required to achieve those atmospheric benefits. The government should promulgate rigorous rules that ensure that project outcomes recognized as offsets reflect actual atmospheric benefits. Other than this assurance that atmospheric benefits are real, the government should not limit offset creation.

II.17. Having spent 15 years developing offset accounting standards and protocols, calculating offset amounts, and verifying offset counts, I can assure you that one can not specify the criteria for quantifying offsets in 600 words. I wrote a 600 page book that described only the quantification of forest carbon, soil carbon, manure methane, and soil N2O offsets (the manuscript was edited down to less than 250 pages for publication). Substantial work will be needed for the government to write and promulgate rules for offset quantification for each type of approved offset (e.g. afforestation, forest management, manure methane, etc.).

Principles articulated in the WRI GHG Protocol and other locations are generally valid. Offsets must be real, permanent, and owned by the entity that receives the offset credit.

The third party verification system that has evolved in the CDM system and is being developed in U.S. voluntary offset registries is very expensive, is a bottleneck to offset creation, and the payment of verifiers by offset project developers makes verifiers dependent on project developers. A better system might be: (a) for domestic offsets, audit selected projects and enforce criminal (not civil) penalties against those who violate the rules, and (b) for international offsets, collect a per-project/year fee for entry of the offsets into the U.S. system, and use these revenues to pay for verification of the offsets. The fee would probably have to be $30-50,000 per tranche of credits.

II.18. See answer to II.17.

II.19. (Repeat of last paragraph of answer to question II.17.) The third party verification system that has evolved in the CDM system and is being developed in U.S. voluntary offset registries is very expensive, is a bottleneck to offset creation, and the payment of verifiers by offset project developers makes verifiers dependent on project developers. A better system might be: (a) for domestic offsets, audit selected projects and enforce criminal (not civil) penalties against those who violate the rules, and (b) for international offsets, collect a per-project/year fee for entry of the offsets into the U.S. system, and use

these revenues to pay for verification of the offsets. The fee would probably have to be $30-50,000 per tranche of credits.

II.20. There may be types of projects where simple, pre-calculated values will give adequate accuracy and not give an incentive for gaming the system. However, I cannot think of any examples where project-specific data is not needed. At minimum, methane amounts in manure projects should be metered, forest areas should be mapped and trees sampled, fertilizer should be weighed (sales records might be adequate). It may be acceptable to model soil carbon sequestration using the COMET model (or its successor) with a few dozen field measurements across the nation each year to check the accuracy of the model and adjust the calculations of the model.

In general, except for N2O, measuring the sinks and emissions within the project boundary is not that hard. What is harder is deciding what baseline emissions or sinks would have been in the absence of the project. Very precise regulations are needed for determining project boundaries, additionality, baselines, and leakage to achieve consistent accounting across projects, and avoid gaming of the system. Project boundary differences and leakage and risk deductions can cause a project to get twice as many credits under one accounting system than another accounting system. Differences in how baselines are set can result in a project getting several times as many offsets under one accounting system than another accounting system.

I have run projects through several current sets of accounting guidance, and even assuming the same field measurements and meter readings, one set of guidelines can give an amount of offsets that is very different from another set of guidelines, and these differences are almost as great between projects of the same type (e.g. CCX might give half again as many credits as Climate Leaders for one afforestation project, but barely more for another afforestation project) as they are across project types (for example, CCX tends to give several times as many credits as Climate Leaders for manure projects, but for some afforestation projects CCX gives about the same amount of offsets as Climate Leaders). Even if two accounting systems give roughly the same amount of offsets to a project, they may be counting very different things.

In summary, it is extremely important to promulgate specific accounting protocols for each type of project that is accepted as creating offsets.

II.21. Offset accounting rules should be strong enough that offsets can be fungible with allowances. If the government can not write accounting rules that are strong enough for a project type, that project type should not be allowed to create offsets. The government may operate a public purchase program for the project type, may subsidize certain behavior, or use other policies, but the project type should not create offsets.

II.22. Offsets should be permanent. This said, at any time, the developer of a reversible offset (e.g. carbon sequestration) should be allowed to acquire an allowance and surrender the allowance as a replacement for an offset, and have no further obligation to maintain the offsets.

Sellers of offsets should be liable for maintaining reversible offsets. If buyers are liable, offsets will not be fungible with allowances. Sellers controls the lands and thus are in a better position to maintain offsets. Also, sellers can know more than buyers about their offsets, and thus are better able to mitigate risks.

If an offset developer fails to perform required periodic monitoring of reversible offsets, the government should cancel the offsets. Legal counsel should advise whether the government should then have a lien on the property, or what other mechanism should be used to make buyers and the atmosphere whole.

II.23. In my opinion, society has benefited from the learning achieved by existing voluntary offset accounting systems and project developers, and project developers should receive some reward for this contribution to society. However, most existing offsets in the U.S. market would not exist if rigorous accounting rules were applied, and thus existing voluntary offsets should not be simply grandfathered as compliance offsets.

I suggest that the government create a rating system and that pre-existing offsets that meet all criteria of compliance offsets be allowed to convert compliance instruments. For each attribute on which a pre-existing offset fails to meet the government standard, a discount should be applied. For example, assessment of existing projects might indicate that if a proper baseline is applied to manure management projects instead of the CCX baseline, the projects would create, on average about 15% of the number of offsets granted by CCX, then CCX manure methane projects could be granted 0.15 compliance offsets for every CCX offset. Similarly, if additionality analysis shows that nearly all CCX soil sequestration offsets are not additionally, CCX soil offsets could be converted to compliance instruments at a very high discount, such as every CCX offset creating 0.05 compliance offsets.

II.24. See the answer to question 23 for how early actors should be rewarded. Regarding "stacking" different kinds of environmental credits, if the benefits are independent there should be no limit on stacking. For example, if a farmer plants a riparian buffer that both sequesters carbon and improves water quality, the farmer should be able to be paid separately for each benefit.

To count as offsets, any GHG benefit must come directly from lands or facilities that are owned or controlled by a project participant. For example, a farmer who reduces nitrogen fertilizer use does not get to claim emission reductions that may occur in the manufacturing of fertilizer. Similarly, if a farmer installs a windmill in a field and sells electricity into the grid, the farmer probably does not create emission offsets from the displacement of fossil fuel in electricity generation. The generation of electricity from a renewable source does not create GHG emission offsets for the owner of the renewable generation facility unless the owner of the renewable facility also owns a fossil-fired facility that the owner backs off and replaces with the renewable facility. If the renewable facility simply sells electricity into the grid then the renewable facility can sell emission free electricity and not have to buy allowances to operate its generation facility.

II.25. Activities that are required under a pre-existing contract are not additional and do not create offsets. For example, if a farmer signs a Conservation Reserve Program that obligates the farmer to plant and maintain trees on a particular field, then the farmer can not later go back and try to claim forest carbon sequestration offsets from those trees. The CRP contract required the farmer to plant the trees, thus the sequestration is baseline, not additional.

However, project developers should be able to stack multiple sources of revenue from a particular piece of property. For example, if a farmer signs a letter of intent with an offset project developer committing to plant and maintain trees on cropland, contingent on getting federal cost share assistance for the tree planting, then later signing of a CRP contract to plant trees does not reduce the additionality of the project and the project should still be eligible to create GHG offsets.

II.26. Offsets should only be created after the underlying GHG benefit has been achieved, not before. For example, afforestation projects should only create offsets as the trees grow and sequester carbon, and should not be granted offsets for anticipated future tree growth (this crediting after achievement of GHG benefit does not prohibit parties from executing forward sales of anticipated offsets, or contracting to give investors credits later in exchange for capital to implement the project).

If crediting is after-the-fact, then the risk is reversal of sequestration, not failure of the project activity to achieve the anticipated GHG benefit. I recommend that the government conduct actuarial analysis of the risk of reversal and, at the time that offsets are issued, offer landowners the opportunity surrender sufficient offsets to cover the risk of natural disaster. If natural disaster later reverses sequestration, after proper claim certification, reversed offsets could be replaces with offsets from the insurance pool. The insurances program would have to establish rules for determining what is natural disaster and what is negligence or intentional release by the landowner.

II.27. Accounting protocols cannot be specified in legislation. Congress does not have enough time to do this work. Also, protocols will need to be improved and updated relatively frequently. Thus upgrading should not require legislation.

Assuming that US EPA is put in charge of implementing a cap-and-trade system, then EPA must have final authority for issuing offset accounting rules. EPA should consult USDA when developing terrestrial accounting rules involving agriculture or forest lands.

II.28. Obstacles producers face depend on the type of project they seek to implement, their location, and aspects of their land use history and baseline activities. Obstacles include costs, acquiring capital, and high levels of non-farming expertise needed to design facilities, run new systems, and create offsets.

II.29. For afforestation, an offset program could work. For forest management and avoided deforestation, congress could solve the baseline, leakage and additionality

problems by establishing a cap on forest emissions and setting a baseline carbon stock for each ownership.

Instead of creating soil carbon offsets, congress could modify the existing CRP program to include payments for doing continuous no-till for ten consecutive years. The amount of payments could be calculated as the value of a rental payment for the amount of carbon that COMET estimates the practice as sequestering. If congress wishes to reward early actors, the payment could be allowed for lands that were under no-till at the time of enrollment. Each specific parcel of land should only be allowed to enroll once.

For soil N2O emission reductions, fertilizer cost savings may be great enough to stimulate changes in behavior, without offsets. Technical assistance could speed adoption of more effective fertilizer application practices.

Research is needed to develop more effective methods for reducing enteric methane emissions.

III. Offset programs should (a) be designed to minimize leakage, and (b) promulgate leakage rates to be used by projects, by project type and any other relevant factor (such as location or leakage mitigation activity).

Biofuel emissions should be addressed along with non-bio fuels. Biofuel emissions should be quantified using life cycle analysis.

Harvested wood products are not additional—companies harvest wood products because they can make money selling the products, not to store carbon. Thus, harvesting wood products should not create offsets. Wood products do store carbon, but are not offsets. The way carbon stored in wood products could be credited is to cap emissions from forests. Then additionality is no longer an applicable concept, and carbons stored in wood products could be counted as sequestration. However, entities claiming credit for storing carbon in wood products would have to be liable for emissions from products going out of use. In my opinion, forest land owners should not be given credit for sequestration of carbon wood products interred in landfills. This material is more accurately counted at tipping into the landfill. Also, if landfills are going to be held responsible for their methane emissions, it is only fair that they be able to count their long-term sequestration of carbon.

Deforestation can be addressed by a forest conversion fee. When converting land out of forest use, the landowner could be required to pay a fee that is approximately equivalent to the average potential carbon stock on the site (by forest type and site productivity) times the recent benchmark allowance price (in metric tons CO2e). Deforestation fees could be applied to conversion of small areas or small properties, which is where most deforestation occurs in the U.S.

Forestry

Practice	Effectiveness	Ability	Cost	Capacity
Afforestation	Excellent	Excellent	Medium	High/Medium
Forest Management	Good	Poor	High	Low
Avoided Deforestation	Good	Poor	High	Low
Harvested Wood Products	Good	Poor	High	Low

Livestock

Practice	Effectiveness	Ability	Cost	Capacity
Manure Management	Varies by practice	Good	High?	Medium/Low
Grazing Management	Moderate	Good	High?	Medium
Enteric	Good?	Moderate	Unknown	Unknown

Crop Production

Practice	Effectiveness	Ability	Cost	Capacity
No-till	Good?	Good	High	Medium
Grassland Expansion	Good	Good	High	Medium
Fertilizer Management	Good	Moderate	Low	Medium/Low
CRP Expansion	Good	Excellent	Medium	Medium
Rice Cultivation	Excellent	Excellent	Don't know	Don't know

April 27, 2009

RESPONSE TO QUESTIONNAIRE SUBMITTED BY EXXON MOBIL CORPORATION

Theresa M. Fariello
Vice President
Washington Office

The Honorable Collin C. Peterson
Chairman
Committee on Agriculture
1301 Longworth House Office Building
Washington, DC 20515

Dear Chairman Peterson,

Please find enclosed our responses to the questionnaire on climate policy you sent out on March 11th. I apologize for the delay in replying.

The questions raised in this document are in many cases fundamental to the debate on what to do about the risks of climate change and we welcome your committee's attention to them.

Please contact Jeanne Mitchell [Redacted] or me at [Redacted] or [Redacted] if you have any questions about our responses.

Sincerely,

[Responses to Questions from letter to R W Tillerson dated March 11, 2009 from Chairman, House Committee on Agriculture, U.S. House of Representatives, (attachment to letter)]

Part I: Carbon Reduction Program Design

General comment - There are substantial contributions from greenhouse gases (GHGs) other than "carbon". References to "carbon" should be broadened to include all greenhouse gases. Otherwise, substantial opportunities to reduce the risk of global warming will be missed.

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The Congressional Budget Office and most economists agree that a revenue neutral emissions tax can achieve the same emissions reduction for a lower total cost than a cap-and-trade system. Regardless of the ultimate reduction goal, a tax will be more effective and efficient than a cap-and-trade system.

When considering policy options to address emissions, we believe policy makers should carefully assess which approach best ensures the following:

- a uniform and predictable cost of GHG emissions across the economy
- maximizes transparency to companies and consumers
- reduces administrative complexity
- promotes global participation, while maintaining the competitiveness of the U.S. economy
- is more easily adjusted in the future to developments in climate science and the economic impacts of climate policy
- encourages energy efficiency and achieves targeted emissions reductions at the lowest possible cost

We believe that a revenue-neutral GHG tax is better able to achieve these key criteria than alternative mechanisms such as cap-and-trade. Properly designed, a GHG tax is a more efficient and predictable means of reflecting the cost of GHG emissions in all economic decisions, and thus better at promoting long-term research, attracting investment, and minimizing the overall costs of achieving the emissions reductions policy makers desire. It is more transparent and avoids the complexity and risks of building a new opaque market for carbon securities. A GHG tax can be more quickly implemented with lower administrative costs through the utilization of existing tax infrastructure.

Furthermore, investors will be encouraged by a clear, predictable price signal that a cap-and-trade cannot deliver. Instead, a cap-and-trade system assures volatile prices, as demonstrated by the EU ETS and the EPA SO2 trading system. This volatility increases the risk associated with investments to reduce emissions. Increased risk will result in less investment and therefore a higher cost to achieve emissions reductions. A transparent and stable price signal will be important in influencing consumer behaviors to decrease energy use, invest in energy efficiency and GHG reduction technologies.

The most effective solution will result from setting an emission tax pathway using the best available science and economics at a rate that increases regularly over the long term to achieve a desired emissions target. The pathway should provide for periodic review and adjustment of the tax rate in a way that considers the effectiveness of the program in achieving emissions reductions, technology developments, and additional knowledge gained regarding climate change.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Achieving deep, long-term emissions reductions and stabilization of atmospheric GHG concentrations, especially for carbon dioxide, will require contributions from all emitting sectors. Global emissions from land use and land use change, agriculture and forests are already significant (~20% or more according to the IPCC (2007)). Many options for future emissions mitigation and sequestration, e.g. biofuels, bioenergy, and promotion of sinks through various types of carbon sequestration, could have major implications for emissions and carbon storage from land use and forests. It is critical to bring these sectors into programs in the early stages both for environmental integrity and economic inclusiveness.

To the greatest extent possible agriculture and forestry should be included *directly* in an economy-wide system, not just through *offsets*. Activities in agriculture and forestry now and in the future, e.g. in bioenergy, may be net sources of emissions as well as sinks. Establishing effective measuring, monitoring and reporting procedures will be critical to the long-term integrity of a comprehensive and effective climate regime. Fairness both in sharing burdens and participating in opportunities from addressing climate change requires that all major sectors should be involved. Here the US can show leadership in establishing credible domestic programs, developing methods to assure integrity, and benefiting from significant opportunities.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

We believe a cap and trade is an inferior option to a well designed GHG tax. That said, when addressing cap-and-trade systems, ExxonMobil has consistently supported a move to 100% auctioning of permits as soon as practical. Any cap-and-trade system should apply to all GHG sources over the entire economy, subject to practical limitations on cost and measurement accuracy. Funds received through auctioning of allowances, should be returned to the economy with the least distortion of economic activity possible – preferably through a broad-based reduction of taxes on labor or capital.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e., RGGI or individual state programs)? If so, which programs and why? *Please respond in 600 words or less.*

To achieve a uniform and predictable cost of GHG emissions across the economy, minimize administrative complexity and cost, and promote broad participation, GHG emissions reduction policy will be both more effectively and efficiently addressed through a single federal/national policy rather than a complex patchwork of state or regional programs. Existing federal regulations such as CAA, ESA, CWA and NEPA were never intended to regulate GHG emissions and are not well suited to do so. Comprehensive Federal climate legislation should clearly supplant potentially overlapping regulatory and state actions to avoid excessive costs, duplication and confusion.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain. *Please respond in 300 words or less.*

Economists generally agree that an emissions tax would be a more effective mechanism than a cap-and-trade system for reducing greenhouse gases for the lowest cost. A cap-and-trade system, with or without auctioning of emissions allowances, will involve substantial transfers of wealth. Principal terms of the system, e.g. caps, covered gases and sectors, should be set by Congress. The trading and auctioning function should be treated as a financial system, and regulated by an agency with expertise in managing very large financial auction and trading systems, such as Treasury or the CFTC. The EPA should be involved in writing the rules establishing the basis for creating and retiring emissions allowances. However, neither the EPA nor FERC should be the agency regulating the auctioning and trading functions, as they are not experienced with regulating very large auctioning and trading financial systems.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Our preference is for a revenue-neutral GHG emission tax, in part because it avoids the risks and volatility inherent in the creation of derivative markets associated with a cap and trade system. If cap and trade is proposed, minimizing the risk of market disruption, failure, or manipulation requires (1) clear definition of the underlying asset, (2) clear definition of the terms of the derivative, (3) transparency of trading actions, preferably with a broadly recognized central clearing house, and (4) assurance of the fiduciary responsibility of trading entities. Properly armed with authority and effective regulations, the CFTC would provide oversight at a lower cost to society than creation of a new entity. Neither the EPA nor FERC should be the agency regulating the auctioning and trading functions, as they are not experienced with regulating very large financial systems

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

A: Yes. See response to #6

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

See answer to Q9

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Most economists agree that the way to successfully reduce greenhouse gas emissions, while achieving maximum economic efficiency, would be through GHG emissions taxes where the revenues are recycled to consumers with targeted reductions in other taxes such as the payroll tax (FICA, Medicare).

It is important to note that all climate policies operate as taxes on energy, ultimately raising energy prices to consumers. Indeed it is necessary that they do so to achieve the goals of the policy. The advantage of a revenue-neutral GHG emissions tax is that the price on GHG emissions, the ensuing revenue streams, and the utilization of the revenue are clearly transparent to all stakeholders.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

A: Transitional assistance should be considered for the most trade- exposed, energy-intensive industries to mitigate production or investment moving to countries without GHG controls (known as "carbon leakage"). Forms of assistance that have been proposed include free allowances, border adjustments, subsidies, retraining help, etc. However, such assistance should be limited to the areas where there is risk of substantial leakage of investment and GHG emissions. Assistance should be time limited and phased out as programs evolve and actions develop among major international trading partners. It should also be designed to comply with US international trade agreement obligations.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Significant uncertainty continues to exist about the role of unmanaged ecosystems in the global carbon cycle—amounts could well be in excess of 1 billion tonnes of CO_2 (stored or released) per year (IPCC 2007). Resolving these uncertainties is essential to the design of effective long-term strategies to address climate risks. Emissions from and (or) carbon storage in such unmanaged systems will play a major role in the ultimate effectiveness of long-term strategies to stabilize atmospheric CO_2 concentrations. On the one hand, such sources or sinks could undermine the effectiveness of control strategies in covered sectors, but on the other hand, they might relieve the stringency (and therefore the cost) required for success. For these reasons it is essential to gain better understanding of their role as sources or sinks and to seek cost-effective ways for the United States to include them in its actions to reduce GHG emissions. This might be through programs involving offset projects or through other governmental actions to limit emissions and promote sequestration on public lands.

12) Should carbon prices be determined by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

2008 research by the US Congressional Budget Office (CBO) examined the market efficiency implications of a GHG tax versus a cap-and-trade program. In short, the CBO concludes that any long term emissions reduction target could be met by a tax at a fraction of the cost of a cap-and-trade program.

Under a cap-and-trade system, the cost of emissions will fluctuate as economic activity fluctuates and whenever legislative or regulatory adjustments to the program are considered. This fluctuation creates a less certain environment for research and investment, which will lead to less investment and a higher total cost for emission reductions. A transparent and rising path for emissions costs will ensure that more expensive reductions steps will be considered earlier in a company's investment planning process. Significantly reducing GHG emissions requires large investments in long-lived capital stock. The more predictable the long-term cost of GHG emissions, the lower the risk of making these long-term investments. A carbon tax provides a more predictable, lower risk, and thereby a more effective market driver than a cap-and-trade system.

Experience with cap-and-trade programs, such as the EU ETS, has shown that price volatility can be a major concern when a program's design does not include provisions to adjust for unexpectedly high or low costs. High costs can be damaging to the economy as they impact energy prices, inflation rates and the value of imports and exports. Lower costs can occur when there are temporary declines in economic activity, as seen recently in the EU. These lower costs erode the incentive to make investments that will result in long-term reductions.

If a cap-and-trade system must be implemented, then its fundamental inefficiency can be partially offset by providing for a "cost containment mechanism" that limits excessively high prices. Such a mechanism might be implemented by auctioning additional allowances should the price exceed a predetermined level. A cost containment mechanism would prevent undue hardship on energy consumers and the overall economy.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The US GAO issued an analysis of the EU-ETS in November 2008 (GAO-09-151). The EU-ETS did establish a liquid carbon market. The EU-ETS has also clearly demonstrated the price volatility inherent in cap-and-trade systems, and numerous other issues including:

- The difficulty setting appropriate short-term caps,
- The problems created by a fixed, short compliance period with an expiration of allowances,
- The unintended consequences associated with free allocation of emission allowances,
- The difficulties enforcing an offset system.

The primary effect of the EU-ETS to date appears to have been to force some fuel switching in electricity generation from coal to gas, reducing some CO2 emissions, and raising electricity prices. Since the EU-ETS expires after 2012, it is difficult to assess any affect on the long term research and investment that will be needed to effectively reduce the risk of climate change. The EU-ETS did not allow for domestic offsets and made limited use of international offsets under the Clean Development Mechanism. In particular allowances from forestry or agricultural projects were generally not eligible.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of and offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

To the greatest extent practical agriculture and forestry should be directly part of an economy-wide system. Those activities not directly included should be considered for participation through voluntary offset projects. A key issue in any offset program or in direct inclusion will be to assure the integrity (including permanence) of emissions measurements or the valuation of any offset allowances from the system. This requires capturing any back-sliding on emissions reductions and any indirect impacts outside the immediate boundary of any project. In particular, covered agriculture and forestry activities should include net effects of indirect changes resulting from land use change in the U.S. or globally. Various options and approaches may work, but it is critical that they be, and be seen to be, effective in generating net emissions reductions. To the extent that net emissions from offsets can be credibly accounted for, there is no reason not to include these activities directly in the economy-wide system.

15) Should total number of offsets issued annually by the government be limited? If so,how much?
Please respond in 300 words or less.

The overall goal of any GHG control program should be to minimize long-term risks from emissions as cost-effectively as possible. A first principle should be to include all sectors, to the greatest extent possible, directly in an economy-wide program, and to limit offsets only to those areas that for some reason cannot be part of an economy-wide system.

That said, and because atmospheric GHG concentrations depend on the cumulative effects of long-term global emissions, all credible offsets, both domestic and foreign should be considered without limit. The essential criteria to qualify should be the integrity of net emissions reductions. While there may be auxiliary reasons to limit foreign offsets, for instance as a tool to contribute to or encourage participation in an overall package of international actions, there should be no reason to limit domestic offset programs. Again the preferable option would be to include as many areas as possible directly inside an economy-wide system, and not to impose any limits on offsets.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

(See question # 15) Ideally, in a market-based system, criteria should be established for offsets and all qualifying projects should be eligible to generate offsets, without exception. There should be no need to distribute or allocate projects. Once allowances are generated they should become part of an overall pool for use by all market participants. The goal should be to minimize overall costs of limiting risks from GHG emissions subject only to the integrity rather than the quantity of offsets. Procedures to limit access to otherwise credible allowances distort market performance, may be a disincentive to undertaking viable projects, will likely add to market volatility, and introduce arbitrary decision-making about the acceptability of otherwise similar allowances.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 or less.

We believe this question should be considered not only in the context of offset projects but also with a view to including agricultural and forestry activities directly in an economy-wide system. This issue requires expert technical input, especially since activities may result in emissions or sequestration with many aspects, such as direct and indirect land use change, fertilizer use, and considerations of permanence. Monitoring, quantification and verification should deliver credible, unbiased (i.e. not systematically over- or under- estimating emissions or sequestration), cost-effective information on the quantity of eligible offsets or the actual net emissions of systems covered directly. It would be desirable to design a measuring system that accomplishes as much as possible cost-effectively based on today's knowledge and systems and that provides incentives to improve accuracy over time.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The principle criteria should be that offset projects deliver credible, unbiased net reductions in GHG emissions. Forestry and agricultural sequestration projects will also need design elements to assure permanence of sequestration or replacement of net losses.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

See question # 17. Third party verification is essential to validate the integrity of offset projects based on measurement of covered emissions or amounts sequestered. Certification should be based on proper use of approved methodologies with external verification that methods are properly utilized. There will need to be a system to assure and qualify the competence and integrity of firms that certify offsets or emissions and those firms and practitioners should be subject to some form of liability and accountability for their results.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The goal should be to denominate offsets and allowances on an identical basis, for example, using tons CO2 equivalent based on Global Warming Potential (GWP) -- or some appropriate, accepted index of atmospheric impact. Offsets and directly covered emissions should be equally eligible for inclusion in a cap-and-trade system, or under a GHG tax.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

This question will require expert input as to the specific activities involved in offset projects. Any failures in offset projects should be subject to rules that require that offsets be replaced in a timely manner-- so it will be important that they be detected in a timely fashion. So long as the land where projects are implemented remains under private ownership, responsibility to maintain sequestration or replace losses should rest with the then current owner. The integrity of a project should be certified when significant changes in ownership occur. It may be necessary to include provisions for transfer of liability to government entities if land where projects exist transfers from private to public ownership.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Historical credits in these voluntary projects should be retired without compensation. They were generated under a system that provided an appropriate market reward, so they should not be eligible to qualify for a second credit. On the other hand future emissions from offset projects under pre-existing programs should be recognized if they qualify under the same standards for new offset projects.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Except for activities undertaken in a very brief period, e.g. months, ahead of entry-into-force of any new legislation (and with that period specified in such legislation), there should be no carry-in of credit for early action. Those projects were undertaken under different circumstances, in different times, and for different reasons; they should not gain additional credit under later legislation. In the event that credits, nonetheless, are allocated for early action, then these projects must meet all necessary qualifications without exemptions.

If projects are undertaken in a manner that qualifies them for different credits under other environmental market programs, those should be allowed, subject to meeting all relevant qualifications, in all programs without exception.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e., cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emissions reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Failed projects should not generate allowances or receive compensation. Any back-sliding in emissions from qualified offset projects should be subject to then current controls. In particular they should be subject to restoration or replacement with allowances from other actions in amounts equal to the lost emissions reductions in a timely fashion. The risk that, for example, natural disasters will impact agricultural or silvicultural storage is real, and that must be taken into account in project planning to assure permanence or replacement of allowances.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Legislation should set overall criteria for protocols and procedures that apply to all sectors and offset activities. For example they should strive for unbiased, cost-effective measurement or estimation of emissions and storage, with similar procedures for third party verification and certification of verifying entities. Where offsets occur, permanence should be treated in similar ways across all sectors, e.g. backsliding in offset emissions should be restored or replaced from other market sources. Subject to criteria specified in legislation, appropriate agencies should be involved in writing any detailed regulatory procedures that may be required for implementation.

Because programs to manage climate risks will evolve for decades, procedures will require periodic updates. In particular, Congress should periodically, e.g. every five years, adjust overall program goals based on experience with existing legislation, evolving scientific understanding of climate risks, advances in technology and progress in international agreements. Methodologies and protocols will also need to be adjusted. Participants in past actions undertaken in compliance with then current legislation and regulation should not be penalized retroactively as terms evolve, but forward actions should evolve according to new understanding.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservative and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.
Congress should consider development of a sound legal and regulatory framework for Carbon Capture and Storage (CCS). CCS is a promising option to address GHG emissions. Because of several fundamental features: - the volume of gas to be handled at each site, the number of potential sites required, the non-toxic characteristics of CO2, and large green field infrastructure needs, the existing legal and regulatory framework is not well suited for effective large scale implementation of CCS.

In addition, the potential investment requirements are enormous. The physical infrastructure needed to have a significant effect on atmospheric GHG concentrations is projected to be similar to that which exists today for the production and transportation of oil and gas. Capture facilities will roughly double the current "footprint" of power plants and require a significant fraction (20-30%) of the plant's power output just for capture operations. Economic clarity and legal and regulatory certainty are therefore required before widespread commercial implementation of CCS will occur.

Congress should establish an appropriate legal regime for assumption of long term responsibility for post operational carbon capture and storage (CCS) sites by government, public trust or other competent authority. Prior to transfer of this responsibility, the site operator should be required to demonstrate the following:

- Compliance with all applicable legal and regulatory requirements relevant to the long term site integrity and stability,
- Site integrity, by reasonable and proven surface and subsurface monitoring techniques, for an appropriate period of time after the completion of injection operations or any subsequent remediation operations at the site.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
FIRST CAPITOL RISK
MANAGEMENT, LLC
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Will Babler

Organization(s) you represent

First Capitol Risk Management, LLC

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Principal

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We firmly believe that a cap-and-trade approach is the best path forward for limiting the risks associated with climate change. Cap-and-trade is the only proven system for reaching a desired emissions level at the lowest possible cost (i.e. the successful acid rain program). Alternatives such as taxation are only iterative in reaching the goal of emissions reductions. In the case of a carbon tax, it is expected the increased cost of carbon will provide an incentive to reduce consumption of high emissions goods while also promoting low carbon alternatives. However, it is not possible to have any certainty of the level of emissions reductions that will be induced by a tax. Additionally, it is only known after the fact what quantity of emission reduction has been achieved via a tax. Should this reduction be inconsistent with the desired goal the market will be at the mercy of politicians to continuously adjust the level of the tax to attempt to abate emissions. In this way a carbon tax is an arbitrary means to reduce emissions and doesn't provide a clear long term price signal for the capital investments and behavioral changes needed to limit emissions. A carbon tax does nothing to set an absolute limit on emissions and it comes with unknown and politically volatile costs.

On the contrary, a cap-and-trade program is an elegant and direct means to first set an absolute limit on emissions and second allow the power of the market to find the lowest cost means to reaching this goal. Operating under the assumption that a cap and trade program is a tool to actually reduce emissions (rather than a back-door path to raise revenue for government coffers) the first goal should be set an absolute cap based on what the best available science would dictate. Once the firm long term cap is in place the market can work to meet its constraint without government choosing winners and losers.

In terms of why a cap-and-trade program should be enacted, the primary reason is that the vast majority of reputable scientists indicate that human caused carbon emissions are putting global stability at risk through climate change. And, in light of the long-scale uncertainties involved, this should be viewed from a risk-based framework where society must decide whether the potential costs of crop losses, famines, floods, droughts, pestilence, disease and ultimately human conflict are worth the cost of transitioning to a low carbon economy. Clearly the probabilities and costs of the variables involved cannot be known with high certainty, but it would appear that the downside risk at this point outweighs the generally positive transition to a low carbon economy. Especially when considering all of the co-benefits of such a transition.

Beyond climate change, the world is becoming stretched to its limits of sustainability. Society currently is tragically dependant on depleting fossil fuel resources, limited clean

water supplies and inadequate productive lands needed to feed a ballooning global population. Enacting climate change legislation can result in technology developments and capital flows that without a doubt bring co-benefits too numerous to count when it comes to improving overall global sustainability and hopefully attaining greater parity between the developed and developing world.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agriculture and forestry sectors should be included under a carbon reduction program via participation as offset providers, but should not be included as a capped sector. This is an important distinction because the prospects of regulating ag and forestry emitters under a cap is highly problematic. One of the primary reasons for this is the fragmented nature of these industries. Ag and forestry participants are not typically made up of large, sophisticated and concentrated corporate entities. It would be incredibly burdensome and costly for those in the ag and forestry industry to be regulated, unlike an industry such as power production where there are relatively few participants and the vast majority are very large corporate players and the monitoring data and mechanisms are already in place. So, then, dealing with ag and forestry within a cap and trade system becomes a question of sticks and carrots - regulated entity or offset provider - allowances or offsets. In our view it is more appropriate to provide a carrot to the ag and forestry sector by allowing them to participate in the offset market. This approach would open up significant sources of finance for emissions reduction projects as regulated entities look to finance low cost emissions reductions in this sector. It would be a great development opportunity for the highly fragmented and often small firms (and family farms) that would otherwise resist emissions reductions due to lack of understanding, lack of technology, lack of capital, lack of management expertise, etc. Stepping aside from the high level view of market design it is also clearly a politically pragmatic approach to include ag and forestry as an off-set sector given the support that will be required from ag and forestry states to pass and implement climate change legislation in the US.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The question of free allocation versus auction is a highly misunderstood phenomenon. It can even be argued that both approaches have the same carbon reduction results due to the concept of opportunity cost. An auction is problematic given the government suddenly has a new revenue stream on which to stake a claim. In this case the government is highly unlikely to deploy the cash in an effective manner. Likewise, in a free allocation approach incumbent industries are tempted to cash in on windfall profits rather than make long term investments in changing their business models.

A purist market based solution would fully auction all allowances and then directly and equally return these proceeds to taxpayers. This assumes that the 'environmental property right' of clean air and a stable climate is held by the citizens rather than government. This approach would allow the taxpayers as an aggregate to adapt to higher energy costs and direct capital flows to the best solutions for driving efficiency, reducing demand or increasing low carbon energy and basic materials production. This would also solve the problem of the potentially regressive nature of a carbon cap. Low income taxpayers would receive a relatively large credit based on their assumed lower energy consumption while high income tax payers would receive a relatively lower credit compared to their assumed higher energy consumption. This would allow low income households to adjust and also send a price signal to those who can afford it to reduce their demand.

While a system that fully auctions allowances and directly distributes proceeds to the public is preferred, a more pragmatic politically acceptable solution would be as follows: Allowances should be distributed using a combination of free allocation and auction. Auctioning of allowances should be provided for those in captive sectors (i.e. power) not subject to international competition from companies located in regions without a carbon cap. Initially, allowances should be freely allocated to those in internationally competitive industries (i.e. steel). Over time (i.e 10 years or more) all allowances should be auctioned.

We do not believe that ag and forestry should be regulated under a cap and therefore should not be participant in the allowance market. However, they should be part of an offset program where they earn offsets based on real, measurable and verifiable reductions in emissions.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A Federal Cap and trade program should replace existing programs and allow convergence of existing credits into the new Federal system. This would limit the complexity of companies having to comply with numerous disparate regional systems (RGGI, Midwest Regional Greenhouse Gas Accord, WCI, etc). However, it is important that those involved in these systems at present are allowed to transfer their existing allowances and offsets into the Federal system without penalty. Early action for both allowances and offsets should be a concept embraced within a Federal cap and trade system. It is important to reward rather than punish those that have taken early action. Otherwise, the early actors will suffer from higher compliance costs than those companies that delay reducing their emissions until necessary and then benefit from low hanging fruit. This would be unfair to those that have already exhausted the low-cost emissions reductions through early action since it can be fairly assumed their marginal cost of abatement would be much higher than the laggards who delayed taking steps to reduce emissions.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The EPA is best positioned to regulate a Federal cap-and-trade. The EPA should coordinate with other appropriate agencies where needed - i.e. with USDA for the administration of ag and forestry offset programs. Additionally, we believe the CFTC is well positioned to regulate the trading of carbon and carbon derivatives.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Futures markets already exist for compliance, voluntary and prospective US Federal carbon allowances and offsets. These markets currently are actively trading on Chicago Climate Futures Exchange (CCFE). Our firm is a member of this exchange and is currently engaged in trading carbon futures and options. We strongly support the continued role of the CFTC in regulating these commodity futures and options market and do not see any need for a different regulator. The CFTC is a highly effective regulator and does not currently have any shortcomings in regulating existing US carbon futures and options nor would it have any foreseeable issues moving forward.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Listed derivatives and OTC derivatives for US carbon are already in existence. The market participants are sufficiently sophisticated to manage risk associated with these contracts and the current regulatory system of the CFTC and NFA is sufficient to manage compliance and regulatory oversight for carbon just the same as any other energy commodity. It is our clear position that this should not change and that carbon derivatives should be permitted to continue to develop under the same framework that exists for energy based commodities.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and

forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Assuming that agriculture and forestry are included in a Federal cap and trade system as offset sectors we do not see any negative regional impacts. In general if these sectors are included as offsets we would fully expect further growth in development, jobs, technology and capital flows toward agricultural regions. On the contrary, if agriculture is a capped sector we would expect a negative impact on these regions. As discussed previously, we believe the fragmented nature of these sectors (amongst other issues) would put those in agriculture and forestry under stress if they are regulated as emitters rather than included as offset providers.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

We believe the best use for carbon revenue would be to evenly distribute all proceeds directly to all US taxpayers through the form of a tax credit. If this is not politically obtainable then the auction proceeds should be dedicated to providing energy price relief to low income households, providing loan guarantees to emissions reductions projects and providing research dollars for carbon reduction technologies.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

No, businesses should not directly receive special transitional assistance. We feel that the decision to auction or freely allocate allowances by sector should allow for a reasonable and competitive transition process. It should not be necessary to create additional layers of complexity or administration when the market-based cap and trade approach and system design will allow substantial flexibility. Additionally, we feel that the inclusion of early action credits from existing offsets in ag and forestry could be used to help companies through the transitional period.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The management of public lands should be studied so that the opportunity set is understood and best practices are developed for helping sequester carbon using these resources. This sequestration on public land should be managed by the government, and where applicable the private sector, to help comply with international carbon trading obligations as part of the overall Federal effort.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should be determined by market forces. If an absolute level of emissions reduction is the desired outcome then there is nothing more efficient than the free market to price carbon effectively for reaching that outcome. Price floors and price ceilings are disruptive and subject to further government manipulation that is likely to be inconsistent with reaching a desired level of emission reduction. Long term policy stability is much more important that long term price stability when mitigating carbon emissions. Markets are very effective at evolving hedging structure sufficient to protect against price risk (both to the upside and downside) and it is much more important that Federal government provide policy certainty rather than price certainty.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU-ETS provides many valuable lessons for the design of a US Federal cap-and-trade program. The highly publicized challenges during Phase I of the EU-ETS point out the need for long term goals and the ability to bank credits between phases. Phase I was largely mismanaged in that baselines were inaccurate, information was divulged clumsily by system administrators and credits had a limited lifespan in that they are not bankable. This led to extreme market volatility and a loss of faith in the system. Phase II has taken steps to correct all of these issues. As such, it is imperative the US learn from the EU-ETS by creating long term and stable goals using market based mechanisms where allowances are bankable. In our view much of the design of the current phase of the EU-ETS should be emulated in a US Federal cap and trade system. International systems do include offset programs for agriculture and forestry (i.e. the Clean Development Mechanism (CDM)).

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Agreed upon performance standards are the most desirable path forward for including agricultural and forestry offsets in a Federal cap and trade system. The success of this approach has already been proven in the voluntary market through systems such as CCX. On the contrary systems such as CDM have proven very cumbersome, costly and slow to delivery. The performance standard approach lowers transaction costs, reduces administrative complexity and allows for high quality projects to be rapidly developed, verified and brought to market.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The total number of offsets should be limited in order to encourage economy wide reductions in carbon emissions. At the same time it should be sufficient to encourage a significant level of offsets. If offsets are the least cost path to reductions they should not be capped out on their contribution too quickly. We would suggest up the 50% of the cap could be met through offsets.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress should empower the Federal cap and trade administrator to implement a performance standard approach where approved project types are identified and protocols are established by an appropriate agency with feedback from technical experts and market participants. Once a real, measurable and verified activity has been certified by a third party verifier and approved by the relevant government agency the project should then be issued offset credits into an open and transparent registry.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Existing voluntary offset protocols are well understood, highly scrutinized and in most cases scientifically rigorous enough to provide the building blocks for Federal quantification, verification and monitoring of offsets. We would suggest that the appropriate administrative agencies build upon existing standards in an open review process that considers practical feedback from the scientific community, developers, verifiers and other stakeholders.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Offset projects should be assessed on the basis of performance standards. The performance standard would award credits to projects which are not business-as-usual and which also

provide real, measurable and permanent emissions reductions. We would suggest that the appropriate administrative agencies evaluate existing project types in an open review process that considers practical feedback from the scientific community, developers, verifiers and other stakeholders

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should develop a broad framework for the inclusion of offsets and then allow the appropriate agencies to design the systems for verifying projects. In our view the agencies should define the standards and then allow the private sector to provide the actual verification services through authorized third-party technical entities.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should enable relevant agencies such as EPA and USDA to develop a performance standard based approach which creates generalized pre-calculated crediting rates which can be used in absence of further data that would support project specific crediting rates.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets should be usable by regulated emitters (those subject to the overall cap) to meet their compliance obligations. The offsets should be usable up to a predetermined percentage of emissions obligations. Offsets and allowances should be completely fungible without any discount factor so long as they do not exceed the individual or system wide limits on use.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

It is important that both practical and scientific factors are included in determining project durations as it relates to permanence. We will defer to the scientists for the most part on this topic, though existing standards would indicate project durations lasting between five years and perpetuity. We do feel that flexibility should be provided to project participants to opt out of a project provided that they have not monetized their credits. On the other hand if credits have been monetized and the project has failed due to non-permanence then we feel it is important that the project proponent must replace the lost credits with other real offsets or allowances such that the system maintains its integrity and reaches its absolute emissions reduction goal.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Congress should reward early actors who in good faith have spent time, effort and capital to reduce and independently verify their emissions reductions via systems such as the Chicago Climate Exchange (CCX). It is important that those who have already developed markets and reduced emissions are allowed to carry the credits they have earned into a Federal system. Systems such as CCX, RGGI, CCAR, VCS, etc. have rigorous protocols, independent third party verification and oversight and functioning registries which assure emissions reductions are real, permanent and verifiable. It is important to including these reductions in a Federal cap and trade program such that project developers continue to work toward reducing emissions rather than waiting for a federal system to develop. Providing convergence of existing credits with a Federal system not only fairly rewards existing offset providers, but it provides a valuable quantity of low cost emissions reductions which will be useful in facilitating a smooth transition for regulated emitters into the system .

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

As mentioned previously, early actors should be rewarded for their actions with fungibility of existing credits into a federal system. Activities undertaken to reduce carbon emissions should also be eligible for water quality and wildlife habitat creation incentives. In this way it would be acceptable to 'stack' credits so long as they are not double counted for their carbon mitigation attributes.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

In our view these programs should be allowed to continue to meet their original goals which likely were not carbon sequestration. The government must be careful not to overlap incentives for existing project types with carbon sequestration. This overlap could result in double counting and void the eligibility of certain projects within the broader cap and trade market. In our view it would be most reasonable to avoid incentives or mandates for carbon sequestration and simply allow the broader cap and trade market to efficiently allocate capital and resources to appropriate projects. This approach would reduce the cost of carbon abatement while also avoiding double counting.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes, a producer should be required to return revenue or be held liable if an offset project does not sequester carbon or has other permanence issues. This would include the circumstance of a natural disaster.

It is very important that offset reductions are real. Fraudulent behavior where reductions are misrepresented should not be allowed under any circumstances. Random incidents such as natural disaster should be dealt with via pooling, insurance or reserves. These practices are already undertaken in the US voluntary market and should be part of a federal system.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Offset protocols and procedures should be developed by government agencies rather than by congress. Sufficient technical expertise beyond the scope of legislation is required. Agencies such as EPA and USDA should develop the details needed to implement the offset program while framework issues such as included sectors, maximum quantity of offsets, etc. should be dealt with in legislation.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Agricultural producers and landowners face numerous obstacles including: lack of efficient technologies, education, access to capital, expertise in management and tracking, cost of tracking and verification. Many of these issues will be addressed with time assuming a reasonably designed cap and trade program is implemented. There is already significant private sector expertise in addressing these issues; however, regulatory certainty is needed to unleash the financial and human capital.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No, existing programs do not cohesively address carbon sequestration and greenhouse gas mitigation. Congress should simply consider including broad based forestry and agricultural offsets in a cap and trade system and then allow the appropriate agencies to develop reasonable performance standards for awarding offsets. With this in place it is not likely that any further incentives or mandates would be required.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

International Leakage
One of the most important high level cap and trade design issues not covered in the questionnaire is international leakage. In order for the US industry to remain competitive it must be on a level playing field when incorporating carbon into its cost of doing business. It would be unfair to US industry if the US accepts imports from other countries which are not participating in the international carbon market by committing to similar emission reduction thresholds. The cleanest way to address this issue is for the US to take a leadership role in international climate change negotiations to ensure that all major trading partners are moving forward within the same framework.

In the event that there is a lack of cooperation or a lack of compliance by international trading partners then the US should enforce countervailing duties which would force importers to realize the cost of carbon. For instance, assume a developing nation does not implement a reasonable domestic carbon system and does not participate in the international carbon market through emissions reduction commitments. In this environment, a steel mill located in this developing nation could potentially import its product to the US at a lower cost than steel produced in the US where there is an additional cost of carbon. In order to level the playing field the US should impose a countervailing duty. The importer's duty would equal the tons of carbon dioxide emitted per ton of product imported multiplied by the prevailing US carbon price per ton at the time of import. This would force the importer to realize an equal cost of carbon and would protect US industry by creating free and fair trade.

Biofuels
We feel that performance standards should be defined which calculate life-cycle biofuels greenhouse gas emissions reductions (this is already being pursued as part of the RFS). This would allow regulated entities (gasoline/diesel refiners, blenders and importers or crude oil producers and importers) to utilize biofuels as a tool to meet their emissions reductions obligations and/or reduce the total emissions profile of the petroleum fuel sector. The biofuel industry already benefits from significant existing mandates and incentives and would not appear to be a reasonable offset category. However, those involved in the biofuels industry and within agriculture would benefit by allowing obligated parties to utilize biofuel emissions reductions as part of their approach to complying with a cap and trade system. In this case the value of the carbon benefit of biofuels would help increase biofuel prices by arbitrage which would likely ultimately translate back to agricultural producers in the form of higher grain and oilseed prices.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Lagoon Covers	Good	Excellent	Medium	High
Anaerobic Digesters	Excellent	Excellent	High	Medium
Ranch Land Management	Moderate	Moderate	Low	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till	Good	Good	Medium	High
Grass planting	Excellent	Excellent	High	Medium

10 April 2009

U.S. House of Representatives
Committee on Agriculture
Room 1301, Longworth House Office Building
Washington, DC 20510

To Whom It May Concern:

My firm is currently assisting your agricultural constituents in Illinois, Iowa, Indiana, Kansas, Missouri, Nebraska, Texas and Wisconsin by providing these clients with access to the US voluntary carbon market through no-till, grassland and rangeland management programs administered by the Chicago Climate Exchange (CCX).

We believe that your agricultural constituents stand to benefit considerably from a Federal carbon cap and trade program – provided it is designed correctly to include agricultural offsets. To that end, we have enclosed for your consideration our response to an agricultural carbon offset questionnaire put forward by the US House of Representatives Committee on Agriculture.

Our firm is a commodity trading and risk management firm with a long-standing history in trading and hedging agricultural, energy and environmental commodities. Our opinions are those of a practitioner that has learned from the challenges of the early voluntary carbon market where we have been a participant since 2006.

Our comments are focused on developing a reasonable market based carbon cap and trade system that also benefits the agricultural sector. We believe that through rational and thoughtful design such a program can limit the risk of climate change, spur growth in the broad US economy and provide new revenue, jobs, development, technology transfer and capital flows to the US agricultural economy.

Thank you for consideration of our comments on the questionnaire. We hope that these insights will be useful for you and your agricultural constituents when it comes time to craft Federal carbon cap and trade legislation.

Sincerely,

Will Babler
Principal
First Capitol Risk Management, LLC

Office:
Email: [Redacted]

RESPONSE TO QUESTIONNAIRE SUBMITTED BY MAINE FOREST SERVICE; MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Alec Giffen Director Maine Forest Service	David Littell Commissioner Maine Department of Environmental Protection

Organization(s) you represent

Maine Forest Service and Maine Department of Environmental Protection

Address

Maine Forest Service [Redacted]	Maine DEP [Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

In keeping with the recommendation of numerous other states, environmental groups, and corporations, we believe that the most effective approach for addressing climate change issues is a comprehensive cap-and-trade program. Such a program should be economy-wide, science-based, and transparent, able to quickly adjust over time to respond to new information and take advantage of new technologies and policies.

2) Should the agriculture and forestry sectors be covered under a cap established by carbon reduction program? Why or why not?

Please respond in 300 words or less.

We do not believe that including the agriculture and forest sectors under a carbon reduction program will be an effective element in an overall strategy. We believe, however, that emissions from all economic sectors need to be included in a comprehensive and robust accounting approach, one that is administered by an EPA-state partnership. While the agriculture and forestry sectors should not be included under a cap, we believe that some individual facilities and operations that are significant sources of greenhouse gas emissions may be included.

Further, we believe that the forestry and agriculture sectors must be assigned a central and aggressive role in the offset component of any carbon reduction program. These sectors provide great potential for carbon reduction at very low, even negative, cost. In addition, we believe that forestry and agricultural programs that can reduce carbon emissions should be supported to reduce atmospheric greenhouse gas levels below the cap. Accordingly, they should receive direct support from the revenues of the program.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

We believe that the most effective and equitable distribution of allowances under a cap-and-trade program is an auction of at least a significant portion of allowances from the outset of the program, with 100% auction as quickly as possible.

The Regional Greenhouse Gas Initiative (RGGI) has demonstrated that allowance auctions can be conducted fairly and effectively, with auction proceeds reinvested to promote GHG reduction goals.

A limited amount of no-cost allocations to assist industries severely affected by international competition may be advisable during the formative years of the program. Available emission allowances should be accurately determined according to a carefully measured baseline period and should be consistent with the program's overall carbon reduction targets. Priority for both auctioned and no-cost allowances should be determined on the basis of economic impact and on potential for both mitigation and sequestration.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

We believe that any federal carbon reduction program, regardless of its design, should be carefully tailored to link as seamlessly as possible to existing and emerging programs. It should include a strategy that allows regional cap-and-trade programs to transition in a way that respects the investments that states have made, recognizes states as co-regulators, and guarantees states the authority to take GHG reduction measures beyond those in a federal program. In the US, such regional programs would include RGGI, WCI, and the Midwestern Regional Greenhouse Gas Reduction Accord.

Recognizing that any carbon trading program will have international impacts, the design of any federal program should also consider existing international programs and carbon markets. Design elements should include common protocols, reporting and registration requirements and formats, accounting mechanisms, and other practices.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

Generally a single lead agency will be most effective to coordinate the varied and complex interests of the sectors affected. However, experts in specific sectors at federal, state and regional levels should have a lead role in their area of expertise. We recommend that the U.S. Department of Agriculture and U.S. Environmental Protection Agency be given inter-dependent authority for any provisions pertaining to forestry offsets. Because of USDA expertise working with forest landowners, USDA should play a strong role in the development of rules for offset programs with U.S. EPA ensuring the integrity of carbon reductions through any offset program.

Additionally, while EPA likely would be the primary regulatory agency for a GHG mitigation and offset program, USDA should be the primary department responsible for administering other incentives, beyond offsets (e.g., programs which keep forests as forests and promote management which stores additional carbon), for additional climate mitigation in forests and forest adaptation tools for forest owners.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Our consideration of this issue is on-going, and we do not have a response at this time.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?

Please respond in 600 words or less.

Our consideration of this issue is on-going, and we do not have a response at this time.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

In short, no. We believe that a properly constructed carbon reduction program will, in fact, be beneficial to all regions and populations. Although any carbon reduction program will have different effects across regions and populations, a properly constructed program will avoid isolated impacts and provide opportunities for all to share in program benefits.

A variety of program policies could enhance potential benefits by encouraging more complete use of forest and agriculture resources; emphasize and incentivize cost effective programs with greatest mitigation impacts; apply a broad definition of sustainably produced, "renewable biomass" and encourage efforts to more efficiently harvest and utilize biomass for renewable energy; promote sustainable forest management practices and encourage the use of products that come from them for both fossil fuel and product substitution.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

As stated earlier, we believe that a properly constructed program will not have negative impacts, but if a program is designed so that some are created, to the extent a carbon reduction program creates negative impacts within agriculture and forest communities, some portion of program revenues may address those issues. For example, revenues might be used as incentives to encourage more landowners to adopt sustainable practices and undertake projects for carbon reduction and sequestration. State GHG inventories and climate action plans have identified numerous measures that provide both significant GHG mitigation benefits while also enhancing environmental stewardship, and many measures do so at very low, even zero, cost. Three specific categories that have potential to provide significant carbon reduction benefits and environmental improvements are conservation programs, habitat protection efforts, and adaptation activities. Specific to the forest sector, priority should be given in two areas: (1) keeping forests as forests; (2) expanding forest management practices to maximize sequestration and sustainability. With a properly constructed program, we see these as opportunities to reduce atmospheric greenhouse gas levels and build strong forest eco-systems rather than mitigating for adverse impacts.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Please see our response to Question #3. Our consideration of additional details concerning this issue is on-going.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

We believe public lands should play a significant role in carbon reduction efforts. Like other forest lands, if management is changed, state and locally owned public lands should be eligible for offset credits and programmatic support that promotes management which stores additional carbon. Beyond this, public lands can immediately serve as models for land management practices, both forestry and agricultural. They may also serve as the resource base for experimental research and development activities, including carbon sequestration techniques and biomass for biofuels. Greenhouse gas reduction research projects are already underway under the auspices of the USDA Agricultural Research Service.

We need to carefully conserve and manage our forest lands, including those that are publically-owned, in the face of climate change. This is essential in order to maintain clean drinking water supplies, forest-based habitats for fish and wildlife, forest products, scenic beauty, and forest-based jobs. Forest-based carbon sequestration and storage is at risk—recent studies suggest that forest stressors magnified by climate change could diminish this mitigation capacity and release stored carbon. We believe that the Forest Service should be a key actor in directing and funding a coordinated adaptation response to maintain our forest resources, including their mitigation capacity.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

We believe that, in order for a cap-and-trade program to operate effectively, the price of an allowance must reflect its true market value; containing costs must be accomplished without undermining either the carbon market or the cap, such as may occur with safety valves and price caps. Effective controls on carbon prices can be achieved through mechanisms such as circuit breakers in the form of an increased use of allowance offsets, as opposed to strict price limitations.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Several lessons have emerged from the ETS: (1) the critical importance of establishing accurate emissions baselines determined from several years of record prior to the onset of the program, and utilizing a comprehensive system for accounting and verification; (2) confirmation of the allowance auction approach, rather than distributing no-cost allowances; and (3) the necessity for emission caps to be carefully set so as to remain within technological and economic reach.

Carbon reduction programs for both agriculture and forestry have been undertaken nationally and internationally. At the global scale, UN programs are in place to address both emissions reduction (REDD - Reducing Emissions from Deforestation and Degradation) and enhanced sequestration through offsets (CDM - Clean Development Mechanism). Currently CDM projects exist in developing countries and many involve national governments. At a national scale, the Brazilian government has launched an aggressive REDD effort targeting the Amazon rainforest that other governments have agreed to assist with finance and research efforts. Private sector initiatives are also in place, including the agriculture-based CROP - Carbon Reduction Offset Program - in Canada.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

U.S. forests must play a central role in our national climate strategy. America's forests and forest products annually sequester and store an estimated 10 percent of all U.S. carbon emissions—an essential contribution toward mitigating climate change. We must enhance our forests' sequestration capacity by providing 1) offset credits; and 2) other incentives for private landowners to manage their lands for increased carbon sequestration and storage (e.g., support for programs that keep forests as forest and promote management which stores additional carbon). Expert studies have shown that forest carbon offsets can help achieve our national emissions reduction goals in a cost-effective manner by lowering compliance costs for utilities and other covered entities under a cap and trade system. To maximize potential emissions reductions, forest landowners unable to participate in offset markets due to insufficient economics of scale or other constraints should still have access to incentives. We recommend that legislation offer these kinds of incentives beyond offsets, to ensure climate mitigation capacity in forests is maintained or enhanced. Non-regulatory incentives should be administered by USDA and could include programs modeled after conservation program or tax incentives.

Voluntary options can provide an important access to any program for interested parties who may not otherwise be eligible for participation.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

We believe that a limited number of offsets should be available in any carbon reduction program, particularly during the program's formative years. All offsets must be high quality, that is: additional, verifiable, permanent, measurable, and enforceable. Offsets should be used to promote investments in new low carbon technologies and infrastructure within the regulated sector. The actual number of offsets should be determined by the final goals and parameters of the program, with their availability decreasing over time as new technologies emerge and the cap tightens.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Our consideration of the details of this very important issue is on-going. As noted in our responses to question #3, a cap-and-trade program should consider potential adverse impacts to especially vulnerable parties, including capped entities, and be designed to avoid such impacts.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

The first test of legitimacy for any offset project is that it can deliver real, additional, and permanent emissions reductions that are equivalent to the emissions being offset. In a federal program, the protocols, practices, and mechanisms for measuring and verifying these reductions should be standardized across states and regions.

All carbon pools expected to significantly change (particularly those expected to decline) should be quantified and reported. Carbon pools include live and dead biomass, soils, and harvested wood products. Field measurements and estimates for forest-carbon projects and selected pools should be required to meet a specified benchmark for accuracy, to be reviewed and updated regularly over time using the best available scientific understanding. Third-party verification of reported amounts of carbon should be completed before they are registered for offset credits. A set of standardized tools to help determine which carbon pools will require measurement would mitigate compliance costs for landowners and project developers, and should be developed based on local/regional data. Measurement should not be required for carbon pools nearly certain to have increases.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Maine DEP and MFS, together with the Forest-Climate Working Group, recommend that a range of U.S. forest carbon activities should be made eligible for participation in offset markets established by federal climate legislation, provided that they can deliver real, verifiable, additional, and permanent emissions reductions that are equivalent to the emissions being offset. Eligible projects should include afforestation, reforestation, forest management, with potential for others to be included such as avoided deforestation once accounting difficulties (e.g., estimating leakage) have been overcome.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

We recommend that the rule-making process for the new program should include the details of the verification system, and that the states should be recognized as co-regulators. The system should draw upon the protocols already established by existing and emerging regional programs. Any system for verifying offset projects should ensure that third-party verification of reported amounts of carbon should be completed before they are registered for offset credits.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

We believe that the best approach for establishing eligible offsets begins with standards-based prescribed practices plus options to develop other practices, and then applies thorough field measurement practices during the life of the project. In some cases a full carbon life cycle analysis of the project may be required in order to establish the actual magnitude of the offset, including benefits of avoided emissions and fossil fuel and product substitution. One size will not fit all fuel and product substitution scenarios, and then standards with pre-calculated values are likely to be scientifically defensible. This may change as the status of field work on an offset project progresses.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

We believe that the relationship between offsets and allowances should be fungible. This relationship will provide the greatest incentive and opportunity for both carbon reduction and enhanced development of uncapped sectors. Further, it is a relationship that is understood and accepted internationally in both developed and developing nations.

Some controls on the relationship are certainly appropriate. For example, the use of offsets should not be permitted to avoid or excessively delay emissions reductions. In the case of RGGI, percentage limits are applied to offset usage to ensure a majority of avoided emissions are achieved within the capped sector.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

The term "permanent" for forest carbon offsets should mean removal and/or storage of the subject carbon from the atmosphere for at least 100 years. Forest carbon contracts should assign clear obligation for reversals. Allowing market flexibility for landowners and project developers to establish forest carbon contracts of different duration in response to market demand would be appropriate, provided that the environmental integrity of emissions reductions is not compromised. Clear rules should be established for replacing shorter-term credits so that environmental integrity is maintained, and contracts of varying duration should be standardized to allow them to remain fungible in offset markets. Market flexibility should also include a suite of options to enable obligated parties to cover the risk of reversals.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

We believe that certified and verified offset projects generated under state/regional programs should be accepted for use in the federal program, provided the certification and verification criteria applied to the existing offset are at least as rigorous as the federal program. Voluntary offset projects that have not been certified and verified under a state/regional program should undergo an independent third-party assessment before being accepted under the new program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

Like existing offset projects, sequestration and mitigation activities already in place on a voluntary basis should be examined according to protocols under the new program, including the 5 part test for legitimacy of offsets – real, surplus, verifiable, permanent and enforceable. Credit should be available for these activities to the extent they surpass "business-as-usual" practices as well as all other offset criteria established under the new program, especially project duration.
In the case of forestry activities, business-as-usual can, in some cases, be defined using readily-available data from the Forest Inventory and Analysis program.

As with all carbon reduction programs, care must be taken in accounting practices for all program activities to avoid double-counting. This principal applies on both sides of the ledger: determining both offset benefits and required allowances. To the extent pre-existing activities are already receiving market credits under one program (e.g., carbon credit has been sold) but also provide co-benefits under another program (e.g., water quality, biodiversity), those co-benefits should not be precluded from future consideration.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?

Please respond in 300 words or less.

Federal or state financial cost-share assistance should not preclude a landowner from selling the carbon or other ecosystem service credits in their entirety. Frequently implementing a single project can achieve multiple environmental and social goals, and project developers often use funding from a variety of sources in order to create a financially viable project. The more we can integrate (rather than separate or disqualify) carbon offset projects with objectives of other federal programs, the larger the impact. Meeting the requirements of the climate change related practice or standard should qualify the project, not the source of funding.

If a pre-existing activity seeks to be credited under a new carbon reduction program and has received some form of government assistance in its design, establishment, or operation, then benefits from the activity under the new program may need to be appropriately discounted. In particular, care must be taken that pre-existing activities do not obtain unfair advantage in the marketplace over new activities that will be required to meet new program criteria. This principle applies regardless of the original reasons for implementation. A pre-existing activity should also be evaluated for its benefits over time. For example, short term contracts may require additional measures, such as extending timeframes or adding carbon re-capture mechanisms, to insure that program requirements are met.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

We believe that all offset projects should include guarantees against performance failure, regardless of the cause of that failure. Such guarantees might include actual insurance policies, offset reserve accounts, and carbon banks. There should be a suite of options to enable obligated parties to cover the risk of reversals, particularly those risks presented by wildfires, hurricanes, and other natural disasters.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

We believe the carbon reduction program legislation should include specific legal standards and goals, and should detail the principles of the program. Protocols and procedures should then be established by appropriate regulatory agency, most likely in this case the US EPA, and the lead agency would be responsible for coordinating across regulated sectors.

Legislation should provide broad guidelines for protocols and procedures, but the details should be left to the regulations. If current agencies' expertise is utilized, the U.S. Environmental Protection Agency and the U.S. Department of Agriculture should have joint responsibility for devising protocols and procedures relevant to forestry and agriculture.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Depending on the final design of the program, obstacles to implementation may potentially come from several different directions, including resistance to changing policies and perception of possible financial loss.

For some implementation strategies, such as forest management, transaction costs compared to benefits may be high and require subsidy from program revenues. Other obstacles may occur in conjunction with meeting permanence requirements. Infrastructure costs, such as third-party verification, may also present obstacles.

While insuring the integrity of offsets, forest carbon offset markets should be structured to minimize transaction and compliance costs—this will encourage the necessary level of participation from landowners and project developers to reach scale.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No, existing conservation and forestry programs **do not** provide sufficient incentives. To secure the carbon sequestration and storage capacity of our forests, we must support and expand policies and programs that keep our forests as forests by slowing their conversion to non-forest uses and encouraging sustainable forest management generally, and more specifically, techniques that store additional carbon. Incentive programs should adopt different, more flexible project design guidelines than offset markets, but should, like offsets, be focused on climate mitigation activities. This enhanced flexibility should be used to incubate innovative forest carbon activities and increase opportunities for landowners to participate.

By establishing a new program with a specific carbon reduction focus in the agriculture and forestry sectors, then providing the professional and economic foundation commensurate with that focus, Congress can significantly increase both the adoption and implementation activities necessary to achieve carbon reduction goals.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Forest Management/Projects/Funding

It is important to ensure that forest management implemented as part of forest carbon projects is sustainable. A range of approved methods should be provided for landowners and project developers to demonstrate sustainability.

Equivalence for forest-carbon offset projects with other offsets is important and will be ensured if key elements of project design, such as the 5-part test for legitimacy of offsets, are adequately addressed. Forest offset projects can provide valuable ecological and environmental co-benefits, including other ecosystem services. Projects should not be required to quantify co-benefits, but voluntary reporting could be advantageous for project developers.

A portion of new funding should be directed to federal forest-climate research programs to help develop improved precision in forest carbon monitoring and to create new measurement tools that will lower transaction costs and increase participation by landowners. Any new revenues directed to forest-climate programs (mitigation, adaptation, and research) through federal climate legislation should be placed in a dedicated fund and protected from diversion to other programs and purposes.

Adaptation Strategies

An effective cap-and-trade program must recognize that mitigation and adaptation strategies can and must complement one another. To that end, some portion of program revenues should be designated for support of adaptation activities at local, state, and regional levels.

Equally important as maximizing the role of agricultural and forest lands under a federal cap-and-trade program are programs and policies that will enable those lands to adapt to potentially adverse climate change impacts. More forest and agricultural lands need to be brought under improved management systems that will enhance their overall health and sustainability which will lead to improved resilience to climate stressors, resistance to new hazards (e.g., pests and disease), and recovery from extreme events.

Planning for the protection and sustainable management of agricultural and forest lands should reflect local, state, and regional differences, while encouraging collaboration across those scales. To accomplish this, a range of sustainable management approaches need to be developed, approaches that emphasize both simplicity and flexibility to enable widespread acceptance and implementation.

Programs and policies should also give highest priority to avoiding agricultural and forest land fragmentation and conversion, recognizing the variety of ecosystem services that these lands provide: e.g., water quality, biodiversity. Enhancement of these services, as well as aesthetic and economic values of these lands, needs to be balanced with their critical sequestration role in carbon reduction programs.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation[1]	Excellent	Excellent	Medium	High
Reforestation	Excellent	Excellent	Medium	High
Forest Management	Excellent	Excellent	Medium to High	High
Urban & Community Forestry	Good	Excellent	Medium	Low[2]
Avoided deforestation[3]	Excellent	Excellent[2]	Medium	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

1 Could include biomass plantations depending upon what is included in the cap.
2 High for local governments.
3 Provided that acceptable methods for estimating leakage are developed.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
STEWART MATTHIESEN
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Stewart Matthiesen

Organization(s) you represent

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Although I am the Policy Analyst and Development Director for the Northwest Natural Resource Group (NNRG), this document represents my personal opinions based on my work in the field.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Both a cap-and-trade program and carbon taxes/ fees correct the market failure associated with greenhouse gas emissions by forcing polluters to internalize the environmental cost of their emissions. Significant revenue streams can be generated by both policies (to the extent that allowances under a cap-and-trade program are auctioned), and even without auctions, significant revenue streams for non-governmental participants may be generated through offsets in a cap-and-trade system. Despite the similarities of these policies on a number of criteria, a carefully crafted and regulated cap-and-trade program, with an option for additional policy mechanisms, is preferable to a carbon tax.

A cap-and-trade approach provides certainty in the quantity of emissions from capped sectors, while a carbon tax/fee will provide certainty in the price of emissions. This is the trade-off: clear limits on emissions to prevent further environmental degradation or clear signals to the economy on the price of emissions. Considering the causes of climate change, the primary focus of any program should be strict and immediate emissions limits to ameliorate an urgent environmental problem and prevent catastrophic atmospheric change, a focus that favors a cap-and-trade approach. Carbon taxes do not guarantee any change in actual emissions.

Cap-and-trade programs to limit greenhouse gas programs are already being used internationally, allowing the U.S. to link with international efforts to address a global problem. The EPA has experimented with the use of cap-and-trade mechanisms through the authority of the Clean Air Act since the 1970's to reduce emissions of criteria pollutants, phase out lead from gasoline (EPA Gasoline Lead Phase-down), and regulate sulfur emissions from mobile source engines (EPA Averaging Banking and Trading Program). A domestic program to limit sulfur dioxide emissions illustrated the impressive results of a well designed cap-and-trade system, achieving emissions reductions at levels greater than expected with costs below expected levels.

Carbon taxes/fees have a narrower historical track record and are currently used in a more limited context internationally. Even with implementation of a carbon tax in Norway, actual emissions under the carbon tax rose higher than pre-tax levels due to increases in energy demand. Carbon taxes may also need to be adjusted periodically in order to ensure environmental effectiveness of the carbon reduction program. It is not immediately clear what effect frequent changes in the tax rate would have on the efficacy of the carbon reduction program.

Still, cap-and-trade and carbon taxes/fees are not mutually exclusive options and should be seen as complementary mechanisms. A carbon tax can probably be implemented more quickly and more easily than a cap-and-trade system; and the proposed regional systems do not cap all sources at the outset (WCI won't include transportation fuels under a cap until 2015 if it is implemented). Therefore, carbon taxes and other policy tools could

be used as complementary instruments to provide a cost of carbon for emissions sources that will be, if not initially, included under a cap. Together, a combination of approaches including cap-and-trade, carbon taxes/fees, incentives such as tax credits, and renewable energy standards can provide a balanced approach to GHG reduction.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Forestry should be covered under a carbon reduction program provided it includes carefully structured incentives and disincentives that recognize at-risk smaller private landowners who may be at risk of conversion to non-forest use and do not inadvertently lead to land being removed from forestry to avoid taxes/fees/regulations. Worldwide deforestation accounts for roughly 25% of CO2 emissions. In the United States forests absorb about 10% of our national emissions. Given that forests can act as both carbon sinks and carbon sources, it is essential that they ultimately be included in carbon reduction programs. As Dr. Mark Harmon pointed out in his recent congressional testimony it is also essential that programs be structured to not only encourage practices that lead to increased sequestration, but also preserve existing pools of stored carbon.

A combination approach based on a regional baseline (not single entity baselines) that both provides incentives for practices that lead to increased carbon storage (growing trees longer, selective harvests, etc), and disincentives for loss of existing carbon pools (conversion of forestland to development or other uses) is an ideal approach.

Agriculture and forestry are natural resource industries with integrated, broad ranging impacts on ecosystem services, including, but not limited, to the flux of atmospheric GHG concentrations. Many of the management decisions that produce positive GHG outcomes can also produce positive outcomes in other ecosystem services. This may often be the case, however, due to the dynamism of these systems, management activities that maximize GHG reductions or sequestration (such as the use of fast growing non-native plantations) may sometimes conflict with other natural system values, such as the preservation of wildlife habitat, or water quality outcomes. GHG reductions should not come at the cost of other ecosystem services and thus practices that more closely mimic natural forest systems should also be encouraged.

There are also specific challenges associated with including forestry as a covered sector in a cap-and-trade program including the difficulty of monitoring national level emissions from these sources. Including these sectors in a mandatory cap-and-trade program could impose burdensome and unrealistic reporting requirements for businesses in these sectors. Small forest landowners would likely be the most negatively impacted, as the scale and scope of their resources are easily overwhelmed so programs must be structured to accommodate them. Well designed offset protocols which allow small landowners to participate can provide incentives and assistance for these lands which are frequently at the highest risk of conversion.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the

distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

The distribution of emissions allowances will not affect the environmental integrity of a cap-and-trade program, but will have significant effects on distributional (i.e. regional, socioeconomic) equity of costs associated with a carbon reduction program. These distributional effects should be a primary consideration as policymakers craft their strategy for allowance distribution, and the goal should be a program that maximizes regional and socioeconomic equality in the face of a carbon reduction program.

Allowances under a cap-and-trade program will represent a relatively scarce commodity that will hold significant economic value. By auctioning emissions allowances to covered entities, government could collect revenues to be used in addressing specific public policy objectives, including minimizing impacts on vulnerable populations, aid to help natural ecosystems adapt to changing climates, strategies to encourage economic growth based on clean energy and a low-carbon world, and compensation for affected industries and consumers.

Studies have suggested that freely allocating allowances to covered entities increases the overall costs of a carbon reduction program by diminishing the capacity of governments to use new revenues to target those communities most affected by a cost of carbon ("Trade-Offs in Allocating Allowances for CO2 Emissions" Congressional Budget Office 2007). Evidence from the EU ETS, where allowances were freely distributed, has provided empirical support to these arguments as covered entities accrued windfall profits at the expense of energy consumers faced with increasing costs ("Cap and Trade 101: A Climate Policy Primer" Sightline Institute 2009). Additionally, a free distribution would shield emissions sources from a cost of carbon, clearly emasculating the primary market mechanism that cap-and-trade is intended to deliver.

We feel that a substantial majority of allowances should be distributed through an auction. However, we also recognize that the political reality suggests some portion of allowances will be provided at no cost; this may be prudent for the initial years of a carbon reduction program to mitigate costs and refine the programs associated markets and administrative mechanisms. When determining the exact strategy for the distribution of allowances, policymakers should seek to ensure that the costs of a carbon reduction program are not borne disproportionately by vulnerable populations, natural systems, and sectors or regions of the economy.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Nearly half of all states have already agreed to develop and participate in regional carbon reduction programs through the Regional Greenhouse Gas Initiative (RGGI), the Western Climate Initiative (WCI), and the Midwest Greenhouse Gas Accord. Not all state and regional programs have progressed on identical timeframes and each program is currently at a very different point in its development. Regardless, state and regional

programs represent early action to address climate change and should be given credit, subject to requirements that these programs produce real, verifiable, permanent reductions in GHG emissions or increases in biological sequestration. These programs have also produced consensus-based standards and protocols that may be valuable tools in the development of federal/national level methodologies. Additionally many entities have taken early action on offsets by creating programs which sequester carbon, often to third party standards more rigorous than the regulatory markets above (Voluntary Carbon Standard, etc). These offsets should also be incorporated into federal programs.

Federal policy will necessarily and explicitly address pre-existing regional and state policies in a number of ways: preemption, where federal policy erases pre-existing state and regional efforts; carve outs, where state and regional programs are allowed to opt out of the federal system and run their own markets; and layering, where the federal target and rules are put on top of existing state and regional programs (Point Carbon 2008: Preemptive Strike: The Future of Regional Trading Programs in the US). An important consideration will be how and to what extent it might be possible for states to pursue policies with more stringent targets and rules. Even with California as a notable precedent in other areas, it is difficult to foresee how this might be accomplished with GHG emissions considering the complexity of interstate commerce and the potential hurdles posed by a patchwork of state and regional policies.

The goal of federal legislation should be to create a cap-and-trade program that limits national GHG emissions while also linking to, or integrating, state and regional programs. This national program should avoid a patchwork of state and regional markets and move toward a common market framework with a fairly uniform price for carbon. To accommodate states that have already taken action on GHG regulation, national policy could include some process for state and regional systems to transition to the national framework, providing a reasonable timeframe for adjustment and recognition of, or credit for, early action. State or regional systems with weaker policies or standards would need to strengthen them over time while systems with stronger policies or standards would also need to adjust in order to align with federal targets and rules. Offsets would undergo a similar process.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The federal government has experience implementing programs to reduce atmospheric pollutants that will prove useful in the regulation of GHG emissions. The Environmental Protection Agency (EPA) has implemented various market-based emissions reduction programs since the late 1970's. Although the EPA may have the most familiarity with the administration of an emissions trading scheme, it may not have the necessary expertise to formulate the regulations for all sectors affected by a cap-and-trade program including any potential offset programs. Agency expertise and relationships within particular sectors will be critical to establish successful approaches. For example, the Department of Agriculture (USDA) must take an active role in determining specific implementation actions that will succeed in the agriculture and forestry sectors.

Since the primary economic argument for cap-and-trade over command-and-control methods is the increased efficiency of a market-based program, the agency or agencies which administer any cap-and-trade program should be capable of efficiently and effectively maintaining a functioning market. If interagency cooperation cannot meet this need, then creation of a new agency may be justified. Regardless of whether a new or an existing agency regulates a cap and trade program, there should be clear oversight and monitoring of the program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

The entity responsible for regulating the market is not necessarily as important as the methods by which that regulation is instituted and adequately enforced: the regulator must have the capacity and inclination to set ground rules, provide oversight and exert power to achieve these aims. The CFTC and the Securities and Exchange Commission have been successful, and the Environmental Protection Agency runs a successful sulfur dioxide trading system. The individual institution responsible for regulating the derivative carbon market is not as important as having stated goals, transparency and oversight, for the mechanisms to be successful.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

The influence of financial intermediaries and derivatives in a future carbon markets could cause disruptive uncertainty in the cost of carbon. This may prove to be a major issue in protecting the efficiency of a cap-and-trade program as speculation could produce wild fluctuations in the cost of carbon, independent of any genuine scarcity created by a cap-and-trade system, that send artificial signals to the economy on the price of GHG emissions.

Some fluctuations in the cost of carbon are appropriate and will be inevitable in a cap-and-trade program. However, carbon markets that are too unpredictable may stifle investment as businesses will not invest in mitigation or sequestration projects if there is too much risk or a lack of clarity about investment options. Conversely, some of the mechanisms that cushion this uncertainty for businesses and others are provided only by financial intermediaries; hedging, lending and insurance that make uncertainty and long-term investment palatable are major drivers for the financial sector.

In order to address the impacts of speculation, while also fostering the development of a strong carbon markets, markets created by a cap-and-trade program should be sufficiently regulated to ensure that the access to the market and uncertainty in the cost carbon does not undermine the environmental integrity of the program.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Rural populations will be disproportionately affected by both climate change and climate policy for two important reasons. First, the ecosystems on which rural populations rely for their livelihood are being adversely affected by changing climatic conditions. Second, rural populations generally lead more energy-intensive lifestyles and have higher incidence of poverty. Households and people in poverty will likely be more severely impacted by raising energy and commodity pricing ("Incidence of U.S. Climate Policy" Resources for the Future 2008). However, it is extremely difficult to predict the net distributional consequences of climate policy that may provide economic opportunities for rural areas, especially through different agriculture and forestry practices. For example, to the extent that sustainable natural resource management is a priority in climate policy, there may be landscape- or ecosystem-scale restoration or management opportunities that offer jobs and income to rural economies.

The true impacts of a carbon reduction program on rural populations, either positive or negative, will depend primarily on the structure and implementation of the policy. If key elements are not included, such as redistributive mechanisms for compensation of affected regions and populations, specific policies to address forest and agriculture mitigation opportunities, and strategies for addressing the adaptation needs of affected ecosystems, the program will likely have severe negative impacts on rural populations. These elements should be included as part of a carbon reduction program in order to produce the greatest environmental benefits with the least cost to society.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

A carbon reduction program will effectively place an additional cost on production and distribution of every-day goods and services that will likely be passed on to consumers. This will disproportionately affect low-income households due to the larger percentage of their incomes spent on energy and commodities. The costs of climate policy will be exacerbated for rural communities by natural systems that will experience significant adjustments as a result of climate change. By capturing the value generated by a cost of carbon through an auction and redistributing the revenues strategically, a well-designed a cap-and-trade program could dampen the regressive effects of a carbon reduction program.

Generally, these revenues can be directed towards priorities that will lessen the negative impacts of both climate policy and the biophysical impacts of climate change: transforming the nation's businesses and workforce to support a low-carbon, clean energy economy, particularly in rural communities; facilitating the transition for individuals, businesses, and communities most affected by climate change policies; and helping human communities and natural ecosystems adapt to climate change. Targeted investments to address these priorities should include financial incentives and technical assistance for business innovation and workforce training, financial assistance to low-income households in rural areas, and programs that promote sustainable and adaptive agriculture and forest management and the provision of ecosystem services. These programs should particularly focus on providing incentives for smaller private landowners to improve practices and provide ecosystem services as well as provide technical assistance to adapt management.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Revenues generated from the auction of emissions allowances will provide opportunity to provide transitional assistance for affected businesses. This assistance should not be restricted to those businesses affected by the costs of climate policy, but should also include businesses affected by the biophysical changes associated with climate change. These decisions should be based less on the overall costs to business, but more so on the impacts to national and regional economies and how those costs may be passed on to consumers. These opportunities to assist affected businesses must not deter investments intended to help cushion the impacts of a carbon reduction program for vulnerable communities. For a cap-and-trade program to be successful there must remain an incentive for business to reduce their emissions, assistance should not negate the competitive advantages that may arise for businesses that adopt or develop new technology or methods but should instead soften the impact on consumers.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

The price of carbon that results from a cap-and-trade program will likely have substantial impacts on the success of the policy. This price is the primary driver of change in the economy, providing disincentive for GHG-intensive growth and promoting a low-

carbon, clean energy economy. Extreme prices on either end of the spectrum have the potential to stifle the desired goals of climate policy.

In theory, a cap that is too low and markets that respond insufficiently or too slowly could result in an excessive cost of carbon. A cap set too low would make allowances scarce and therefore expensive, and a slow demand response by business and consumers might fail to bring the cost of carbon back down. In turn, this high cost would pass along to consumers and businesses, resulting in significant regressive effects. In this scenario, a cap-and-trade system implemented too quickly or ambitiously would carry such a high price tag that its costs may outweigh its benefits.

There are a few reasons to believe that such a scenario will not occur and why, if it does, it would not be economically painful. First, most of the current targets for emissions reduction are fairly modest, so the cost passed along won't likely be excessive. Second, we have ample evidence that markets respond to costs similar to those likely to be experienced as a result of a carbon reduction program. For example: the spike in hybrid and small-car sales, rise in transit use, and the drop in gasoline consumption, all due to higher gasoline prices leading to a peak in 2008; the recent economizing by airlines in the face of high fuel prices; and widespread deployment of wind power as a result of the federal production tax credit. The most likely cause of a high cost of carbon would be scarcity brought on by economic growth, a circumstance where the economy would be well-suited to handle additional costs.

A substantial cost of carbon is the primary mechanism of either cap-and-trade or a carbon tax, and while an excessively high cost of carbon is undesirable, a price that is too low should be of primary concern. "Safety valves" and other mechanisms designed to provide greater price certainty (i.e. price floors and ceilings, strategic allowance reserves) should not prohibited, but if used, they must not compromise the implementation of a cost of carbon, the central tool of climate policy, and should only be used in the case of excessively high allowances prices.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The development of the EU ETS and the experience with the trial period provides a number of useful lessons for the U.S. and other countries. Suppliers quickly factor the price of emissions allowances into their pricing and output behavior. Liquid bilateral markets and public allowance exchanges emerge rapidly and the "law of one price" for allowances with the same attributes prevails. The development of efficient allowance markets is facilitated by the frequent dissemination of information about emissions and allowance utilization. Allowance price volatility can be dampened by including allowance banking and borrowing and by allocating allowances for longer trading periods. The redistributive aspects of the allocation process can be handled without distorting abatement efficiency or competition despite the significant political maneuvering over allowance allocations. However, allocations that are tied to future emissions through investment and closure decisions can distort behavior. The interaction between allowance allocation, allowance markets, and the unsettled state of electricity sector liberalization and regulation

must be confronted as part of program design to avoid mistakes and unintended consequences. This will be especially important in the U.S. where 50 percent of the electricity is generated with coal ("The European Union's Emissions Trading System in Perspective" Pew Center on Global Climate Change 2008).

Currently the ETS only recognized reforestation projects through their Clean Development Mechanism (CDM) which applies to projects outside the EU. Standards using CDM methods have been developed for other forestry projects (forest management, avoided deforestation, etc) but those offsets are only being traded on regulatory markets. In many ways land use issues are very different between the EU and the US, in the US loss of currently forested land (and the carbon currently stored there as well as future sequestration capacity) is a very real and much bigger risk than in the EU. Rigorous standards for forest projects including improved forest management have been developed by the Voluntary Carbon Standard (VCS), Western Climate Initiative (WCI), California Climate Action Registry (CCAR), and US non-profits such as the Northwest Natural Resource Group (NNRG). These standards should be incorporated into carbon reduction programs for forestry.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Agriculture and forestry should be active participants in a carbon reduction program through a voluntary offsets program, the allocation of allowances proceeds to address climate change threats and opportunities through adaptation and mitigation strategies, and eventually through agreed upon performance standards (a baseline, or floor and ceiling approach to minimum sequestration).

A voluntary program for qualified offsets should be included within a cap-and-trade framework to provide incentives for emissions reductions and increases in biological sequestration from economic sectors that are or are not within the established caps, such as agriculture and forestry, and to provide opportunities for entities in the capped sectors to acquire emissions reductions from credible and cost-effective carbon offset projects. Activities under a voluntary offsets program should seek to provide emissions reductions or increases in biological sequestration that are credible, quantifiable, and verifiable, meeting standards that ensure the equivalence of offsets from different sectors and project types.

The financial incentives backing qualified offsets can stimulate entrepreneurial activity and encourage investment in forest-sector projects that provide credible and verifiable carbon benefits, while also providing co-benefits, including ecosystem services and economic development opportunities for rural communities. To ensure that the

benefits of a voluntary offsets program are available at a variety of scales, such a program should encourage broad and diverse participation and provide access and opportunity for rural communities and small landowners. In addition to a voluntary offsets program under a federal carbon reduction program, climate policy should maintain voluntary over-the-counter market opportunities in addition to formal, qualified offset markets guided by regulatory standards and protocols.

It is essential that protocols for offset programs be rigorous yet workable for smaller rural private landowners (those at highest risk of conversion). Protocols must also avoid perverse incentives (clearcutting prior to enrollment, etc), and recognize early adopters who may already have made management changes to absorb carbon but which could easily be reversed.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

When making the determination whether or not to limit the total number of offsets issued, policymakers should consider offset quality as the primary issue. By establishing appropriately rigorous standards and protocols for offset projects, a carbon reduction program will have established adequate limits to offset quantity by prohibiting excessive participation from less-than-qualified projects. The criteria for offsets and other tradable commodities representing environmental benefits are well understood and should be used to determine offset quality: additionality, permanence, market shifting (or "leakage"), monitoring and verification, etc. In short, rather than starting from some overall limitation as a share of planned reductions, a carbon reduction program should focus on offset quality.

Additionally, some share of offsets should capture other economic and environmental benefits that only some offsets projects will generate. Forest ecosystem restoration - as opposed to mere tree farming - is a good example. Such projects might also deliver higher quality offsets, as well. For example, a restored ecosystem might have a more legitimate "permanence" claim than a tree farm.

Some observers fear that an excessive supply of offsets will present a dangerous escape hatch that could violate a cap by allowing covered entities to fund alternatives to their own necessary action to reduction GHG emissions. The extent of this danger rests on parameters of the system - the ultimate goal is lower atmospheric CO2. If a cap is sufficiently strict and offsets are of sufficient quality, then the mix of regulated emissions reduction and offsets shouldn't matter. In practice, it seems unlikely that so many high-quality offsets will be available that we will be able to avoid reductions in fossil fuel use. Ultimately a mixture of both increasing offsets and reducing emissions will find the most cost effective and environmentally sound solution.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

In considering the distribution of offsets under a cap-and-trade program, we are assuming that the question is referring to the potential percentage of compliance able to be fulfilled with offsets and the division of these offsets between particular sectors, international projects, etc. We would support a strong (large percentage or supply) option for domestic offsets from forestry activities, with provisions that identify the crucial role of offsets in preventing deforestation internationally.

Offsets in this sense are not distributed by Congress, but would be sold by the offset provider to a capped entity and subject to verification and standards. The offset price would be determined through the market, hoe many quality verified offsets are available and how much demand is there based on emission cap requirements.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Criteria for measuring and accounting for the legitimacy of offsets should be based on a balance of environmental integrity and economic viability to ensure that offset markets are accessible for both large and small scale landowners. Existing protocols like CCAR, and the Voluntary Carbon Standard (VCS) provide guidance on how to maintain legitimacy of offsets and should be considered as resources in the process of creating national-level standards. The VCS even addresses projects scale by allowing alternative verification options for small scale projects. So long as these requirements maintain the environmental integrity of projects, they will allow greater participation at the small scale, an important proviso for rural communities and small landowners.

In terms of accounting and measurement, forest offset projects may cause changes in a number of different carbon pools. Although measuring all carbon pools affected by an offset project may enable more complete emissions accounting, the cost of measuring changes in all carbon pools may be prohibitive. Potential increases in accounting accuracy should be considered along with the cost of measuring and monitoring affected pools, to be reviewed and updated regularly over time using the best available information. All carbon pools to be claimed for credit should be measured and monitored. The inclusion of carbon pools which may increase over time but are not financially feasible to measure and monitor should be optional (unless they are being claimed for credit).

Third-party verification of reported amounts of carbon should be completed before they are registered for offset credits. A set of standardized tools to help determine which carbon pools will require measurement would mitigate costs for landowners and project developers, and should be developed based on local/regional data.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

To satisfy the necessary environmental integrity of offsets, potential forest projects should be required to address major criteria including permanence and leakage; baselines and additionality; aggregation; transaction costs; measurement and quality uncertainty; and monitoring and verification. All statistical approaches to estimating carbon storage and

fluxes should apply conservative estimates to minimize the risk of overestimation. Forest offset projects have the potential to generate significant social and ecological co-benefits beyond carbon, as well. These benefits should be documented and considered for prioritization under a carbon reduction program. The assessment of offset projects should maintain environmental integrity, while also providing economic viability that encourages participation from a broad scale of landowners and managers, and project developers.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Existing protocols like CCAR and VCS provide direction to Congress and federal agencies in the design of a system to verify offset projects. Verification represents a cost to project developers and landowners. While stringent verification is necessary to maintain the environmental integrity of the carbon reduction program, Congress and federal agencies should seek to mitigate this cost to facilitate landowner participation at varying scales. The government may certify verifiers to ensure they meet a standard set of verification guidelines. Verification should be conducted by independent third parties independent of the government that do not have a conflict of interest in approving the offset project. Group certification structures such as those used by the Forest Stewardship Council (FSC) and NW Neutral (www.nwneutral.org) for forest certification can be models for groups of small private landowners to have verified offsets as well while spreading costs out.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

These two options should not be considered as mutually exclusive and there is no reason why alternative options for compliance via project-based and standards-based accounting should not be available. Providing both options may allow a broader array or offset types and landowner participation that may not be easily accounted for using only one of these approaches.

A standards-based approach could mitigate costs to project developers and landowners by assuming stated carbon benefits of particular activities and eliminating the need for costly monitoring and verification of particular carbon pools while a project-based approach may allow landowners flexibility in designing offset projects. Agriculture and forestry projects, unlike industrial projects, will be highly varied, reflecting particular local and ecological conditions and allowing both standards- and project-based approaches to satisfy measurement requirements will provide flexibility and encourage innovative offset types.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Emissions allowances and qualified offset credits issued under a cap-and-trade program should be equivalent in terms of environmental benefits and considered as fully interchangeable for the purposes of complying with emissions limits. Properly designed offset markets will ensure this equivalency through adequate measurement and verification of carbon benefits. Some legislative proposals have proposed a system of discounting to limit the use of offsets for compliance purposes. Discounting undermines measurement mechanisms and standards, questions the utility and enforcement capacity of verification mechanisms, and could result in unintended consequences like inflated accounting by project developers.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Establishing a definition of "permanence" will be important. This issue is critical for credible and uniform carbon offset projects, but it poses particular challenges for forest-sector projects. Key factors for these projects include the length of time (e.g., 50-80 years or more) over which many forest projects sequester and store carbon, the risks and uncertainties associated with natural systems over such long periods of time, and the social and economic changes over long periods that might affect landowner behavior.

Existing offset programs have been exploring mechanisms to deal with these issues, such as insurance policies and clear policies to deal with reversals. Forest carbon projects should assign clear obligation for reversals. Withdrawal of an offset project may be acceptable so long as the carbon storage associated with that project is fully compensated for by registration of another project with at least as much carbon storage or through the payment of an "exit fee" equivalent to the value of the carbon represented by that project.

Additionally, the likely length of time required to sufficiently address issues of permanence in forestry projects will mean that projects may involve multiple landowners. There may need to be provisions in an offset standard for transfer of title, etc in order to facilitate this process. Projects that do not ensure sequestration for 50-100 years are of dubious value since the carbon can be released again through harvest or other management activity.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The goal of an offset program within a national carbon reduction strategy should be to integrate state and regional, or other voluntary, systems that wish to transition their projects or credits to the national program. In principle, transition policies should seek to reward or credit early action but also require timely action to transition to the national standards, assuming that national standards outperform existing standards. Assistance for this effort to bring projects up to standard may be an important federal role, recognizing that early-actors might receive some benefit for early entry. There might also be carbon offset markets, often referred to as over-the-counter markets, which continue to function.

Such markets might serve unique client niches outside of the national cap-and-trade system and should be allowed to function alongside a cap-and-trade system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Producers and landowners who have been early actors should be recognized and given opportunity to participate in national offset programs, perhaps given assistance in bringing their projects to match the standards of the new program. The national program should not simply provide full credit to early-actors who have put together projects under lesser standards, but accurate accounting should be documented as some may also have taken early action to higher standards..

The second question addresses the issue that we refer to as "co-benefits." If a landowner develops a project, such as reforestation, to sequester and store carbon, and the landowner meets additionality requirements by establishing a baseline against which additional carbon benefits are measured, that project is likely to provide a variety of "co-benefits" in addition to carbon, such as water quality, wildlife habitat, forest products, etc. These are clearly significant environmental and social benefits beyond carbon.

If one assumes that other markets for environmental services will develop the issues arises of whether a landowner can claim credit in water or habitat markets for the co-benefits provided by the same activities implemented for the carbon offset project. In this scenario, landowners should receive credit for all of the co-benefits that their management activities provide.; well-designed natural resource management activities take into account an array of environmental factors and seek to provide a number of co-benefits. It will be difficult to separate and identify the specific activities and costs associated with each of the project co-benefits. Especially for very small landowners, it is only though "stacking" or "bundling" these various ecosystem services markets that any real incentive for maintaining their lands can be created. Sales of carbon offsets now should not preclude landowners from later selling water quality or wildlife habitat credits as those markets arise.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The federal government has played a significant role in helping foster projects that may have significant carbon benefits, regardless of whether programs were designed explicitly to maximize carbon. Existing projects funded with federal program dollars may have trouble passing what's referred to as a financial additionality test as these projects did

not require the revenue generated from the sale of offsets to make them economically viable, a traditional test for measuring additionality. If existing programs are used in the future to engage in offset markets, they will likely need to be redesigned to comply with offset protocols and these protocols will have to detail how these sorts of projects are treated (i.e. is there a cost-share threshold past which a landowner would fail a financial additionality test?). Beyond offsets, there is a critical role for federal investments in an array of landowner and community assistance programs as well as public and private lands programs for strategies to adapt to and mitigate climate change.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

To partially address the issue of reversals, credits for offset activities should only be generated ex-post (i.e. after the emissions reduction or sequestration has been measured and verified). Utilizing ex-post crediting inhibits project owners from fraudulently claiming emissions reductions or sequestration. If credits are issued this way, there are a variety of approaches for risk management that may be implemented and several methods should made be available to manage these risks and may provide a first line of control over the potential for negative environmental results. Buffer pools and insurance policies to cover the stored carbon or its market value are two of the most discussed approaches in current protocols to manage the risk of reversals.

The risk of reversals owing to natural disturbances should be managed through appropriate buffer pools that hold carbon benefits in reserve, insurance policies, or other tools that may be established in contractual arrangements that stipulate the particular details of assigning liability based on risk. The minimum requirements for insurance should be clearly outlined in any protocol and the contractual arrangements for insurance should be left to private parties. Although biological sequestration projects have the potential for impermanence (or reversals) of stored carbon, the mere existence of risk should not disqualify these project types.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

A properly design offset program will require a considerable amount of detail, informed by experts from a broad community (i.e. science, policy, economics). The degree to which Congress could adequately address the level of detail required of an offset program is limited (i.e. politics, timing). Congress should provide direction, however, through principles that guide the establishment of an offset program including ensuring quality offsets, a system in which small scale businesses can easily participate, and

procedures and protocols that value a full range of ecosystem service benefits from natural systems even as it maintains a focus on GHG reduction.

The details of an offset program will benefit from the expertise of federal agencies and the public comment period provided through an interagency federal rulemaking process. For agriculture and forestry offsets, the Department of Agriculture (USDA) should play a significant role due to the department's knowledge of agriculture and forestry practices, as well as its history of involvement with landowners. Particularly, the Forest Service should be engaged in the design of forestry offsets. The Office of Ecosystem Services and Markets within the USDA has a distinct mission that includes facilitating the creation of these markets. This office should play a lead role in the development of protocols and procedures. The Environmental Protection Agency will likely be the lead agency implementing a carbon reduction program and should work with the USDA coordinate on the design of an offset program for agriculture and forest activities.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Knowledge is a critical barrier; a significant amount of educational outreach to explain best management practices for carbon sequestration and emissions reduction should be pursued. It will be essential to train local and regional agency offices to effectively assess the carbon sequestration impacts of traditional conservation and management programs. Private landowners will also need education about the benefits and costs associated with these practices, to include an explanation of public financial assistance programs available for landowners, along with a clear explanation of the contractual obligations and tax liabilities for landowner participation including land-use restrictions on current and future owners.

Cost of measuring some carbon pools (especially soil carbon) may be also prohibitive. The costs of measuring, monitoring, and verification should be considered and designed to enable the participation of small and micro-scale projects through appropriate aggregation or specially-designed approval programs. The Kyoto Protocol's Clean Development Mechanism has designed a special pathway for micro-projects to cut down on verification and compliance costs and could be used as guidance, the Voluntary Carbon Standard has similar procedures.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Current conservation and forestry programs do not provide sufficient guidance on strategies and actions to adapt to and mitigate climate change, systems for monitoring and

measuring the climate change benefits of such strategies and actions, financial investment in federal and state agency capacity to effectively implement such programs, or financial incentives for landowners to participate in such programs. Congress needs to address these, beginning with investments in applied research and capacity to transfer information to landowners and communities.

If forestry carbon projects are expected to be competitive with timber values, the price of offset credits will likely need to be higher than the prevailing market prices. To further incentivize adoption of conservation projects with carbon benefits, a supplemental tax benefit or subsidy may encourage these activities. The USDA's Conservation Reserve Program is an example of such a program. Federal private lands technical assistance providers (NRCS, USFS, CRSEES, etc.) could provide modeling in relation to baseline and additionality services to privates, cutting costs and providing a layer of validation. Both an economic development service in relation to mitigation as well as an adaptation measure for improved forest management.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

A key organization dealing with this issue is the Northwest Natural Resource Group (NNRG). NNRG 's (www.nnrg.org) primary goal is the preserve private forestland and the ecosystem services it provides in Washington and Oregon. These smaller private lands are often located near developing urban areas and are at high risk of conversion due to rising real estate prices, aging landowners, etc. Once converted from forestland we lose not only the carbon stored in those forests, but the sequestration capacity of those forests into the future, and all the other ecosystem services they provide. One of NNRG's main tools over the years is Forest Stewardship Council (FSC) certification which provides for a holistic approach to forest management addressing environmental, social, and economic impacts of management and provides a small incentive for landowners who wish to document their excellent stewardship and connect to concerned consumers. NNRG's newest program NW Neutral (www.nwneutral.org) builds on their 95 FSC certified small landowners (representing some 23,000 acres) to document the additional carbon stored in their forests through lengthened rotation times and increased retention. They do this through a group certification and management model to spread costs across many landowners making it cost effective for landowners as small as 10 acres to participate. NNRG has already sold carbon offsets through this program for our landowners (at $20/ton). They are working to get their offsets certified to VCS standards this year. I believe that it is essential for future federal programs to recognize these small private landowners, the good work they are already doing, and the risk to our atmosphere if these forests are lost. This can be addressed through a cap that effectively makes converting the land more expensive, and through incentives that encourage increased rotation times and greater retention (such as FSC style management).

NNRG is also a participant of the Rural Voices for Conservation Coalition. The Rural Voices for Conservation Coalition (RVCC) is particularly concerned with how climate change will impact rural communities in the Western U.S. and the forests, watersheds and rangelands that dominate this landscape. RVCC is comprised of western rural and local, regional, and national organizations that have joined together to promote balanced conservation-based approaches to the ecological and economic problems facing the West. The following is an excerpt from the 2009 RVCC Climate Change issue paper (http://www.sustainablenorthwest.org/quick-links/resources/rvcc-issue-papers):

"National policy addressing climate change will have dramatic effects on rural communities and landscapes. Specific components of national climate change policy, such as how resources are prioritized, credit allocation or distribution, offset eligibility, or the opportunity to participate in emerging markets will affect rural communities and landscapes. Therefore, rural communities should have a role in the collaborative development of national climate change policies. RVCC believes several key principles for rural communities and landscapes should guide how climate change policies are developed and adopted in the U. S.

1) Federal and state governments should foster the development and dissemination of reliable climate change information and tools to help build public understanding of climate change issues. Governments should assist rural communities in developing climate change assessments, strategies, and plans, and monitoring strategies to enhance collaborative learning and adaptive management.

2) Federal and state climate change policies must include strategies to ensure that low-income and other vulnerable populations receive assistance with climate change impacts. The needs of these populations in rural areas may be significantly different than those of urban low-income and vulnerable populations.

3) Federal and state strategies for public and private forest land management should integrate climate change considerations within collaborative, landscape-scale forest restoration efforts.

4) Markets for forest carbon-offsets and ecosystem services should encourage broad and diverse participation, provide access and opportunity for rural communities, and clearly address issues related to project scale, sustainability, and benefits to local communities.

Federal and state climate change policies should provide technical and financial assistance to rural communities for capacity building and workforce training to implement both adaptation and mitigation strategies."

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Improved Forest Management (increased rotation times and greater retention)	Excellent – increasing rotation lengths (reducing the frequency and impacts of harvest) and increasing retention is highly effective and can have immediate impacts on GHG emissions as well as many co-benefits	Excellent – sequestration can easily be verified through inventory and compared to a regional baseline	Medium – often can be accomplished without significant long term disruption in wood product flow, requires slightly more detailed monitoring	High – many smaller private landowners are now starting to implement these strategies, can be done with any currently managed forestland
Afforestation/Reforestation	Good – Highly effective, but not on a shorter time scale, significant GHG benefits will not be seen for many years.	Moderate – easily verified but over a very long time scale	Medium – sites must be located that are not already (or recently) forestland	Low – site must be located that are not already required to be replanted (by law or business as usual).
Avoided Deforestation	Excellent – Very significant benefits can be had through preserving forest pools and the ability of those forests to sequester more carbon in the future.	Moderate – more difficult to verify, usually based on average conversion rates, leakage must be addressed	Medium – depends on site, real estate values may be very high (opportunity cost)	Medium – only available to lands in urbanizing areas
Avoided Catastrophic Fire	Good – Avoiding catastrophic fires due to unnatural fuel buildup and overstocking can have significant benefits.	Moderate – must be based on risk percentages	High – fuel removal and thinning can be very labor intensive	High – many opportunities, especially on federal lands.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
MISSOURI DEPARTMENT OF
CONSERVATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Lisa Allen - State Forester

Organization(s) you represent

Missouri Department of Conservation

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

State Forester/Division Chief

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A cap and trade program that provided a forest carbon offset market would be the most beneficial for Missouri's forests. A cap and trade system that requires Non-Industrial Private Forest landowners (NIPF) to manage their forest in a sustainable manner and provides a steady source of income can significantly improve forest health and reduce the amount of forestland conversion in our state.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

This question is a bit vague. Forests will be an offset producer and not a polluter. Most Non-Industrial Private Forest landowners (NIPF) that would offer carbon credits would fall well below the 25,000 ton/year proposed minimum limit and should not be covered by any carbon reduction program. Growing and managing a forest at the (NIPF) scale has a very low carbon footprint, and more energy would be extended in verifying any reductions they might have than the reductions themselves would be. The manufacturing industry side of forestry could discharge significant volumes of CO2 into the atmosphere and should be covered under a carbon reduction program. Modern logging equipment does burn fossil fuel, but at rates well below the 25,000 ton/year threshold.

Large manufacturing facilities, greater than 25,000 ton/year, which use forest products, such as paper mills, should be subject to the same carbon emission reductions as other manufacturing facilities. Small and medium facilities are suffering under the current economic downturn and would likely go out of business if included in mandatory carbon reduction standards.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Our expertise is limited to the forestry aspects of the question. Congress needs to be careful not to mandate how Non-Industrial Private Forest landowners (NIPF) manage their land. However, land conversion to non-forestry uses is a significant concern in Missouri

and a system needs to be put in place to mitigate for the loss of carbon sequestration potential caused by the loss of the forest.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

No, this should be a single national program with uniform conditions and regulations so that producers and landowners have a common point of reference and confidence that the program is sound and viable nation-wide and internationally.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Such a program would be of sufficient complexity to warrant its own agency. This would preclude competition for resources and conflict with other programs within an existing agency. Such a federal entity should be independent of Congressional and Executive decision-making, similar to the Federal Reserve System, to avoid excessive politicization.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

We do not believe a derivatives or futures market developed for this commodity would be positive. As much of the profit as possible should return to the Non-Industrial Private Forest landowners (NIPF) who are sustainably managing their forest land for carbon credits. Sustainable forest management does involve a cost to the forest landowner and the more profit a landowner can make from properly managing their forest the more forest will be sustainably managed.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Higher energy cost would be hard on low income families.

In the case of forests, carbon markets should actually benefit these populations in a couple of ways. First, the markets would provide a new revenue source to add to the economy. Second, this program could help encourage sustainability and therefore help ensure a stable and sustainable forest products industry into the future. However, if forest management activities, in particular timber harvesting, were regulated as part of a carbon reduction program, local economies strongly dependent upon the forest products industry could be devastated. Forest landowners would also be denied a source income which helps individuals keep their forest as forest.

One of the factors influencing the extent of negative impacts is where the burden of proof rest with proving the reductions. If only entities which produce more than 25,000 tons of CO2 per year are affected then the forestry sector in Missouri will be minimally affected. If any producer of carbon credits is required to document a carbon reduction, this could prove cost prohibitive for Non-Industrial Private Forest landowners (NIPF) to participate in the program.

Finally, an active carbon market may alter land tenure, land values and land management. A new structure of control will alter what land managers can do to comply with contractual obligations of the carbon market. Land owners will likely be aggregated into larger packages to connect them with carbon brokers and investors. There is a potential that large investors may view land holding of vast tracks as a way to minimize overhead and work directly with carbon-producers. Complying with carbon sequestration regulations will alter land management activities for those wishing to enroll their lands in a carbon program; we need to insure these changes promote forest sustainability, forest management and the local forest products markets.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Fund technical and financial assistance support for landowners and producers in cooperative state and federal agencies. Fund public projects to offset any possible losses in tax revenues.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

No because they will pass such cost to consumers. Additional assistance would result in them being compensated twice.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

State land should be allowed to provide carbon offsets under the same guidelines as other forest land. Natural Resource agencies are traditionally underfunded and this will provide some additional funding agencies can use to improve the health and adaptability of their state forest. Revenue from the sale of offsets needs to come back to the managing agency so they can use the funds for resource improvement and not to statewide general revenue.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should be determined exclusively by market forces. Letting market forces determine the cost of emitting carbon and the prices paid for offsets will chart the quickest path to meeting reduction targets. Markets will provide the greatest incentive for emitters to emit less and will create the most robust pool of offsets. This will probably result in at least one price spike according to a P.E.W. report, but it will provide the motivation needed for businesses to change the way they operate. Any carbon credit offset market should be considered somewhat temporary at around 50 years, which is only about half a rotation length for a Missouri oak tree.

If limits are considered, our recommendation is for a minimum guaranteed return to be established for "forestry/agriculture carbon credits". At present time, all of society benefits from the ecosystem services provided by forests. However, landowners receive no monetary compensation for these services. In fact they have to pay taxes, which make it harder for them to sustainably provide these services.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Forestry's significant role in a cap and trade system is as an offset producer, there are very little gains to be made in a reduction program. The biggest benefit to Missouri's forest from a cap and trade system will be to have a "managed forest" component that requires certification from one of the sustainably managed forest programs such as SFI, PEFC or FSC. 84% of Missouri's forest is owned by Non-Industrial Private Forest landowners (NIPF). On Missouri's NIPF land less than 10% is managed with the assistance of a professional forester and only about 5% of the annual timber harvest is conducted with the assistance of a professional forester. Providing an annual stream of revenue via carbon offset credits to NIPF's who have their land enrolled in a certified sustainable forestry program will provide tremendous benefits to Missouri's forest and the local economies.

Bonus allowances would be a great way to further ensure the sustainability of forest contributions to carbon reduction. For instance, bonus allowances/incentives could be given to landowners who establish permanent conservation easements. These easements would ensure that forests remain forests into the future, and thus continue to store considerable carbon. Language could also be included into easements to require sustainable forestry.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

A free market scenario will take care of the number of offsets required/available. Emitters who initially choose to meet their reduction benchmarks by only purchasing offsets will eventually be forced by the price and scarcity of offsets to move away from offsets to making real modifications of their operations to reduce their output of GHGs.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Adoption of the CCX measuring and accounting protocols for forestry offset projects, perhaps with minor modifications will save a lot of time and reinvention of the process.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Certification of sustainable management is a must for offset projects. CCX has a good model in place. This should be used.

Avoided deforestation (REDD) should also be recognized by the new system. Carbon credits, or some other mechanism, should also be put in place to assist landowners who maintain their current storage of carbon, even if they are not sequestering additional carbon. This would help keep forest in forest. Deforestation over the last century is probably the second biggest reason why our current atmospheric carbon levels have grown so high, behind our use of fossil fuels. Part of this equation will be to make sure that current forest acreage remains stable or increases.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should not design an offset verification process. The agency in charge of the program should adopt the CCX verification protocols, perhaps with minor modifications. Enough work has already been completed in this area.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A project-based evaluation process will much more accurately reflect the wide range of forest productivity present in the U.S. Direct measurement will provide a more accurate assessment of the amount of carbon being sequestered by a site. This approach will also create more of the "green jobs" being emphasized by the President. Professional Foresters will be needed to make these assessments.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The CCX seems to have a pretty good system set up. A minimum of ten years is appropriate for forestry practices in the "managed forest" category. Afforestation for bioenergy would have a shorter time frame. Product harvesting is a part of a sustainably managed forest. Harvesting does not automatically mean the carbon is returned to the atmosphere. Allowances need to be made for the carbon stored in wood after the tree is harvested and for the use of wood waste during the manufacturing process, especially if the wood waste is used for energy.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Once current projects have fulfilled their contract period, they can then join the new program if the landowner so chooses.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early adopters should receive bonus offsets once their current contracts have expired. Their proactive efforts should be rewarded. Landowners should be encouraged to "stack" credits if they choose to. The larger the income stream to landowners from ecosystem service payments, the more likely the land is to stay in forest. Private forest lands provide many environmental benefits to society as a whole. Valuing those contributions will help ensure the future viability of private forest lands. Keeping forests as forest is a huge challenge facing our society, and will continue to be into the future. Payments to landowners will help counter the conversion of forest land to developed uses. In Missouri the ratio of forest acres to the population of the state has experienced a steady decline from almost 6 acres of forestland per person at the turn of the 20th century to just under 4 acres per person in 1950 to about 2.5 acres per person at the turn of the 21st century. At some point there is a critical mass of forestland needed to support humans and the importance of keeping forest as forest becomes a necessity.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Cost-shared activities are providing benefits to society, otherwise we wouldn't be paying for them. Their contribution to reduction of GHG in the atmosphere is a bonus for which the landowner should be compensated. If a carbon market really takes off, prices rise to high levels, and many landowners are receiving sizable carbon payments, cost share rates can be adjusted to allow the program to reach more landowners.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Congress should provide concise direction and clear intent. Delegate the protocols and procedures to the new agency recommended in answer #5. The new agency certainly needs to gather input from natural resource agencies in USDA, USDOI and USEPA; academia; state agencies; professional foresters and other private interests. The CCX provides an excellent model that can be followed without the need to reinvent the system.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

For Non-Industrial Private Forest landowners (NIPF) the main obstacles have always been time, money, equipment, and knowledge. State cost share amounts have only been enough to support a small pool of contractors. If revenues are generated through the carbon offset program for the NIPF landowners who are enrolled in a certified sustainable forestry program there will be money available to support more conservation contractors. The Missouri Department of Conservation has submitted a proposal through the US Forest Service's State and Private Forest program for ARRA money to train more contractors through the AmeriCorps program.

There is also concern that landowners will fear signing a carbon contract because it would mean the loss of control by the landowner.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon

and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No! Existing conservation and forestry programs do not provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions. Provisions in the 2009 Farm Bill will help, but providing a free market carbon offset trading system can pump millions of dollars more into the implementation of sustainable forest management practices.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** *to verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners *to implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	Medium	High
Sustainable Forest Management	Excellent	Excellent	Medium	High
Conservation Easements	Excellent for maintaining existing carbon storage.	Excellent	Medium/High	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** *to verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners *to implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** *at sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** *to verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners *to implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
BRIAN A. MYERS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Brian A. Myers

Organization(s) you represent

I am a private Forestland owner

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

I am in favor of a cap and trade program not a tax approach

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

They should be included as they are a valuable carbon reduction option

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

I a in favor of the ccx market

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

A new agency

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

I can see no where where a carbon reduction program will have a bad inpact

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Landowners can offset timber harvests by selling offsets

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

No role, let private lands play the role. Pulic lands are already presearved.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
NATIONAL CORN GROWERS ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Rod Snyder

Organization(s) you represent

National Corn Growers Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

NCGA has not endorsed any particular climate bill that has been introduced in Congress to date. Our own policy continues to develop on this issue. There are several important factors to consider. First of all, Congress must assess the cost-benefit of any system to control climate change. Based on the European experience, we run the risk of constructing a complex cap-and-trade system that achieves almost no GHG emissions reductions relative to the amount of resources required to operate the program. At the same time, a carbon tax would surely generate higher costs without the opportunity for agriculture to assist with mitigating overall economic impacts through offsets. A properly constructed cap-and-trade program could have the potential to deliver benefits to the agriculture industry, and that is where we have focused most of our attention in recent months.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture and forestry should not be directly regulated under a cap-and-trade program nor be subject to performance standards for GHG emissions reductions under the Clean Air Act. America's 2 million farming and ranching operations represent a small percentage of overall GHG emissions in the U.S., and it would not be cost-effective for the federal government to attempt to regulate such a diffuse and relatively insignificant source of emissions. Meanwhile, agriculture can provide low-cost, real and verifiable carbon offsets that greatly lower the costs to society of a cap-and-trade system while achieving real GHG emissions reductions.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Allowances should be distributed at no-cost or low-cost to regulated industries at least during the initial stages of the cap-and-trade program with a transition to an auction over time. This will mitigate the impact on the overall economy, particularly if the distribution of free allowances is prioritized for actions and practices that will result in the lowest cost to the consumer. Allowances for agriculture and forestry should also be used to incentivize

projects that may not yet qualify to participate in an offset market but still have the potential for GHG reductions.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A uniform nationwide system that averts the segmentation of the carbon marketplace is critical to the success of cap-and-trade program. Projects initiated under existing voluntary regional programs should be allowed to move forward under the new system if they meet the criteria established to ensure that credits are real and verifiable.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

With respect to agricultural offsets, NCGA feels strongly that USDA should promulgate the rules and administer this program. This authority is provided under statutory requirement in the 2008 Farm Bill. Furthermore, USDA has the institutional resources and the technical expertise necessary to create and administer an agricultural offset program that is reasonable and compatible for production agriculture. In addition, USDA has a track record of collaborating with farmers as well as studying, modeling and measuring conservation and production practices that sequester carbon and that promote appropriate manure management and nutrient application on agricultural lands. USDA should be given adequate flexibility in implementing an offset program that allows the agency to account for new technologies and practices that emerge, which result in emission reductions from agricultural sources. While EPA will likely be issuing the actual carbon credits and overseeing the overall program, USDA should play a key role for the implementation of agricultural offsets.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

NCGA does not have a position at this time.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

NCGA does not have a position at this time.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

NCGA does not have a position at this time.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Please see the answer to #10.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

From agriculture's perspective, we anticipate that there could be significant increases in fertilizer prices due to higher manufacturing costs under a cap-and-trade system. Likewise, farmers in rural areas might expect higher electrical prices due to a greater reliance on coal amongst rural electric providers. Meanwhile, corn growers and other commodity producers have no control over the price they receive on the market for their grain, which means there is little or no opportunity to recoup these additional costs. Congress should consider such factors when determining how to distribute transitional assistance to various industries.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

NCGA does not have a position at this time.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should be determined by market forces, just as prices for other commodities are determined by market-based economic factors. An artificial limit on carbon prices could discourage participation by farmers and other offset providers while also inhibiting innovation within the regulated community. The best way to ensure reasonable carbon prices is the through the creation of a sizable offset pool with a robust supply of credits.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU-ETS has provided only minimal opportunities for agricultural producers to participate in an offsets market, particularly for row crops. While not the only factor, this has certainly contributed to the overall higher costs of the program by limiting low-cost reduction strategies. In addition, the verification requirements for each offset project are too stringent and have caused the transaction costs to be far too high. If similar requirements were created in the U.S., it would almost certainly diminish participation in the system by farmers and ranchers. Congress should consider cost-benefit when determining the level of certainty needed for each carbon credit.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

NCGA believes that the creation of a robust offset market would help reduce GHG emissions, mitigate the overall cost of the cap-and-trade program, and provide direct benefits to agricultural producers. Any cap-and-trade legislation must fully recognize the wide range of GHG mitigation or sequestration benefits that agriculture can provide. In addition, Congress should also consider the possibility of providing limited allowances for the agriculture sector that can be used to develop new technologies, recognize and reward innovative practices, and ease transition costs for producers.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The use of domestic offsets should not be artificially limited. The agriculture industry, particularly production agriculture has significant potential to assist with the reduction of

GHG emissions. According to current estimates agricultural and forestry lands can help to reduce up to 20% of US GHG emissions on an annual basis. Therefore, it is unwise and would allow for market distortion, if an artificial cap were placed on the amount of domestic offsets a covered entity could use to meet its yearly obligations. The goal should be to remove as much GHG from the atmosphere as possible. Artificial caps will prevent legitimate carbon sequestration, livestock methane capture, and manure gasification projects from occurring.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress should not attempt to dictate the distribution of offsets. Similar to #12, the distribution of offsets should be driven by market forces. If a particular offset project has been approved, that offset should be fully fungible and tradable within the system. The value of offsets may be variable based on the duration of the contract or the quality and permanence of a particular practice, but we view this quite differently than Congress prioritizing the distribution of offsets.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The 2008 Farm Bill called upon USDA to establish protocols for various environmental markets, including carbon. It is our understanding that USDA already has a body of research to help develop these standards -- for example, soil carbon sequestration potential for various soil types and geographies. Measurement rates for various offset practices should be established at the national level based on peer-reviewed science and modeling. Real, verifiable credits can be achieved without direct measurement of each individual offset project; however, third-party auditing can be employed to ensure the credibility of the system. Policies should also include provisions for the development of new offset standards and revision of existing standards to account for changing technology and information.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Please see the answer to #17.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should direct USDA to oversee the verification procedures for agricultural offsets. NRCS has experience with administering conservation programs on the ground

and with the appropriate resources would be best suited to oversee agricultural offset verification.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

NCGA strongly believes in a standards-based approach, rather than a project-based approach for measuring offsets. A project-based approach is cost-prohibitive, particularly for smaller farming operations and would preclude many producers from participating in the offsets market. We believe that an acceptable level of accuracy is achievable under a standards-based approach with pre-calculated values based on sounds science. This should not preclude the development of new technologies or innovative practices that would require initial field testing or project measuring; however, even these new types of credits should eventually transition to standard protocols and values for ease of adoption.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The relationship between offsets and allowances is a complex economic question that we are not prepared to answer at this time.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Each offset project type will need to approach the question or permanence differently. In most cases, it is a matter of contract duration rather than literal "permanence". The value of the carbon credit would likely have a strong correlation to the length of the contract. For instance, longer contract periods imply more risk for the seller and should result in a higher price. Policies to address reversals, both intentional and unintentional, will also need to be established. Intentional reversals should be considered a breach of contract and the seller would be held responsible based on the terms of the contact. Unintentional reversals, instances of natural disasters or other unforeseen circumstances, could be handled through a reserve pool or perhaps a mechanism similar to crop insurance, although we do not yet have specific policy recommendations related to this issue. The bottom line is that risk must be managed appropriately for both the offset buyer and seller, and in most cases, the emphasis should be placed on contract duration rather than permanence.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The issues of early actors and additionality remain critically important to NCGA. Some of our members have been participating in CCX for the past several years. Others have been sequestering carbon through conservation practices outside of a trading market. These early actors should not be penalized for being pioneers in the area of no-till or low-till agriculture. Planting and tillage decisions are made each year, and there is a no guarantee that a producer will decide to continue the same practice as the previous season. It is faulty to eliminate these early actors from the offset market based upon this assumption. In fact, even continuous no-till farms, which represent a small percentage of all U.S. acreage, have the capacity to continue to sequester additional carbon for many years in a row. Furthermore, Congress should not establish policies that offer perverse incentives to producers that have heretofore been sequestering carbon in the soil. At the same time, these early actors, including those who had previously participated in CCX or other trading regimes, would need to meet the new standards and contractual obligations; require ongoing actions by the offset seller to ensure that offsets will continue to occur; and only be paid for the future offsets that occur as a result of these ongoing actions and not for offsets that occurred in the past.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

With respect to stackable credits, various agriculture practices are undertaken to reduce greenhouse gas emissions which will provide additional public benefits, such as clean water, wildlife habitat, and reduced soil erosion. Current projects participating in a greenhouse gas offset market should not be excluded from also participating in other markets for environmental services that currently exist or may arise in the future. Allowing producers to "stack" credits will maximize the economic viability of carbon sequestration and manure management projects, ensuring more projects are undertaken and synergies with other environmental priorities are developed. In addition, new climate programs should complement existing conservation programs within the Farm Bill. See #23 for additional information on this question.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Similar to #23 and #24, the original intent of the sequestration practice should not be a factor in determining whether the project qualifies for participation in the offset market. Any project that meets measurement and verification protocols should be allowed to be sold on the carbon market.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Please see the answer to #22.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

NCGA believes that cap and trade legislation should provide an initial list of project types that will be eligible for agricultural offsets. Both the regulated community and agricultural sector should be provided with assurances that agricultural offsets will be available in order to lower the costs of a climate change program. Furthermore, the regulated community should be assured that a sufficient quantity of offsets will be available for purchase so that they may comply with a mandatory cap. In order to assess the full impact of cap and trade legislation on agriculture, any legislation should provide the agricultural sector with a clear definition as to which project types the Congress considers to be eligible as agricultural offsets. An initial, non-exhaustive list of project types in the legislation is critical to addressing these concerns. Shifting the burden of the decision making process to an entity other than Congress would create a great deal of uncertainty.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Access to technical assistance remains a major challenge. If structured improperly, the cost of measuring, monitoring and verification for offset projects could also be considered prohibitive for most farmers. Under current voluntary markets, carbon credits are undervalued relative to the cost of adopting certain sequestration practices, so participation has not been widespread. In addition, many technologies and projects that could have significant greenhouse gas benefits have not been developed and tested for climate benefits, which will require additional investment and research.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

There are no existing conservation programs that would provide nearly the same level of financial incentives for carbon sequestration as a cap-and-trade system. Other conservation

programs may have mutually beneficial goals; however, nothing would be on par with the funding generated from cap-and-trade. Congress should provide additional resources to USDA to provide technical assistance to producers if cap-and-trade legislation is adopted.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

NCGA supports performance-based public policies that advance the production and use of low carbon fuels, such as corn ethanol. Low carbon fuels offer tremendous opportunity for the current and future ethanol industry. In addition, policies should be harmonized to avoid market confusion and inequities. However, low carbon fuels policies must be based on sound science and defensible life-cycle analysis modeling. Life-cycle analysis is the foundation for any low carbon fuels policy and must be done accurately. In order to avoid inadvertently picking technology winners and losers, it is essential that all regulated fuels are evaluated using the same well-defined and consistent analytical boundaries. There is widespread agreement in the scientific and research communities that biofuels produced from U.S. farms have significant benefits over petroleum and other fossil fuels like natural gas based on the "cradle to grave" carbon emissions associated with producing and using the fuel. For example, corn-based ethanol receives a 67 g/MJ. Advanced biofuels like cellulosic ethanol and renewable diesel have even better carbon scores. If regulations are to be truly technology neutral, low carbon fuels should be allowed to compete fairly against the high-carbon fuels they replace. Each fuel must compete on its own merits. For example, if indirect land use change effects are included in life-cycle analysis, they must be considered for all fuels. Today, the estimation of indirect land use change is highly speculative and uncertain. There are no consensus methods or tools to determine indirect effects. The ongoing discourse and research surrounding land use change issues clearly suggests we are not currently able to estimate indirect land use changes with any degree of certainty. Furthermore, it is vitally important to note that corn production is becoming increasingly more efficient. Today, through technological advances America's corn growers have the ability to apply fewer inputs to produce larger crops on the same land. Currently it takes about 40 percent less land to grow a bushel of corn than in 1987, and energy used to produce a bushel of corn has fallen by an average of 50 percent. According to Keystone Center's "Field to Market" Report released in January 2009, the production of corn in the U.S. has made significant measurable improvements in reducing energy, water, land use and carbon emissions. U.S. farming practices are advancing and will continue to advance in terms of sustainability and productivity. For example, according to the United States Department of Agriculture (USDA), in 2008 American corn growers produced the second largest corn crop on record and attained the second highest yield per acre in history with fewer energy and fertilizer inputs. The soundness and effectiveness of a policy framework based on concepts that are not fully understood would most certainly be called into question by stakeholders and consumers alike.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
SOCIETY OF AMERICAN FLORISTS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Lin Schmale

Organization(s) you represent

Society of American Florists

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Senior Director of Government Relations

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We are not prepared at this point to finalize an opinion on these approaches.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Although carbon reduction is clearly a necessary goal, the implications of any program must obviously be carefully considered as well. Particularly for the greenhouse industry, which very often competes in international trade, mandating reduction without considering the economic consequences could, literally, make the U.S. industry non-competitive.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

We cannot respond to this question at this time, although under any such program it would seem logical that agriculture, including greenhouse production, should be recognized as a contributor to carbon reduction, because its business is production of plant material. Thus, emissions allowances for agriculture would logically be set and made available differently than for other industries.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

We are not able at this time to respond.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

USDA must have a very strong voice in any such program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

We are not able at this time to respond.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

We are not able at this time to respond.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

A carbon reduction program will almost certainly have negative economic impacts for agriculture and agriculture-related populations, including residents of rural areas, producers, and transportation sectors. For example, many commercial floriculture operations are located in rural or suburban areas, adding transportation costs and issues.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

We are not able at this time to respond.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

We would agree that sectors affected by higher overall costs should indeed receive transitional assistance. As noted above, the greenhouse industry is a strong contributor to the U.S. economy. It is also, for the most part, a relatively high energy consumer. Yet the plants produced by our industry help sequester carbon, just like any other agricultural products do. In order to prevent the demise of the greenhouse industry in the U.S., some kind of transitional assistance would certainly be necessary.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

We are not able to respond at this time.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

We are not able to respond at this time.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

We believe that the EU's ETS should provide, at the very least, instructive lessons as the U.S. moves toward developing a program. We would hope that the inclusion of agricultural production in any U.S. program would be developed incrementally, and with great caution.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

We are not able to respond at this time.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Offsets appear to be an important component in setting and achieving realistic goals without disrupting the nation's economy. It would seem logical that there should be no limit on the issuance of offsets.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

We are not able to respond at this time.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

These criteria will have to be carefully crafted and should remain flexible enough to allow the U.S. to "learn over time" as it attempts to reduce its carbon emissions.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

We are not able to respond at this time, although we would argue that for agriculture, the life cycle of materials produced should be considered.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

We are not able to respond at this time, except to note that flexibility will be key in designing and implementing any offset program.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

We are not able to respond at this time.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

We believe this relationship should be no less than a one-to-one ratio. Anything less is simply counter to the overall objective of carbon reduction.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

We are not able to respond at this time.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

We are not able to respond at this time.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Existing programs and efforts must be recognized and rewarded. Activities undertaken to reduce carbon emissions should absolutely be allowed to count toward other environmental values, including water quality, wildlife habitat creation, and any other environmental goals. It would be nonsensical to try to require separate accounting for every environmental effort industry undertakes, and any such effort would only decrease our nation's ability to reach its environmental goals overall. "Stackability" and "additionality" must be retained and encouraged in any carbon reduction program.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

There should be absolutely no penalty or diminishment of credits based either on government assistance for programs or on the purpose for which a program was implemented.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A producer should be held liable only in circumstances where negligence or failure to comply is demonstrated. Natural disasters or other events uncontrolled by the producer should not impose liability.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

We would urge that Congress set general guidelines and direct the Executive Branch to work closely with industry in developing programs which should be incrementally begun, with careful oversight, correction, and reference to other U.S. regulatory programs, to the economy of the various sectors impacted, and to other systems in the world economy.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Cost, the availability of new technologies, and an atmosphere of regulatory cooperation and continuity will be critically important. U.S. agriculture competes in the world economy, and must not be put at a disadvantage in that global economy.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

New programs promoting the use of American agricultural products in highway, park, home and other landscaping, and other practices to mitigate climate change impacts should be encouraged. Technical assistance and incentives will be imperative as our nation attempts to move toward carbon reduction without destroying its economic base.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

○