

**H.R. _____, THE ENERGY
TAX PREVENTION ACT OF
2011**

HEARING
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
OF THE
COMMITTEE ON ENERGY AND
COMMERCE
HOUSE OF REPRESENTATIVES
ONE HUNDRED TWELFTH CONGRESS

FIRST SESSION

FEBRUARY 9, 2011

Serial No. 112-2



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energycommerce.house.gov

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**H.R. _____, THE ENERGY TAX PREVENTION
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THURSDAY, FEBRUARY 9, 2011

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY AND POWER,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 9:38 a.m., in room 2123 of the Rayburn House Office Building, Hon. Ed Whitfield (chairman of the subcommittee) presiding.

Members present: Representatives Whitfield, Sullivan, Shimkus, Walden, Terry, Burgess, Scalise, McMorris Rodgers, Olson, McKinley, Gardner, Pompeo, Griffith, Barton, Upton (ex officio), Rush, Inslee, Matheson, Dingell, Markey, Engel, Green, Capps, Doyle, and Waxman (ex officio).

Staff present: Mary Neumayr, senior energy counsel; Peter Spencer, professional staff member; Maryam Brown, chief counsel, Energy and Power; Elizabeth Lowell, legislative clerk; Ben Lieberman, counsel; Cory Hicks, policy coordinator, Energy and Power; Phil Barnett, democratic staff director; Greg Dotson, democratic chief counsel, Energy and Power; Alexandra Teitz, senior democratic counsel; and Caitlin Haberman, democratic policy analyst.

OPENING STATEMENT OF HON. ED WHITFIELD, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF KENTUCKY

Mr. WHITFIELD. I would like to call this hearing to order this morning. The topic of our hearing, it is a legislative hearing on the Energy Tax Prevention Act of 2011. I certainly want to welcome the members of the subcommittee. I look forward to working with all of you as we seek to craft an energy and environmental strategy and policy that will be in the best interest of the American people, and I believe that can best be accomplished by Congress and the EPA working together. Congress intends to reassert itself in the statutory and regulatory process at EPA.

I am pleased to be serving again with my friend and colleague, the ranking member, Mr. Rush. We served on the CTCP Subcommittee in the last Congress, and I look forward to working with him as well as all members of the subcommittee.

I also want to thank our witnesses today and thank them for being here to help us look at this very important issue. We are going to have four panels of witnesses today, and all of them are

going to provide us with information that is going to be helpful as we move forward.

Today's hearing is going to focus on greenhouse gas rulemaking within the Environmental Protection Agency that many of us believe attempts to address an issue properly within the purview of the Congress, and then we are also going to be talking about legislation that has been introduced that would restore the proper balance to decision-making affecting greenhouse gases.

The Obama Administration has been the most aggressive in recent memory. As a matter of fact, six rules were issued on Christmas Eve and there is a pipeline full of regulations waiting to be issued, and States frequently are not being given adequate time to reexamine and rewrite State implementation plans to respond to this aggressive pace. I, like others, have been besieged with calls from entities all over the country complaining about EPA's attempt to regulate greenhouse gases. Congress has made its will crystal clear on this issue. Our esteemed colleague, Chairman Emeritus John Dingell on the Democratic side, who led the negotiations on the 1990 Clean Air Act Amendments, wrote, "I would have difficulty concluding the House-Senate conferees who rejected the Senate greenhouse gas regulatory provisions contemplated regulating greenhouse gas emissions or addressing global warming under the Clean Air Act." As recently as 2008, Mr. Dingell warned that regulating greenhouse gases under the Clean Air Act rather than new legislation would lead to, as he said, glorious mess. And then on July 25, 1997, Senate Resolution 98 expressing the sense of the Senate that the United States not be a signatory to the Kyoto Protocol that would have required the United States to reduce greenhouse gas emissions was approved by the Senate by a vote of 95 to nothing. And when the 111th Congress revisited this issue last year, it responded with a resounding no to regulating greenhouse gases by not passing the so-called cap-and-trade bill.

Although Congress has made its position abundantly clear not to regulate greenhouse gases, we now have a bureaucracy, unelected staff at EPA and the courts pushing the United States down a path that in my opinion will cost jobs and make us less competitive in the global marketplace. Furthermore, what is worse about this is that technology is not available to capture greenhouse gases, and we do not have any idea what the cost versus the benefits will be. And if the tailoring rule is determined to be a violation of the Clean Air Act, which is certainly possible, EPA applying the statutes permitting these thresholds has estimated that over 6 million sources in our country would need to obtain Title V operating permits and also it would lead to 82,000 permitting actions annually under the preventing significant deterioration formula, and it has also been estimated at EPA that doing that would estimate a cost of \$22.5 billion it would cost permitting authorities in the United States.

So good energy policy is about expanding choices. All of us know that our energy demands are going to basically double by the year 2035 and we are going to need energy from all sources to meet the demands of this country. We are going to renewables, we are going to need natural gas, coal, nuclear, everything, and I do get the sense that sometimes those people who are pushing this country

down a quick pathway to green energy are more interested in putting fossil fuels out of business than they are working to solve this problem. We recognize that we have to have energy from all sources.

So I am delighted that you are here today. We look forward to the testimony of all of you.

[The prepared statement of Mr. Whitfield follows:]

PREPARED STATEMENT OF HON. ED WHITFIELD

Good morning, and welcome to Members of the Subcommittee. I look forward to working with all of you as we seek to craft energy and environmental policies that will be in the best interests of the American people. That can best be accomplished by Congress and EPA working together. Congress intends to reassert itself in the statutory and regulatory process at EPA and specifically the Clean Air Act.

I am pleased to be serving again with my friend and colleague, the Ranking Member, Mr. Rush. We served on the CTCP subcommittee in the last Congress and I look forward to working with him and all members of this subcommittee.

I would also like to welcome our witnesses, and thank them for being here and for their contributions to today's discussions.

Today's hearing will focus on a greenhouse gas (GHG) rulemaking within the Environmental Protection Agency that many of us believe attempts to address an issue properly within the purview of the Congress, and legislation that would restore the proper balance to decision-making affecting it.

The Obama Administration EPA has been the most aggressive in recent memory. Six rules were issued on Christmas Eve and there is a pipeline full of regulations waiting to be issued and states are not being given adequate time to examine and re-write state implementation plans to respond to this aggressive pace.

I have been besieged with calls from entities all over the country complaining about EPA's attempt to regulate greenhouse gases. Congress has made its will crystal clear on this issue. Our esteemed colleague, Chairman Emeritus John Dingell, who led the negotiations on the 1990 Clean Air Act amendments wrote, "I would have difficulty concluding that the House-Senate conferees, who rejected the Senate (greenhouse gas) regulatory provisions contemplated regulating greenhouse gas emissions or addressing global warming under the Clean Air Act." As recently as 2008, he warned that regulating GHG's under the Clean Air Act rather than new ...legislation would lead to a "glorious mess."

On July 25, 1997, S. Resolution 98, expressing the sense of the Senate that the United States not be a signatory to the Kyoto Protocol that would have required the United States to reduce greenhouse gas emissions was approved by a vote of 95 to 0.

When the 111th Congress revisited this issue last year, it responded with a resounding no to regulating greenhouse gases by not passing the so called "Cap and Trade" bill.

Although Congress has made its position abundantly clear not to regulate GHG's, we now have unelected staff at EPA and the Courts pushing the United States down a path that in my opinion will cost jobs and make us less competitive in the global market place. Furthermore, the technology is not available to capture greenhouse gases and we do not have any idea what the cost vs. benefits will be. If the tailoring rule is determined to be a violation of the Clean Air Act, EPA applying the statues permitting thresholds has estimated that over 6 million sources would need to obtain Title 5 Operating Permits and also that it would lead to 82,000 permitting actions annually under PSD, resulting in an estimated cost of 22.5 billion dollars to permitting authorities.

President Obama and Administrator Jackson have said their efforts to regulate GHGs will be considerably costlier and less workable than the legislation Congress rejected last year.

Good energy policy is all about expanding choices - including allowing the increased use of coal if the American economy needs it. There's a role for alternatives, but only to the extent they can compete on a level playing field with conventional energy and don't drive up energy costs for consumers and businesses. Many of us are concerned that EPA's regulations are all about artificially raising the cost of using coal and other fossil fuels in order to drive them out of the marketplace - in other words, reducing energy choices.

There's a reason other manufacturing nations, including China, are not considering anything even remotely like these EPA regulations. They recognize the obvi-

ous fact that higher energy costs at home will send jobs abroad. Manufacturers in China are doing just fine without us handing them a comparative advantage with these EPA regulations.

Let's face it, these regulations and others from EPA amount to a war on domestic coal. Coal is the energy source America possesses in the greatest abundance. It provides half the nation's electricity and 92 percent in my home state of Kentucky, and it does so because it is affordable.

Without coal, residential electric bills would be higher, and many energy-using manufacturers would be at a global disadvantage compared to other nations that don't hesitate to use it.

For example, in Webster County, Kentucky, we have an aluminum manufacturing company, which molds aluminum for various products around the world. This facility employs 500 people in a county with a population of roughly 15,000. EPA's regulations will most certainly raise electricity rates to a point where these smelters and those jobs will move overseas.

In addition, without coal, hundreds of thousands of miners and others who derive their livelihoods from coal would be out of work, and many communities would suffer. In Kentucky, miners represent 17,000 people and the indirect impacts of coal keep the Commonwealth's economic engine running.

EPA's global warming regulations are tailor-made to raise energy costs for customers of any utility or manufacturer that wants to use coal as a fuel source. But EPA's war on coal goes beyond that. The agency's decision to revoke a mine permit in West Virginia that had already been approved, coupled with burdensome new regulations under the Clean Water Act, raise troubling questions whether EPA has lost sight of its environmental protection role and is trying to set industrial policy.

Of course, in order to meet our energy demand and continue to grow our economy, we need all energy sources, including coal, natural gas, oil, nuclear and renewables.

I'm not going to support anything that threatens our economic recovery and I will oppose anything that will weaken our economy or make us less competitive in the global market place. For these reasons, I support the Energy Tax Prevention Act, which will properly reassert Congress' authority in this area.

I look forward to hearing from our witnesses and I now recognize the Ranking Member of the Subcommittee, Mr. Rush.

Mr. WHITFIELD. At this time I would like to recognize the gentleman from Illinois, the ranking member of the subcommittee, Mr. Rush, for 5 minutes for his opening statement.

OPENING STATEMENT OF HON. BOBBY RUSH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. RUSH. Thank you, Mr. Chairman, and I want to thank you very much for this opportunity. I want to congratulate you on your selection to become chairman of the Energy and Power Subcommittee. As you have indicated, I too enjoyed very much working with you when you were the ranking member of the Subcommittee on Commerce, Trade, and Consumer Protection. You and I worked together hand and hand to move a lot of legislation through the subcommittee in the 111th Congress, and I look forward to the same outcomes in the 112th Congress.

Unfortunately, I can't say that the discussion draft that we are taking up today exemplifies good legislation. Before delivering my opening statement, Mr. Chairman, I want to get a few things off my chest. I really have a bone to pick. I know that this is a new Congress and a new majority has come in with it. That said, our committee rules, procedures and decorum have remained substantially the same. Mr. Chairman, if we are not careful to set the right course of action moving forward, we will find ourselves lost in a sea of confusion, and we get our sea legs underneath us, we must try to do better.

I am extremely troubled by the Majority's stubborn resistance to inviting credible witnesses at this hearing who think and believe the EPA has a duty and the authority under the Clean Air Act to regulate greenhouse gases. Stacking different cards with the same suit will rig the outcome before the first hand is even dealt. But that isn't what the American people and the American taxpayer want, and that is certainly not what they deserve. This is the House of Representatives. We represent all the American people and all businesses and public interest, not just some of them or the ones who support what we and our little circles want to do and desire to do.

As I said earlier, this hearing's focus is on a legislative draft known as the Upton-Inhofe Energy Tax Prevention Act. The draft bill will eviscerate the EPA by repealing indispensable responsibility and authority the agency holds under the Clean Air Act to preserve and protect human health, our environment, and to promote more efficient use of energy. It would further overturn a Supreme Court decision affirming a lower court's ruling that the EPA has the authority to regulate greenhouse gases and it would prohibit the State of California from regulating greenhouse gas emissions from automobiles as well as stop the EPA from taking further steps in reducing tailpipe emissions. Mr. Chairman, it goes without saying that this proposal before us overreaches by large limits, and Mr. Chairman, this gets me to what my big rub is today. What irritates me the most is the Majority's refusal to invite the Administrator of the EPA, Ms. Lisa Jackson, to testify at today's hearing. The only reason that Administrator Jackson is appearing before us today is because we here in the Majority had to kick and scream and scratch so that Madam Administrator could have her day and the opportunity to defend her agency's findings and judgments here in the halls of Congress. How can we formulate good public policy or look at ourselves as fair and decent lawmakers if Congress as a body doesn't solicit the expert views of the EPA on this legislation? And as a Member of Congress, I want to hear as many pertinent viewpoints as I am able to hear before deciding how to cast my votes on pieces of legislation that are critical to the welfare of our economy, our own safety as human beings and preservation of our planet.

Mr. Chairman, it goes without saying that we should not have to push this hard to get key officials and important witnesses invited to hearings of this magnitude, and that is one reason why, Mr. Chairman, I ask for unanimous consent to enter into the record a response dated December 8, 2010, to a Wall Street Journal editorial entitled "The EPA Permitorium." Mr. Chairman, with that said, I yield back the balance of my time.

Mr. WHITFIELD. I thank the gentleman for that opening statement, and we do look forward to hearing Ms. Jackson. She will be here on the second panel, and we all will look forward to her testimony.

At this time I would like to recognize for 5 minutes the chairman of the committee, Mr. Upton of Michigan.

OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF MICHIGAN

Mr. UPTON. Well, thank you, Mr. Chairman. It is a delight to be here, and I would just open my remarks by saying that it was the Minority that asked for Administrator Lisa Jackson to come, and we are delighted to have her, and with nature, she has got a good parking place right outside the door as well. In all seriousness, that was the Minority's request and we are certainly delighted to make sure that it happened.

This hearing really is about job creation. It is a simple goal but unfortunately one that Washington lost sight of in the last few years. No more. Cap-and-trade legislation failed in the last Congress in that it did not get through the Senate or to the President's desk but now we face the threat of the EPA bureaucrats imposing the same agenda through a series of regulations. Like cap and trade, these regulations would boost the cost of energy not just for homeowners and car owners but for businesses large and small. EPA may be starting by regulating only the largest power plants and factories but we will all feel the impact of higher prices and fewer jobs.

These regs go after emissions of carbon dioxide, the unavoidable byproduct of using coal, oil and natural gas that provides the Nation with 85 percent of its energy. These fossil fuels are such an important part of our energy mix because they are often the most affordable choice. EPA regs seek to take away that choice by making the use of these fuels prohibitively expensive. It is worth noting that for all the mentions of clean energy in the President's State of the Union, he never once mentioned keeping energy affordable. Affordable energy is what keeps our economy moving.

We live in a global marketplace filled with manufacturers working to produce high-quality goods at the lowest cost. I know American manufacturers can compete but not if they are saddled with burdensome regs that put us at a distinct, unfair disadvantage.

Needless to say, the Chinese government and other competitors have no intention of burdening and raising the cost of doing business for their manufacturers and energy producers the way EPA plans to do here in America. Our goal should be to export goods, not jobs.

To do that, we released a draft, and it is a draft, called the Energy Tax Prevention Act. This is a bill that would protect jobs and preserve the intent of the Clean Air Act. It is narrowly crafted. It specifically targets the EPA's regs under the Clean Air Act that regulate carbon dioxide and other greenhouse gases as related to climate change. It allows States to continue setting climate policy as they please, but prevents those actions from being imposed or enforced nationally. It leaves in place the tailpipe standards for cars and light trucks from model years 2012 through 2016, and allows NHTSA to continue to regulate fuel economy after 2016.

I have mentioned what this proposal does, but let me also emphasize what it does not do. It does not weaken the Clean Air Act. It does not limit EPA's ability to monitor and reduce pollutants that damage public health. I have looked back at the comments made by the authors of the revisions to the Clean Air Act in the

early 1990s, and I am confident that our bill actually restores the Clean Air Act to its intended purpose.

I yield the balance of my time to Chairman Emeritus Joe Barton from Texas.

[The prepared statement of Mr. Upton follows:]

PREPARED STATEMENT OF HON. FRED UPTON

Job creation. It's a simple goal, but unfortunately, one Washington lost sight of in the last few years. Well, no more.

Cap and trade legislation failed in the last Congress, but now we face the threat of Environmental Protection Agency bureaucrats imposing the same agenda through a series of regulations.

Like cap and trade, these regulations would boost the cost of energy, not just for homeowners and car owners, but for businesses both large and small. EPA may be starting by regulating only the largest power plants and factories, but we will all feel the impact of higher prices and fewer jobs.

These regulations go after emissions of carbon dioxide - the unavoidable byproduct of using the coal, oil, and natural gas that provides this nation with 85 percent of its energy. These fossil fuels are such an important part of our energy mix because they are often the most affordable choice. EPA regulators seek to take away that choice by making the use of these fuels prohibitively expensive.

It's worth noting that for all the mentions of "clean" energy in the President's State of the Union, he never once mentioned keeping energy "affordable." "Affordable" energy is what keeps our economy moving.

We live in global marketplace filled with manufacturers working to produce high quality items at the lowest cost. I know American manufacturers can compete - but not if they are saddled with burdensome regulations that put us at an unfair disadvantage.

Needless to say, the Chinese government and other competitors have no intention of burdening and raising the cost of doing business for their manufacturers and energy producers the way EPA plans to here in America. Our goal should be to export goods, not jobs.

To do that, we have released a draft proposal called the Energy Tax Prevention Act. This is a bill to protect jobs and preserve the intent of the Clean Air Act.

Our proposal is narrowly crafted.

It specifically targets the EPA's regulations under the Clean Air Act that regulate carbon dioxide and other greenhouse gases as related to climate change.

It allows states to continue setting climate policy as they please, but prevents those actions from being imposed or enforced nationally.

It leaves in place the tailpipe standards for cars and light trucks from model years 2012 through 2016, and allows NHTSA to continue to regulate fuel economy after 2016.

I've mentioned what this proposal does, but let me also emphasize what it does NOT do. It does not weaken the Clean Air Act. It does not limit EPA's ability to monitor and reduce pollutants that damage public health. Let me repeat that: this bill does NOT impact EPA's ability to reduce pollutants that damage public health. I have looked back at the comments made by the authors of the revisions to the Clean Air Act in the early 1990s, and I am confident that our bill actually restores the Clean Air Act to its intended purpose.

OPENING STATEMENT OF HON. JOE BARTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. BARTON. Well, thank you, Chairman Upton.

Welcome, Senator Inhofe, former House member and good friend and senior member of the other body. We are glad to have your comments. I also want to welcome my Attorney General, Greg Abbott, my good friend from Austin, Texas, and the General Manager for Environmental Affairs of Nucor Corporation, Mr. Steve Rowlan, who has several manufacturing facilities in my district.

The great Joe Louis, the heavy champion of the mid-1900s, was facing a difficult test with another heavyweight contender, and

made the comment, "He can run but he can't hide." Well, today we are going to use that in the legislative arena. The Environmental Protection Agency and the Obama Administration have decided basically just because they have the ability to decide as the executive branch that they want to put the American economy in a strait-jacket and cost us millions of jobs and hundreds of billions of dollars a year with these greenhouse gas regulations. They couldn't get it through the legislative process. The Markey-Waxman bill in the last Congress barely passed the House and it did not go anywhere in the Senate so they tried to do it by a regulatory approach. It is not going to work. Chairman Upton and Subcommittee Chairman Whitfield have introduced this draft legislation, and I fully expect in the next month or two that it is going to pass the subcommittee and the full committee.

So today we are going to start that legislative process. I am going to put into the record some comments from one of the EPA officials who had the authority at the time to take a look at the proposed endangerment finding, and I am going to read from the executive summary one sentence and then yield back the balance of Mr. Upton's time. It says, "In many cases, the most important arguments are based not on multimillion-dollar research efforts but by simple observation of available data which has surprisingly received so little scrutiny. In the end, it must be emphasized that the issue is not which side has spent the most money or pushed the most peer-reviewed papers, the issue is whether the greenhouse gas CO₂ hypothesis meets the ultimate scientific test: conformance with real-world data." What these comments show is that in this case the ultimate test, the hypothesis fails. That is why we have put this legislation forward and that is why at the appropriate time it is going to pass and go to the House floor.

With that, I yield back.

[The prepared statement of Mr. Barton follows:]

PREPARED STATEMENT OF HON. JOE BARTON

Thank you Chairman for holding this important hearing. As Chairman Emeritus, I stand with Chairman Upton and Subcommittee Chairman Whitfield in support of denying bureaucrats at the Environmental Protection Agency (EPA) the right to regulate greenhouse gases under the Clean Air Act; and beginning to rebalance the power between the executive and the legislative branches.

For the past 2 years, the Obama Administration has been using the EPA as the means to create an end that I, along with the majority of Americans, strongly oppose. This end results in a world where affordable, reliable, and American-based energy is no longer freely available. This end results in the loss of innovation and job opportunities at home and sends American-owned companies and their jobs overseas. This end results in increasing the cost of fuel, electricity, and other goods and services to the American public.

For the past 2 years, the decisions of executive branch bureaucrats at the EPA have not been subject to congressional oversight and I am glad that this Committee is beginning to remedy that situation starting today. I hope this hearing is just the first in a series of hearings discussing legislation that addresses several of my concerns, including: the many flaws in the EPA's endangerment finding for greenhouse gases; the unjustifiable economic harm being passed on to the American public at little to no proven benefit, health or otherwise; and the inconsistencies in the EPA's approach and attack on individual states' air quality standards and permitting requirements.

I would like to offer a special welcome to Texas Attorney General Greg Abbott. Attorney General Abbott, along with the Texas Commission on Environmental Quality and countless other private sector and state representatives, has been fighting

a good fight and asking the EPA to explain and reconsider specific regulations regarding greenhouse gases and permitting issues and I look forward to hearing from Mr. Abbott and the other witnesses about their interactions and relationships with the EPA.

I, like all Americans, want to breathe clean air and make sure that our children and future generations inherit the same beautiful country that we enjoy now. We already have laws on the books that protect our air and before Congress or federal agencies enact new laws we must examine the facts, the science, the needs of the American public, and the economic impact of new regulations.

Mr. WHITFIELD. At this time I recognize the ranking member of the full Energy and Commerce Committee, the gentleman from California, Mr. Waxman.

OPENING STATEMENT OF HON. HENRY A. WAXMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. WAXMAN. Thank you very much, Mr. Chairman.

Today we hold a hearing on legislation that would rollback the Clean Air Act and block the Environmental Protection Agency from regulating dangerous carbon emissions from power plants, oil refineries and other large polluters. The underlying premise of this bill is that climate change is a hoax. That is the view of the chief Senate sponsor of this bill and it is also the view of our former chairman of this committee, Mr. Barton, and that is the foundation of this bill. This legislation says carbon emissions do not endanger public health and welfare.

Mr. Chairman, you and the new Republican majority have a lot of power to write the Nation's laws but you do not have the power to rewrite the laws of nature, and that is the fundamental problem with this proposal.

In 2009, EPA found that carbon emissions endanger public health and the environment. That was a scientific conclusion that is supported by the National Academy of Sciences, the premier scientific organizations of all the world's major economies.

This legislation would overturn EPA's endangerment finding.

Now, this won't stop carbon pollution from building up in the atmosphere. It won't stop the droughts and floods that are spreading like an epidemic across the globe. It won't protect the air quality of our cities when summer temperatures soar to record levels, and it won't stop the strange weather patterns that have locked much of our Nation in a deep freeze this winter.

What it will do, though, is gut the Clean Air Act and prevent EPA from addressing this enormous threat to public health and welfare.

Protecting public health and preventing climate change should not be a partisan issue. In January 2008, Stephen Johnson, the former EPA Administrator under President Bush, sent a letter to President Bush. Administrator Johnson wrote, "The latest science of climate change requires the Agency to propose a positive endangerment finding. It does not permit a credible finding that we need to wait for more research." And he said that the Bush Cabinet agreed with this position.

The science hasn't changed in the last 2 years, in fact, it has only gotten stronger. Yet somehow belief in science has become another partisan battleground.

This legislation is called the “Energy Tax Prevention Act.” This title is total nonsense because EPA has no authority to levy energy taxes.

What this bill should be called is the “Big Polluter Protection Act.” The only beneficiaries of this legislation are the Nation’s largest polluters. The biggest backer of this bill is Koch Industries, an oil company that spent millions of dollars to elect Republicans to Congress.

Now, members can have different ideas about how to reduce carbon pollution. I believe the steps that EPA Administrator Lisa Jackson is proposing under the Clean Air Act are moderate and appropriate. They are also remarkably similar to the measures that former Administrator Johnson recommended to President Bush. But I understand that members could reasonably have different views. Indeed, I preferred the market-based approach recommended by utilities and manufacturers that was the basis for the House-passed clean energy legislation last Congress.

But what doesn’t make sense is the extreme approach in this bill. It will repeal the only authority the Administration has to protect our health and the environment without providing any alternative. That is another repeal but no alternative to replace it. Why replace it? The science is a hoax, we don’t need to solve the problem, there is no problem. That is the underlying assumption. Well, that will only make the problem worse.

History will not judge this committee kindly if we become the last bastion of the polluters and the science deniers. When carbon emissions rise to record levels and our weather system goes haywire, the American people will ask why we acted so irresponsibly. I hope we will be able to tell them that we stood up for science and public health and rejected this extreme proposal. I yield back my time.

Mr. WHITFIELD. Thank you, Mr. Waxman.

At this time we will introduce our first witness, who really needs no introduction. Senator James Inhofe from Oklahoma is the ranking member of the Senate Committee on Environment and Public Works. Of course, he served in the House of Representatives. He is recognized as a real expert in the field of energy as well as other areas. We are delighted to have him with us today, and I might say that he is floating a discussion draft over on the Senate side very similar to our legislation we have on the House side. So Senator Inhofe, we are delighted to have you with us today and we recognize you for an opening statement.

STATEMENT OF JAMES INHOFE, U.S. SENATOR, STATE OF OKLAHOMA

Mr. INHOFE. First of all, let me thank you for the invitation to be here. It is a joy. The only disappointment I have is that I am not sitting at the same table with Administrator Jackson. I know it surprises and disappoints a lot of people that she and I are really very good friends. I find her—a lot of liberals aren’t this way but in her case, she responds to a question, she gives you an honest answer, and I have always appreciated that.

Much to the chagrin of my staff, I am not going to use my opening statement that they prepared, but so that they won’t be com-

pletely overlooked, I would like to ask that it be made a part of the record, and I will go ahead and ramble just for a few minutes.

Let me share a couple of thoughts that I have with you. First of all, this issue is a new issue to the House, relatively new. We have been dealing with it since Kyoto, since the middle 1990s, and I was in the middle of it back then and you are right, you quoted the statement that was made by some 95 to nothing in the Senate. Now, that statement to refresh memories here, was that we are not going to ratify anything that doesn't treat developing nations like developed nations or that is devastating to our economy. However, most of the Senators at that time were believers, and I use the word "the alarmists." I think most of them would fit that.

And so we—and I have to admit, you know, confession is good for the soul. When I was the chairman of the subcommittee, I believe the Clean Air Subcommittee of EPW, I thought too that catastrophic global warming was caused by anthropogenic gases because everybody said it was, and it wasn't until the Wharton School came out with, I think it was called the Wharton Econometric Survey, the question was this: should we ratify the Kyoto treaty, what would it cost the people of America, and the result was a range. That range was between \$300 billion and \$400 billion a year. Then I happened to think, you know, when you got up in the billions and trillions, it is kind of hard. You have to bring this back home. I remembered how outrageous it was when the Clinton-Gore tax increase of 1993 came through, and that was a \$30 billion tax increase. I thought wait a minute, this is 10 times greater than that. So I thought at that time, let us at least look and be sure that the science is there, and I remember at that time there was a scientist by the name of Tom Wigley. Tom Wigley was commissioned, I believe, by then-Vice President Al Gore to answer the question that if all nations, all developed nations were to get together and agree to the Kyoto treaty and live by their emission standards, how much would that reduce the temperature in 50 years. The answer was something like seven one-hundredths of 1 degree Celsius. Well, of course, that was something that wasn't even measurable.

So when we started questioning the science, all of a sudden the scientists came out of the woodwork and they were coming in and giving testimonials about how they, the IPCC, would not consider any views that anyone had unless they themselves were an alarmist. Well, we started talking about that and then obviously we did not ratify. By the way, it is important to note that the ones who were really pushing the Kyoto treaty, that would have been the Clinton-Gore Administration, they never submitted to the Senate for ratification. So it is not our fault that we never had that before us but they wisely did not do it.

Then we started coming up with the bills. We had McCain-Lieberman of 2003, McCain-Lieberman of 2005, the Waxman-Markey bill, the Lieberman-Warner bill, the Sanders-Boxer bill. Now, they were all very similar. Cap and trade is cap and trade. Now, you could argue, well, wait a minute—and I am sure Congressman Waxman would disagree with this—but all these bills along with the Kyoto treaty would cost in that range of somewhere between \$300 billion and \$400 billion a year. It is not just Wharton. MIT, Penn State and others have come in and talked about that.

I am going to mention too, I want to end my opening statement with two quotes or responses to questions by Lisa Jackson that I have a great deal of respect for. Well, we have made a decision some time ago as we were trying to defeat and successfully did defeat all the bills that I mentioned on the Floor of the Senate, and one of the things I did since at best the science is mixed, there is nothing conclusive in the science, but it is mixed, let us go ahead—and I did this, it might have been when we were debating the Waxman-Markey bill or it might have been the Sanders-Boxer bill, I can't remember which one, but I said even though I don't agree the science is there, let us stipulate to it so we can talk about the economics, and so we did, and then is when we started talking about the cost of this thing.

I think that maybe in response to questions I can be more specific but this bill that I will be the sponsor in the Senate, it will be the same wording, I say to Chairman Whitfield, that is just one of the problems we are having right now with the overregulation of the Environmental Protection Agency. We have such things as the boiler and utility MACT—that is the maximum achievable control technology—ozone, the PM 10 dust, hydraulic fracturing, all these things to put American jobs either overseas or just kill them and destroy our economy. These things are happening right now. This is one part of it but a very important part of it.

Now, what I am going to say within my time frame here and make two observations, and this came from Administrator Jackson. In one of our committee hearings, and I will tell you when it was, it was in December, a year ago December, right before, the day before I was going to go to Copenhagen. I was the one-man truth squad in Copenhagen, I might add, and before I left I said in a hearing, Mr. Chairman, I said, Madam Administrator, I understand and I believe that once I leave town you are going to have an endangerment finding, and she did not deny that and she kind of nodded and with her very pleasant smile like she always has, and I said when you do this, it has got to be based on some kind of science, what science would you base this on, and she said well, primarily it is the IPCC. That is the United Nations. Well, that was right in the middle of the time that they had been totally debunked. Now, they try to say that Climategate wasn't a real thing. It was. They tried to play it down. Let me just real quickly, so it is in the record, talk about it. Atlantic magazine said the close-mindedness of these supposed men of science, their willingness to go to any length to defend a preconceived message is surprising even to me. The stink of intellectual corruption is overpowering. The statement in the Daily Telegraph, this is the largest one in London, the scandal could well be the greatest scandal in modern science. So we have all of the facts that this is the science on which this is based, and I am hoping that people are going to keep this in the dialog, let people know how phony this was.

The other thing was, and I am speaking now to the many people out not just in my State of Oklahoma but throughout America who think I am wrong on this issue, people who really believe, people who think that the alarmists are right, that in fact that anthropogenic gases are causing catastrophic global warming. To them I say this: If they are right, what difference does this really make? Be-

cause when I asked the question to Administrator Jackson, I said if we were to pass this bill, I don't know, I say to my good friend, Mr. Waxman, whether it was the Waxman-Markey or which bill it was, but I said if we pass this, will this have a reduction, result in reducing greenhouse gases. Her answer was no, because this only applies to the United States.

I will carry it one step further. If we cause our jobs to go overseas as a result of having something like this, those jobs are going to go places like China and India and Mexico where they don't have any restrictions at all, and so those people who say well, we have to set the example in America, that China is anxious to follow our great example. I say they are laughing at us right now. They are not going to do it. They are waiting for those jobs to come over.

So with that, I would only say that I hope we will get a chance to realize that even if this ends up, those people out here that really believe this, what we take, the action we take whether it is through regulation or whether it is through legislation here in the United States is not going to reduce the greenhouse gas emissions. Thank you, Mr. Chairman.

[The prepared statement of Mr. Inhofe follows:]

TESTIMONY OF JAMES M. INHOFE

Thank you, Chairman Upton, Chairman Whitfield, and Ranking Member Rush for the opportunity to speak to the subcommittee this morning. It is an honor to provide testimony to the subcommittee on the Energy Tax Prevention Act of 2011.

The draft bill, sponsored by me, Rep. Upton, and Rep. Whitfield, would repeal EPA's authority to regulate greenhouse gases under the Clean Air Act. We're doing this for one simple reason: EPA's regulations will impose enormous costs for no meaningful benefits—in other words, all pain for no climate gain.

I have great respect for Administrator Jackson—she is doing what she thinks is right. But I think EPA is taking the wrong course. Let me explain.

Congress didn't allow EPA to regulate greenhouse gases under the Clean Air Act. Administrator Jackson even agreed with the statement two years ago that the Clean Air Act "is not specifically designed to address greenhouse gases".

We also know that EPA's own analysis shows its actions won't affect climate change, and the scientific basis of its endangerment finding, which the Administrator confirmed to me is the UN's Intergovernmental Panel on Climate Change, or IPCC, is flawed.

Now I'm not here to debate science. So let's assume—as I did during the Lieberman-Warner debate in the Senate—that predictions of more droughts, more floods, more intense storms, and more cases of disease are true. What we know is that EPA's regulations won't affect any of this.

EPA's analysis of the Lieberman-Warner bill shows that, without aggressive action by China and India, cap-and-trade won't reduce greenhouse gases by any meaningful amount. The EPA also found that its regulations covering CO₂ from cars would reduce global temperatures by 0.006 degrees Celsius by 2100. In other words: no effect.

Now what if we added actions by other countries? Dr. Tom Wigley of the National Center for Atmospheric Research found that full implementation of Kyoto, including action by the U.S., Europe, Canada, Russia, and others, would reduce global temperature by, at most, 0.21 degrees Celsius by 2100. In other words, the Earth would warm about 6 percent less than it normally would.

We know from Wharton, MIT, and others that Kyoto would cost about \$300 to \$400 billion annually through higher gas, food, and electricity prices. In fact, that's about the cost of all the cap-and-trade bills we've seen since 2003. EPA's regulations will be no different.

The point is this: it is unfair and unacceptable to ask the steel worker in Ohio, the chemical plant worker in Michigan, and the coal miner in West Virginia to sacrifice their jobs so we can reduce temperature by a barely detectable amount in 100 years.

Yet this is exactly what the EPA is doing. The Energy Tax Prevention Act would stop EPA and protect those jobs. It would ensure that America's manufacturers can

stay here and compete against China. And it would put Congress back in charge of deciding the nation's climate change policy.

EPA's actions under the Clean Air Act are part of the cap-and-trade agenda. That agenda wants higher energy prices for consumers, higher taxes for citizens, more regulations on small businesses, more restrictions on choices, and ultimately less freedom. Supporters believe these things will stop global warming. They won't.

EPA claims the Supreme Court forced it to act. Not so; the Supreme Court ruled that EPA possessed the discretion under the Clean Air Act to decide whether greenhouse gases endanger public health and welfare. EPA was given a choice, and it made the wrong choice. The Energy Tax Prevention Act is the right choice for jobs, for consumers, for a growing economy, and for the future of America.

Mr. WHITFIELD. Thank you, Senator Inhofe. We appreciate your testimony.

Mr. Waxman in his opening statement referred to this letter by former EPA Administrator Steve Johnson to President Bush about the endangerment finding, and I don't know all the details about it so I am going to ask you about it, but it was my understanding that once they really got into the process of looking at that, a number of federal agencies came out very much opposed to an endangerment finding including Ag, Commerce, Transportation and Energy. Do you have any recollection of the letter that Mr. Waxman was referring to?

Mr. INHOFE. I do, because first of all, I have a great deal of respect for Steve Johnson and I supported his being put in the position he was in. I would only say this. Those who want to quote him as was quoted in the opening statement here in this meeting need to talk about what he said since then. I want to quote him now. He said, "One point is clear. The potential regulation of greenhouse gases under any portion of the Clean Air Act could result in an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land." He went on to say, "I believe the ANPR demonstrates the Clean Air Act, an outdated law originally enacted to control regional pollutants that caused direct health effects, is ill-suited for the task of regulating global greenhouse gases."

Mr. WHITFIELD. Thanks.

Mr. INHOFE. And this by way, you mentioned the Departments of Energy, Transportation, Commerce, Agriculture and probably some others have made this statement.

Mr. WHITFIELD. I was looking at the EPA Web site actually last night, and there was a comment on there right at the very main page. It said "We are working across the nation to usher in a green economy." Now, we all recognize, as I said in my opening statement, to meet our energy demands, we are going to have to have renewables, we are going to have to have everything, but this Administration seems to be so focused on pushing a green economy, and I know that President Obama in his State of the Union address talked about this green economy is going to stimulate the economy and create the jobs. And I know from the research that I have done personally, one of the countries that has been a leader in green energy has been Spain, and I read an article just a couple of days ago that they have the highest unemployment rate in the industrialized world, approaching 20 percent. Do you have the

same concerns about this all-out push for green energy and the impact that that could have on our employment levels in America?

Mr. INHOFE. Chairman Whitfield, it goes even further than that. One of the—I would have to, for the record, give you the name of which one of the Administration said this, I think it might have been the Under Secretary of Treasury, made the statement that we are going to have to do, they say take away the perks that are out there for the energy industry so that we can force people to concentrate on green energy. I think everyone here, I think every Republican and Democrat or the Republicans, anyway, they want all of the above. We want gas, oil, coal, nuclear, renewables, green, we want it all, but what is available now to run this machine called America? We have oil and gas.

This is new information. As of just a year ago, we in the United States have the greatest, largest number of recoverable reserves in coal, oil and gas of any country in the world. We are not number 2, we are number 1. Now, if you look at the shale opportunities that are out there and the fact that these are close formations, we have enough natural gas to take care of this country for 110 years. Now, yes, during that time perhaps technology will be here, we will have all kinds of green opportunities. That is great. I am all for it. But until then, you have got to run this country.

The thing that bothers me over in the Senate, I hear from my good friends John Kerry, Barbara Boxer, they all talk about our dependence on foreign countries, for our oil, our energy, as if, you know, we shut down fossil fuels and somehow not be as dependent upon them. Just the opposite. You know, we have to run this machine called America and we can't do it now without fossil fuels. If we could release all the political pressures that are on our resources out there, we wouldn't have to be dependent upon any foreign country or the Middle East for one barrel of oil. I forgot what your question is but that is the answer.

Mr. WHITFIELD. Thank you. I thought it was a good answer.

I recognize Mr. Rush for 5 minutes.

Mr. RUSH. I thought it was a good question but I didn't think it was a good answer.

Senator, I have the utmost respect for you. I want to thank you for taking the time out to come to this hearing. As you know, there are some vociferous and very disagreement with some of your conclusions, especially as it relates to job creation and also electric reliability. Administrator Jackson, she has pointed out in her White Paper that she released earlier that the environmental, technology and services sectors generated under the Clean Air Act an estimated \$300 billion in revenue—that is \$300 billion in revenue—and supported nearly 1.7 million jobs, and I think those are real jobs. That is certainly not chump change. Do you have any comments or any reaction to her conclusion?

Mr. INHOFE. Yes, I do, Congressman. First of all, I have a Web site, Inhofe.Senate.gov, and if you go there you will find, I have talked about the money and the jobs that all these overregulations would cause. Now, you are addressing only the greenhouse gas, what is happening with the regulations that are subject of this committee. But I had mentioned in my opening statement, there is also all the MACT laws, the utility MACT, the boiler MACT, trying

to stop hydraulic fracturing, the ozone, all of these issues that are there, the PM10 dust, if you add those up, each one has a price tag in terms of dollars and the amount of the jobs that would be lost. Those jobs, that information comes from most of the labor unions in the United States along with, I might add, the National Black Chamber of Commerce, who will be testifying, I don't know whether he is on today, but he is great. He has testified before our committee. And I want you to ask him that question because I think it is very specific. The jobs that would be lost, the costs that would be there are something that we can't sustain in this country.

Mr. RUSH. Thank you, Senator. Senator, let me ask you, as I think you are the ranking member on, which committee now?

Mr. INHOFE. Environment and Public Works.

Mr. RUSH. I wanted to make sure I got it right. And as ranking member and during the course of that committee's hearings, I am sure you had a number of different hearings on this particular subject. Is that correct?

Mr. INHOFE. We have had hearings.

Mr. RUSH. Has your committee conducted hearings with no scientists among the witnesses? Have scientists been included in your hearings?

Mr. INHOFE. Yes, we have scientists there on both sides, as you well know, because you are going through this now. When you are a minority, you don't get as many witnesses.

Mr. RUSH. But do you find it strange that this hearing is being conducted with no scientists at all?

Mr. INHOFE. We had scientists in our hearing. I would just use one, Richard Linzen, for example, from MIT is recognized as one of the very top individuals. He testified and—

Mr. RUSH. Senator, which I do understand, but do you find that it is strange that at this hearing of this importance that we have no scientists on the witness list at all for this hearing? Do you find that strange?

Mr. INHOFE. I don't know. You would have to ask the chairman that question. I do know that the Rules of the House and the rules of the Senate do provide for minority witnesses and so I don't know how this was constructed.

Mr. RUSH. All right. And lastly, Senator, Chairman Waxman and I on February 7th sent a letter to the chairman and asked him that the Republicans and the Democrats work together to write bipartisan legislation to establish a clean energy standard. Do you support similar activity in the Senate?

Mr. INHOFE. Well, yes. We have been trying to do that for a long period of time. Unfortunately, CO₂ has held hostage all kinds of opportunities. We had the Clear Skies bill. That would have been SO_x, NO_x, mercury. We could have passed the most restrictive bill in terms of emissions, of pollutants but it was held hostage because we don't care about all that, we want to make sure that CO₂ is there. So I do support programs that affect kinds of emissions and I strongly support it. I would say this, that we are going to go through the process, and I am hopeful that I can get my bill passed in the Senate and this bill passed here and we will see what happens. It could be we would have to override a veto. I don't know.

But we may end up—things are going to change in a couple years so we will have to wait and see.

Mr. RUSH. Thank you. I yield back the balance of my time.

Mr. WHITFIELD. Thank you, Mr. Rush.

At this time I recognize Mr. Upton.

Mr. UPTON. Thank you, Mr. Chairman, and again Senator, I appreciate you being here, especially on a day that the Senate doesn't have votes and I know you are trying to get back to snow-laden Oklahoma where they have, I am told, cross-country skiing. I am not sure you have got any hills for downhill but you have got a good 10 inches last night, and people at least can go straight forward.

Two questions that I want to ask. One is, I mentioned in my opening statement, and I wanted you just to comment on, as regards to some groups that are offering criticism toward this discussion draft. In your view, does it in any way undermine the Clean Air Act?

Mr. INHOFE. No, it is not going to weaken the regulation of air pollution that, you know, people are concerned about, asthma and heart attacks and all these long list of things, lung cancer. The Clean Air Act has reduced air pollution and has done so in conjunction with a period of economic growth. That is significant because during that period of time all these things have actually reduced, and I can't see that this would have any effect on that. I did mention that things like the Diesel Regulation Act, Clear Skies, these are things that we have been trying to do and have done successfully, so we are addressing that and have been addressing that with such legislation as I just mentioned.

Mr. UPTON. Now, I know that you are writing a book, and—

Mr. INHOFE. Guess what the name of it is?

Mr. UPTON. Well, you can tell me in a second. I just want to know if you are going to talk in your book or you are planning to write in your book whether EPA has calculated the further reduction in temperature from the tailpipe rule at about one-hundredth of a degree Fahrenheit by the year 2100.

Mr. INHOFE. I think what you are getting to here confirms what I said in my opening statement about the Tom Wigley report on the Kyoto treaty, that it is hardly detectable. I will tell you about my book. I did finish it last week on the 5th, although now I see we are going to have to go forward with it a little bit further. I won't tell you what it is about but the name of the book is The Hoax. Yes, there have been a lot of things that—Don Rumsfeld is not the only one writing a book.

Mr. UPTON. Thank you. I yield back, Mr. Chairman.

Mr. WHITFIELD. Thank you. At this time I recognize the gentleman from California, Mr. Waxman.

Mr. INHOFE. And he will be the first to receive an autographed copy.

Mr. WAXMAN. I will be greatly honored. I receive a lot of books. In fact, I just got one that pointed out that Jack Abramoff was railroaded into prison by the establishment, so I am looking forward to reading both books.

Senator Inhofe, it is my understanding you have said, and I think you said it very clearly a minute ago, that this climate

change idea is just a hoax being perpetrated on the American people. Is that right?

Mr. INHOFE. That is right.

Mr. WAXMAN. I am a lawyer, and I don't have a scientific background. I understand your degree was in economics and you ran small businesses before you were elected to public office. Like me, you are not a scientist by training. Isn't that right?

Mr. INHOFE. That's correct.

Mr. WAXMAN. Now, I want to read you a quote from our Nation's premier scientific organization, the National Academy of Sciences. According to the National Academy of Sciences, "Climate change is occurring, is caused largely by human activities, and poses significant risks for and in many cases is already affecting a broad range of human and natural systems." Senator, you disagree with the National Academy of Sciences. Is that right?

Mr. INHOFE. Well, I disagree with that particular interpretation. I would add that there are several members, former members of the National Academy of Sciences, who are not there anymore because they disagreed—

Mr. WAXMAN. Well, that is their conclusion and you disagree with it.

Mr. INHOFE. And—

Mr. WAXMAN. No, Senator, it is my turn now. You are in the House and this is a 5-minute round so you know how that goes.

Mr. INHOFE. Yes, sir. It hasn't been that long.

Mr. WAXMAN. Now, you disagree with that and the National Academy of Sciences. The National Academy of Sciences is our Nation's premier scientific institution. I don't know why they would want to mislead the American people. But they are not alone. The American Association for the Advancement of Science, the American Geophysical Union, the American Meteorological Society along with 15 other leading scientific organizations have concluded, and I want to quote, "If we are to avoid the most severe impacts of climate change, emissions of greenhouse gases must be dramatically reduced." Thirteen federal departments and agencies including NASA, the National Science Foundation, the Department of Defense have reported that global warming is "unequivocal and primarily human induced." And the leading scientific organizations in England, France, Germany, Russia, Japan, China, Brazil and India have all reached the same conclusion.

Now, Chairman Upton and you have gone to the point where you say that this is not something we need to deal with. I think Mr. Upton says it is a problem that is occurring but he doesn't accept it as human emissions that are causing climate change. Well, Mr. Rush raised this point. I think it would be important and I would request that we hold hearings on this fundamental issue of science before we vote on this legislation. The premise of the Inhofe-Upton legislation is that carbon emissions don't endanger public health. Before we proceed, we should call the best scientists in the Nation before the committee so we can understand whether Senator Inhofe's views or Chairman Upton's are supported by the science. But it seems to me what you are saying is, even if climate change is real, we can't do anything about it so we shouldn't even try, and if that is the situation, I find that quite amazing.

Now, the reason this is under the Clean Air Act is because the Supreme Court by 5-4 said EPA must regulate if they have an endangerment finding. The Supreme Court by 5-4. There are a lot of Supreme Court decisions that went 5-4 that I didn't like but this is one where the Court said that this is part of the Clean Air Act.

I think that there is a fundamental flaw in one of the arguments that I have been hearing. When you calculate the benefits of action, there is an assumption that the United States and other nations will take only minimal steps to control emissions, but when you calculate the cost, there is an assumption, there is a completely different scenario that the United States will implement draconian control measures. I don't think that is fair. A fair analysis will show that the modest measures that EPA is currently proposing will have little impact on the economy. In fact, EPA's analysis shows our economy grows because we become more energy efficient. In other words, we are making a small step forward on climate change at virtually no cost to the economy. A fair analysis will show that if we adopt more far-reaching measures, we could have a major impact on climate change at a manageable cost.

Last year the House passed the Waxman-Markey bill, passed out of this committee as well. That would have reduced U.S. emissions by 80 percent by 2050. Modeling of that bill proved that we could dramatically reduce pollution for only a postage stamp per day while cutting the deficit. Well, I think if we do nothing, and this bill is a repeal and no replacement. No replacement for dealing with this problem. If it is a real problem, let us acknowledge it and figure out a way to deal with it and resolve our differences on how to approach a constructive resolution. But if it is not a problem, then I think what we are doing is saying that we can't do anything about the droughts, the floods, the storms, the public health and economic misery climate change will cause, so we simply should give up trying, and I don't think that is the American way. Yield back my time.

Mr. INHOFE. Mr. Chairman, I know his time has expired but he asked me three questions and I can answer them real quick.

Mr. WHITFIELD. OK.

Mr. INHOFE. First of all, I knew you were going to end up with the droughts and the floods and all that. It is the fear that has been driving this for so long. Let me just answer the three questions.

First of all, the fact that if we were—the reason in my opening statement—

Mr. WAXMAN. What are the three questions you seek to answer?

Mr. INHOFE. Well, I am answering them right now. One was about the reductions. The fact is—

Mr. WAXMAN. I asked you whether you disagree with the National Academy of Sciences. I asked you very specific questions.

Mr. BARTON. Mr. Chairman, we should let our witness make a statement. Mr. Waxman talked for 4 minutes—

Mr. WAXMAN. Mr. Chairman—

Mr. BARTON. He basically gave an opening statement.

Mr. WAXMAN [continuing]. The time now goes to whoever on your side is next, and they can yield their time for that purpose. But I will go along with whatever the—

Mr. BARTON. We always let the witness answer a question—

Mr. WAXMAN. Well, I didn't have a question pending.

Mr. INHOFE. Yes, you did.

Mr. WAXMAN. If the gentleman wants to respond to my statements, then that is up to the Chair whether that comes out of my time.

Mr. WHITFIELD. I will tell you what let us do, Senator Inhofe. I am going to go to Mr. Barton and he can ask questions. We have a lot of other people, and I am sure that—

Mr. INHOFE. That is fine.

Mr. WHITFIELD [continuing]. We will get to the issues. Mr. Barton, I recognize you for 5 minutes.

Mr. BARTON. Thank you, Chairman. We do give our witnesses the courtesy at the end of their—when somebody gives a soliloquy or monolog like Chairman Waxman did to at least make a comment on it.

Senator, you have participated in dozens of hearing on this issue in the other body, some as chairman and some as ranking member. Is that not correct?

Mr. INHOFE. That is correct.

Mr. BARTON. And you would consider yourself at least in that body to be knowledgeable on this issue?

Mr. INHOFE. Not scientifically, as pointed out by Mr. Waxman, but yes.

Mr. BARTON. You mentioned in your opening statement millions of jobs and hundreds of billions per year and studies that have been done by independent groups. I think the U.S. Chamber has done a study, Heritage has done a study. You mentioned MIT. Have any of those studies been refuted by the EPA or any other executive branch authority in the Obama Administration?

Mr. INHOFE. No, they haven't. The interesting thing is that there is a consistency here. It doesn't matter whether you are talking about the Kyoto treaty or any of the other issues or bills that we considered including the Waxman-Markey bill, the amount is always in that range, \$300 billion to \$400 billion, and that is pretty consistent.

Mr. BARTON. So there has been no refutation of those type order of magnitude numbers?

Mr. INHOFE. I can remember when we have had witnesses from the EPA who have agreed with that. Some will not, of course.

Mr. BARTON. And obviously if cap and trade had been implemented like Mr. Markey and Mr. Waxman wanted, or if these pending greenhouse gas regulations are implemented, we could expect that type of an impact and that would certainly be a tax, if not explicitly, implicitly, on the U.S. economy. Would you agree with that?

Mr. INHOFE. I would say precisely the same difference in what they are attempting to do with regulations and what they are attempting to do with legislation so I think it would be the same, yes, sir.

Mr. BARTON. Now, you indicated that you have got a draft bill that is either identical or very similar to Chairman Whitfield and Chairman Upton's bill. Is that correct?

Mr. INHOFE. That is correct.

Mr. BARTON. Does your legislation or this pending legislation that is in draft form, does it change the standard on ozone under the Clean Air Act?

Mr. INHOFE. No.

Mr. BARTON. Does it change the standard on particulate matter?

Mr. INHOFE. No, it doesn't.

Mr. BARTON. Does it change the standard on carbon monoxide?

Mr. INHOFE. No.

Mr. BARTON. Does it change the standard on nitric oxide?

Mr. INHOFE. No.

Mr. BARTON. Does it change the standard on sulfur dioxide?

Mr. INHOFE. No.

Mr. BARTON. Does it change the standard on lead?

Mr. INHOFE. No.

Mr. BARTON. Those are the six criteria pollutants that are regulated under the Clean Air Act. Is that not correct?

Mr. INHOFE. That is correct.

Mr. BARTON. So if you don't change any of those standards, to paraphrase former Chairman Waxman, you are certainly not gutting the Clean Air Act, are you?

Mr. INHOFE. No, sir.

Mr. BARTON. What you are doing, though, Senator, is saying that the Clean Air Act and its amendments were never intended to regulate CO₂ as a pollutant. Is that not correct?

Mr. INHOFE. Which is also what Mr. Johnson said, yes, sir.

Mr. BARTON. And I think this is a true statement. I was on this committee when was passed the Clean Air Act Amendments of 1990. I was a cosponsor. I participated in the debate. Chairman Dingell was the full committee chairman and was very fair in allowing what was then the Minority that I was a member of to be a full participant in those debates. I don't remember that we put CO₂ in any way in the Clean Air Act Amendments. Is that your recollection?

Mr. INHOFE. That is correct.

Mr. BARTON. Are you familiar with the comments of a scientist or at least a senior staffer at the EPA who has since retired named Mr. Alan Carlin?

Mr. INHOFE. Yes, I am.

Mr. BARTON. And are you cognizant of the report that he attempted to publish that was suppressed for some time by the EPA that basically said the endangerment finding put forward by the Obama Administration was totally incorrect? Now, I am paraphrasing when I say totally incorrect but he pointed out seven or eight basic flaws that says the hypothesis is not supportable.

Mr. INHOFE. It was a career ender, yes.

Mr. BARTON. He has since retired?

Mr. INHOFE. Yes.

Mr. BARTON. I am going to submit that statement, this report for the record, Mr. Chairman.

Mr. WHITFIELD. Without objection.

[The information appears at the conclusion of the hearing.]

Mr. BARTON. It is about 50 pages, so I don't know what the rules are on that lengthy of a statement being put in the record, but I would hope the Minority would allow us to.

And with that, I again thank Senator Inhofe and we look forward to working with you, and I yield back, Mr. Chairman.

Mr. WHITFIELD. Thank you.

I am going to call on the chairman emeritus, Mr. Dingell, for questions, but before, Mr. Dingell, you ask your questions, Senator, it is my understanding that you are going to have to leave relatively soon.

Mr. INHOFE. Well, we are having a problem now. I am trying to get back to Tulsa but there is a record snow and maybe they are canceling the flights, but yes, I do have to try.

Mr. WHITFIELD. OK. Well, then Mr. Dingell, I am going to allow you—

Mr. DINGELL. Mr. Chairman, I thank you for your courtesy. This will comfort you and I am sure Senator Inhofe. I have no questions. I wanted to welcome the senator.

Mr. INHOFE. Could I use some of your time to answer the question from Mr. Waxman?

Mr. DINGELL. Well, all I really wanted to do, Senator, is welcome you back.

Mr. INHOFE. Thank you very much, sir.

Mr. DINGELL. Good to see you again.

Mr. INSLEE. Mr. Dingell, would you mind yielding your time?

Mr. DINGELL. I am sorry?

Mr. INSLEE. Would you mind yielding your time to a fellow over here?

Mr. DINGELL. No, I really don't want to.

[The prepared statement of Mr. Dingell follows:]



Statement of Representative John D. Dingell
 House Committee on Energy and Commerce
 Subcommittee on Energy and Power
 H.R. _ "the Energy Tax Prevention Act of 2011"
 February 9, 2011
 9:30 am, 2123

Mr. Chairman – Thank you for holding this hearing today. I look forward to the new majority upholding their promise for regular order.

As I have said numerous times before, as the author of the 1990 Clean Air Act Amendments, I am firmly in the camp of those who do not believe the law was intended to cover greenhouse gas emissions. I believe the Supreme Court wrongly decided *Massachusetts vs. EPA*. In addition to not believing the Clean Air Act was intended to cover greenhouse gas emissions, I firmly believe, as does nearly everybody from EPA Administrator Lisa Jackson to industry to the most entrenched environmentalist, the Clean Air Act is not the most effective approach to regulating greenhouse gas emissions. As most of you have heard me say, this will lead to a glorious mess, with layers and layers of potentially competing regulations.

This is why I strongly support a legislative approach to dealing with greenhouse gas emissions. As I said during the debate over the American Clean Energy and Security Act, I have 3 compelling reasons for supporting a legislative approach:

1. There is, and have no doubt about it, scientific consensus that we need to address climate change quickly and effectively.
2. We need, and industry needs, certainty. Without this certainty, expansion and new investment is not going to happen.
3. Actions by the Supreme Court which led to the endangerment finding by EPA makes it critically important we act. If we do not, we face, as we do now, regulation under the Clean Air Act – and I assure you, the Clean Air Act was not designed to regulate greenhouse gases.

The House passed comprehensive climate change legislation in the last Congress that I believe, as did most of industry, would have effectively regulated greenhouse gas emissions while also protecting American jobs. Unfortunately, the Senate did not take up that legislation. I believe the legislation before us faces the same fate, should it even pass the House.

Mr. Chairman, I find myself with a problem here. Industry needs certainty, but does this legislation give industry certainty, were it able to get through the House, Senate and the President were to sign it? Moreover, I think we need to hear from the legal experts on whether this legislation will work and whether or not it will in fact curb litigation. I would prefer we work together on a comprehensive energy bill, or climate bill, call it whatever you want, that regulates greenhouse gases in a way that satisfies the legal, moral and economic concerns of this body.

Mr. INSLEE. Thank you very much.

Senator Inhofe, welcome to the committee. You were right on one thing. You were right on one thing. The alarmists should not be listened to because the alarmists are those pessimists who figure out that Americans aren't smart enough to innovate our way out of this pickle, and we are in a pickle. And Senator, thank you for telling about your book. I am going to suggest a book you might want to look at. It is called Apollo's Fire, a book I coauthored, and it tells you how we are going to grow our economy, an economy that the evidence shows we can grow.

Now, the Americans are against this "Dirty Air Act," and that is what it is, and I will explain why in a minute. They are against this Dirty Air Act three to one, and the reason is, they know that the Clean Air Act reduced pollution 60 percent over the last 40 years while we grew our economy 207 percent.

Mr. INHOFE. I agree.

Mr. INSLEE. Americans get it that we can innovate our way out of this pickle. Now, this is why this is the Dirty Air Act. I hear my friends saying we don't have anything against the Clean Air Act, we are not gutting the Clean Air Act. It is like saying they are not against the Antiterrorism Act, all we are doing is passing a bill saying the FBI can't enforce it. Now, when you gut the EPA's ability to enforce the law, you turn the Environmental Protection Agency into the environmentally pathetic agency, and that is not what Americans want. They want something rather than dirty air, and this Dirty Air Act hurts kids with asthma, it hurts seniors with respiratory problems and it hurts our economy.

Now, I want to suggest to you there is a fundamental problem here. That problem is that we are not listening to the scientists, and I am going to ask you a question when I am done here in a minute and I hope I give time you to answer. But the scientists are telling us that we have got a real health problems on our hands. We got a letter from 1,800 scientifically trained medical professionals yesterday. It says communities across the nation will suffer, not maybe, will suffer from poor—excuse me—still suffer from poor air quality. Low-income families face the impacts of toxic air pollution every day from smog causing asthma attacks to toxic mercury harming children's neurological development. Far too many people face a constant threat from the air they breathe and the impacts of climate change. Now, that letter is signed by, among others, doctors, Dr. Guillermo Arnaud of Tahlequah, Oklahoma, Dr. Therese Kwan of Kingston, Oklahoma, Dr. Warren Teal of Carney, Oklahoma. Doctors across this country and scientists across this planet know that our health is adversely affected by these chemicals, and by the way, carbon dioxide is in the Clean Air Act. It is in section 103, if you folks want to look at it. Carbon dioxide is in the Clean Air Act. And yet you are trying to take away the ability of Uncle Sam to protect our kids from asthma, and I have got a problem with that, and I am going to ask you this question because I think it is fundamental to this disagreement. I respect your opinion and right to have an opinion. But the National Science Foundation, these doctors, the IPCC, depending on science from the U.S. Navy, from Nobel Prize winners, none of whom are going to be called by this committee, by the way, and I think it is too bad we don't have

real scientists up here, all of these people say that these things are bad for our kids' health, and yet this committee, their first witness calls somebody, rather than listening to Nobel Prize winners, thinks somehow that he is smarter than the 2,500 scientists that are telling us this is a problem.

Now, I want to ask you this question. You have got, I think, grandkids, and I trust that if your grandkids were having a health problem, if they couldn't breathe, if asthma is affecting them, that you wouldn't take them to a lobbyist for the fossil fuel industry, you would take them to a pediatrician. You would take them to a scientist. So the question I ask you is, shouldn't we listen to the scientists here rather than the politicians and shouldn't we trust people of science that have an overwhelming conclusion about this issue? And I will yield to you for an answer.

Mr. INHOFE. Thank you very much. And that is essentially the same question asked, so I will respond to it. Yes, in the very beginning when people were listening just to the IPCC, as I said in my opening statement, that has been pretty much debunked now. I don't know how anyone with a straight face is going to say that that should be the leading science. When you mention scientists, yes, many of them are saying this. If you go to my Web site, I have given five speeches on this science, very long ones, I might add. We started out with some 50 scientists, went up to 100 and up to several hundred. And so there are many scientists that have varying views. That is why I say, the science on this issue is mixed. The economics are not mixed.

The last thing I want to mention, because somehow it has got to be in this record, and this is responding to Mr. Waxman, the Court did not mandate that the EPA regulate CO₂, and this is words of the Court. The EPA can avoid promulgating regulations if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot. Well, what they are saying is, they have three choices: either regulate it, don't regulate it or do nothing, and that was not a mandate from the Court, and I believe that has to be in here at some point.

Mr. WHITFIELD. I might say that we did invite a scientist to testify. Mr. Chu was invited, and he declined our offer.

Now, Senator Inhofe, do you have to go now or can you take more questions?

Mr. INHOFE. I think I need to.

Mr. WHITFIELD. You need to go?

Mr. INHOFE. Yes.

Mr. WHITFIELD. All right. Well, we appreciate very much your taking time to be with us, and we may very well have another hearing—

Mr. INHOFE. Let me thank you, because this is only the third since 1984 when I left this that I have been invited to appear—

Mr. RUSH. Point of order, Mr. Chairman.

Mr. INHOFE [continuing]. And I appreciate it.

Mr. RUSH. Point of order, Mr. Chairman.

Mr. WHITFIELD. Yes, sir.

Mr. RUSH. Mr. Chairman, I just want to make sure that the record accurately reflects that Secretary Chu indicated that he had

a conflict in scheduling. He didn't decline. It was just a conflict in his schedule.

Mr. WHITFIELD. Well, we advised Secretary Chu but he had a conflict in his schedule. Thank you.

OK. We will now call our second witness. Thank you, Senator Inhofe. And our second witness is the Honorable Lisa Jackson, Administrator of the United States Environmental Protection Agency, and we are looking forward to her testimony. Ms. Jackson, thank you very much for taking the time to join us today. We are looking forward to your testimony and the opportunity to ask questions. With that, I am going to go on and recognize you for an opening statement. I will say that Senator Inhofe ended up taking almost 7 minutes in his opening statement, so we would be happy to give you 7 minutes in your opening statement, so you are recognized.

**STATEMENT OF LISA JACKSON, ADMINISTRATOR,
ENVIRONMENTAL PROTECTION AGENCY**

Ms. JACKSON. Well, thank you, Mr. Chairman. I will try not to take all seven.

To you, Mr. Chairman and members of the Committee, thank you for inviting me to testify about Chairman Upton's draft bill to eliminate portions of the Clean Air Act, the landmark law that all American children and adults rely on to protect them from harmful air pollution. The bill appears to be part of a broader effort in this Congress to delay, weaken or eliminate Clean Air Act protections of the American public. I respectfully ask the members of this committee to keep in mind that EPA's implementation of the Clean Air Act saves millions of American children and adults from the debilitating and expensive illnesses that occur when smokestacks and tailpipes release unrestricted amounts of harmful pollution into the air we breathe. Last year alone, EPA's implementation of the Clean Air Act saved more than 160,000 American lives, avoided more than 100,000 hospital visits, prevented millions of cases of respiratory illness including bronchitis and asthma, enhanced productivity by preventing millions of lost work days, and kept American kids healthy and in school.

EPA's implementation of the Act also has contributed to dynamic growth in the U.S. environmental technology industry and its workforce. In 2008, that industry generated nearly \$300 billion in revenues and \$44 billion in exports. Yesterday the University of Massachusetts and Ceres released an analysis finding that two of the updated Clean Air Act standards EPA is preparing to establish for mercury, soot, smog and other harmful air pollutants from power plants will create nearly 1.5 million jobs over the next 5 years.

As you know, Mr. Chairman, the Supreme Court concluded in 2007 that the Clean Air Act definition of "air pollutant" includes greenhouse gas emissions. The Court rejected the EPA Administrator's refusal to determine whether that pollution endangers Americans' health and welfare. Based on the best available peer-reviewed science, EPA found in 2009 that manmade greenhouse gas emissions do threaten the health and welfare of the American people. EPA is not alone in reaching that conclusion. The National Academy of Sciences has stated that there is a strong, credible body of

evidence based on multiple lines of research, documenting that the climate is changing and that the changes are in large part caused by human activities. Eighteen of America's leading scientific societies have written that multiple lines of evidence show humans are changing the climate, that contrary assertions are inconsistent with an objective assessment of the vast body of peer-reviewed science and that ongoing climate change will have broad impacts on society, including the global economy and the environment.

Chairman Upton's bill would, in its own words, repeal that scientific finding. Politicians overruling scientists on a scientific question: that would become part of this committee's legacy.

Last April, EPA and the Department of Transportation completed harmonized standards under the Clean Air Act and the Energy Independence and Security Act to decrease the oil consumption and greenhouse gas emissions of model year 2012–2016 cars and light trucks sold in the United States. Chairman Upton's bill would block President Obama's plan to follow up with Clean Air Act standards for cars and light trucks of model years 2017 through 2025. Removing the Clean Air Act from the equation would forfeit pollution reductions and oil savings on a massive scale, increasing America's debilitating oil dependence.

EPA and many of its State partners have now begun implementing safeguards under the Clean Air Act to address carbon pollution from the largest facilities when they are built or expanded. A collection of 11 electric power companies called EPA's action a reasonable approach focusing on improving the energy efficiency of new power plants and large industrial facilities. And EPA has announced a schedule to establish uniform Clean Air Act performance standards for limiting carbon pollution at America's power plants and oil refineries. Those standards will be developed with extensive stakeholder input including from industry. They will reflect careful consideration of cost and will incorporate compliance flexibility.

Chairman Upton's bill would block that reasonable approach. The Small Business Majority and the Main Street Alliance have pointed out that such blocking action would have negative implications for many businesses, large and small, that have enacted new practices to reduce their carbon footprint as part of their business models. They also write that it would hamper the growth of the clean energy sector of the U.S. economy, a sector that a majority of small business owners view as essential to their ability to compete.

Chairman Upton's bill would have additional negative impacts that its drafters might not have intended. For example, it would prohibit EPA from taking further actions to implement the Renewable Fuels Program, which promotes the domestic production of advanced biofuels.

I hope this information has been helpful to the committee, and I look forward to your questions. Thank you.

[The prepared statement of Ms. Jackson follows:]

**Opening Statement of Lisa P. Jackson
Administrator, United States Environmental Protection Agency
Hearing on a Draft Bill to Eliminate Portions of the Clean Air Act
Subcommittee on Energy and Power
Committee on Energy and Commerce
United States House of Representatives
February 9, 2011**

Mr. Chairman and members of the Committee, thank you for inviting me to testify about Chairman Upton's draft bill to eliminate portions of the Clean Air Act, the landmark law that all American children and adults rely on to protect them from harmful air pollution.

In April 2007, in the case of *Massachusetts v. EPA*, the United States Supreme Court concluded that the Clean Air Act's definition of "air pollutant" includes greenhouse gas emissions.¹ The Court rejected the EPA Administrator's refusal to determine whether that pollution endangers Americans' health and welfare.²

Based on the best available peer-reviewed science and EPA's review of thousands of public comments, I found in December 2009 that manmade greenhouse gas emissions threaten the health and welfare of the American people.³

For its part, the National Academy of Sciences has stated that "there is a strong, credible body of evidence, based on multiple lines of research, documenting that the climate is changing and that these changes are in large part caused by human activities."⁴ Eighteen of America's leading scientific societies have stated that multiple lines of evidence demonstrate that humans are changing the climate, that "contrary assertions are inconsistent with an objective assessment of the vast body of peer-reviewed science," and that "ongoing climate change will have broad impacts on society, including the global economy and the environment."⁵ Scientists at the thirteen federal agencies that make up the U.S. Global Change Research Program have reported that climate change, due primarily to human-induced emissions of heat-trapping gases, poses significant risks to the wellbeing of the American public.⁶

Chairman Upton's bill would, in its own words, "repeal" the scientific finding regarding greenhouse gas emissions. Politicians overruling scientists on a scientific question – that would become part of this Committee's legacy.

¹ 549 U.S. 497, 528-29 (2007).

² *Id.* at 533.

³ 74 Fed. Reg. 66,496, *et seq.* (Dec. 15, 2009).

⁴ National Research Council of the National Academies, *Advancing the Science of Climate Change*, 2010 (http://www.nap.edu/catalog.php?record_id=12782#toc). "While much remains to be learned, the core phenomenon, scientific questions, and hypotheses have been examined thoroughly and have stood firm in the face of serious scientific debate and careful evaluation of alternative explanations." *Id.* See also May 2009 Statement by the National Academy of Sciences of the United States and the Science Academies of Twelve Other Nations (<http://www.nationalacademies.org/includes/G8+5energy-climate09.pdf>).

⁵ October 21, 2009 Statement by Eighteen U.S. Scientific Societies (http://www.aaas.org/news/releases/2009/1021climate_letter.shtml).

⁶ U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009) (<http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf>).

The text of Chairman Upton's bill could have additional negative impacts that its drafters might not have intended. For example, the bill likely would prohibit EPA from taking further actions to implement the Renewable Fuels Program, which promotes the domestic production of advanced bio-fuels.

Chairman Upton's bill is not the only pending suggestion to delay, weaken, or eliminate Clean Air Act protections of the American public. I respectfully ask the members of this Committee to keep in mind that EPA's implementation of the Clean Air Act saves millions of American adults and children from the debilitating and expensive illnesses that occur when smokestacks and tailpipes release unrestricted amounts of harmful pollution into the air that all of us breathe. In 1990 alone, EPA's implementation of the Act prevented an estimated 18 million child respiratory illnesses, 850,000 asthma attacks, 674,000 cases of chronic bronchitis, and 205,000 premature deaths.¹² If Congress allows EPA to continue implementing the Act, then the benefits of that work are projected to reach \$2 trillion in 2020 alone.¹³ Over the period from 1990 through 2020, the benefits of implementing the Clean Air Act are projected to exceed the costs by a factor of more than 30 to 1.¹⁴

Thank you. I look forward to your questions.

¹² EPA, *Section 812 Retrospective Analysis: The Benefits and Costs of the Clean Air Act, 1970 to 1990*, October 1997 (http://www.epa.gov/oar/sect812/1970-1990/chptr1_7.pdf).

¹³ EPA, *Section 812 Prospective Analysis: The Benefits and Costs of the Clean Air Act, 1990 to 2020*, August 2010 (<http://www.epa.gov/oar/sect812/aug10/fullreport.pdf>).

¹⁴ *Id.*

Mr. WHITFIELD. Ms. Jackson, thank you very much.

Before you came in, I had mentioned in my opening statement that Congress had specifically looked at regulating greenhouse gases on three different occasions: one in 1990 when the last Clean Air Act Amendments were adopted. They rejected it then. Number two, 1998, when the Senate voted 95 to 0 not to take up the Kyoto Protocol, objecting to the greenhouse gas regulations in the Kyoto Protocol, and then last when the U.S. Congress refused to adopt the cap-and-trade bill. So Congress on three separate occasions has spoken very clearly that in its opinion we do not need to regulate greenhouse gases. So I would ask you the question just your personal opinion, do you object to Congress having an up or down vote approving or disallowing EPA's greenhouse gas regulations?

Ms. JACKSON. Sir, I am here to explain the impact of our greenhouse gas regulations and then Congress is obviously going to make a determination whether—

Mr. WHITFIELD. So you wouldn't object to Congress having an up or down vote on your regulations then, correct?

Ms. JACKSON. Sir, I would not presume to tell Congress its business.

Mr. WHITFIELD. Thank you. Now, I want to ask you, did your agency conduct an overall comprehensive assessment of the cost of the greenhouse gas regulations?

Ms. JACKSON. We conducted assessments of costs of regulations. We did not conduct an assessment of the cost of the endangerment finding because it is a scientific finding.

Mr. WHITFIELD. But do you have any idea what the costs of the greenhouse gas regulations would be?

Ms. JACKSON. As we propose regulations, for example, the cars rule that I mentioned in my opening statement, we do a regulatory impact analysis that is required—

Mr. WHITFIELD. And by the way, on the car thing, it is my understanding that cost \$52 billion. Is that correct?

Ms. JACKSON. The cost of the cars and trucks rule, I don't have the exact number in front of me, but—

Mr. WHITFIELD. Well, my understanding—

Ms. JACKSON [continuing]. We also did—

Mr. WHITFIELD [continuing]. The light-duty vehicle rule, according to the information I have, cost \$52 billion and will increase in 2016 the cost of one of those vehicles by \$948. Now, we recognize cost goes along with regulations but it is also the information that we have that by the year 2100, the greenhouse gas standards for the light-duty vehicle is expected to reduce global temperatures by .006 degrees Centigrade, \$52 billion, and that is about mobile sources, and I don't think anyone has any idea what the regulation of stationary sources will be. Would you give us a guess on what the cost would be on that?

Ms. JACKSON. Mr. Chairman, just two points. The auto rules that you speak about were hailed by the industry, consumers, and environmentalists because of cost savings. There are efficiency rules for automobiles and trucks and so they pay for themselves, and as the price of gas increases, they pay for themselves in shorter and shorter periods. I believe at the time the estimate was somewhere between 3 and 4 years. So the money you save on gasoline—

Mr. WHITFIELD. You know, another understanding that I have is that there really is no technology available to really reduce greenhouse gases other than efficiencies. Would you agree with that?

Ms. JACKSON. There are emerging technologies for stationary sources but energy efficiency is thought to be the low-hanging fruit in terms of—

Mr. WHITFIELD. And that is my understanding, that we are getting ready to implement this tremendous greenhouse gas regulation. In fact, your air chief indicated that if your tailoring rule is determined to be illegal, that EPA is going to require 6 million sources to obtain Title V operating permits and would have to have 82,000 permitting actions under the PSD program resulting in an estimated \$22.5 billion just for the permitting authorities.

Ms. JACKSON. It sounds like you agree with me, that the tailoring rule is a good idea to protect small businesses from—

Mr. WHITFIELD. But it—

Ms. JACKSON [continuing]. Unneeded regulation.

Mr. WHITFIELD. Doesn't it explicitly violate the language of the Clean Air Act which says specifically if it is 100 or 250 tons per year emitting, that it must be regulated?

Ms. JACKSON. No, sir, I don't see it as a violation. I see it as looking—

Mr. WHITFIELD. But that is what the language says, doesn't it?

Ms. JACKSON. The legal theory—

Mr. WHITFIELD. And your tailoring rule says what, 25,000 tons, or is it 75,000 tons?

Ms. JACKSON. It is 100,000 tons, equivalent of a railroad car—

Mr. WHITFIELD. Tell me about this—well, my time is expired. Thank you, Ms. Jackson.

I recognize at this time Mr. Rush.

Mr. RUSH. Well, Administrator Jackson, I am certainly glad to see that you finally arrived. It wasn't easy getting you here but you are here.

First of all, do you have a scientific or a technical background?

Ms. JACKSON. Yes, sir, I am a chemical engineer by training. I have a master's degree in chemical engineering from Princeton University and an undergraduate degree from Tulane University.

Mr. RUSH. Well, I am glad to know that. I am glad to know that we do finally have someone with a scientific background here on the panel.

Do you find it as amazing as I do that the subcommittee has not called any scientists, medical professionals, biologists, ecologists or any other scientists to consider this draft legislation? What do you think about that?

Ms. JACKSON. Sir, I think if this is going to be a referendum on a scientific question, it would be important to hear from the best scientists in our country.

Mr. RUSH. Thank you very much. The legislation we are considering today overturns your scientific determination that carbon emissions are dangerous, and I am concerned about the precedent that this would set. Whether carbon pollution is dangerous or not is fundamentally, I agree with you, a scientific question and not a political question. I believe that we should leave these types of decisions to expert scientists. Are you aware of any precedent for

Congress to overrule EPA or any other agency on a question of science like this?

Ms. JACKSON. I am not aware of it, sir.

Mr. RUSH. Chairman Upton said yesterday that he does not believe that climate change is caused by human pollution. That certainly is an extreme view that has been rejected time and time again by scientists, so now he is trying a different approach. He is asking this committee to approve legislation that says he is right and the scientific community has made a glaring mistake. I don't believe that is the right way for us to proceed. We should be telling you to listen to America's best scientists and not ignore them because Chairman Inhofe or Chairman Upton have decided that they don't like their conclusions. Senator Inhofe testified earlier just a few moments ago that the science on climate change is mixed but that the economics are not. As I stated during my questioning of the Senator, the Clean Air Act has been the catalyst for creating close to 2 million jobs and creating an industry generating \$300 billion in revenues. Are the economics as mixed as Senator Inhofe suggests, in your opinion?

Ms. JACKSON. Sir, the history of the Clean Air Act's implementation I think is consistent with what we would see for its implementation with carbon dioxide and greenhouse gas pollution, and that is that our economy can grow and thrive because of innovation while we reduce pollution and increase energy efficiency.

Mr. RUSH. Thank you, Mr. Chairman. I yield back.

Mr. WHITFIELD. At this time I recognize the gentleman from Michigan, Mr. Upton, for 5 minutes.

Mr. UPTON. Thank you. Mr. Chairman, and welcome, Administrator. You found a parking place okay?

Ms. JACKSON. I didn't find a parking place but I am here.

Mr. UPTON. We had one right out there in the horseshoe. I checked with the police in advance.

Ms. JACKSON. Thank you.

Mr. UPTON. I want to ask one quick question on maybe an unrelated topic first, and that is the boiler MACT rules. As you know, you all asked for a 15-month extension back in December, and the court said no, we want them done by, I want to say the 21st of February. Would it be helpful, useful, constructive if we gave you a little assistance legislatively to extend that deadline? Yes or no.

Ms. JACKSON. The EPA argued that we will need to make administrative re-proposal of the rule in order to increase the amount of transparency in the time that we have, and I am disappointed that we have to get the rule out but we will use the current administrative processes under the Clean Air Act to ensure that the American public and industry gets a chance to look at these new rules. They will be significantly different.

Mr. UPTON. So would you like a little, sort of like—

Ms. JACKSON. I believe the Clean Air Act is strong enough to allow for that kind of transparency.

Mr. UPTON. OMB is not here. You can say whatever you want. You can give the truth. Never mind.

Let me go to this hearing. You have petitioned to set GHG standards for agriculture emissions. We have the Farm Bureau coming

on a later panel this afternoon. Do you intend to act on the agriculture emissions as part of GHG?

Ms. JACKSON. The number of agricultural sources subjected to EPA's reporting rule is zero. The number of agricultural sources that would face any regulation for greenhouse gas emissions under Clean Air Act permitting before July, 2013 is zero, sir.

Mr. UPTON. There are GHG emissions from non-road vehicles, ships, boats, planes, railroads. Do you intend to set any standards for those types of vehicles?

Ms. JACKSON. We have certainly, sir, been petitioned to do so. We have made no determination on a regulatory calendar that I have been briefed on.

Mr. UPTON. My State of Michigan, there have been some reports that the implications of EPA GHG regs for the Michigan economy would do a number of things: reduce Michigan GDP by \$18 billion, destroy 96,000 jobs, reduce household incomes by nearly \$1,600 and reduce Michigan manufacturing output by \$2.3 billion. Those are independent estimates. Has EPA done an analysis of what the full costs of regulating GHGs under the Clean Air Act would be by State or by the entire country?

Ms. JACKSON. We have done impact analysis and economic analysis as we propose and finalize regulations, sir, but the analysis you are referring to is of regulations we have yet to propose and implications that therefore would be unfair. We would actually have to go to industry and ask them to tell us what it is they are planning to do in order to tell them what the impacts might be so that is a very difficult hurdle and probably not one that industry would welcome.

Mr. UPTON. A number of us have commented about the regulations that could be imposed in this country versus on employers overseas. Does EPA intend to look at the potential of jobs leaving the United States and going someplace else? Is that going to be a factor that is going to be considered as the regulations are pursued?

Ms. JACKSON. Certainly part of our economic analysis is an impact on jobs, both jobs that could be lost but also jobs that could be gained, and you heard in my opening statement that there are potentials for our environmental and air pollution control industry jobs to actually have increases.

Mr. UPTON. And that figure, what was it? How many jobs? I know you cited—did you say 96,000?

Ms. JACKSON. I believe there was a study yesterday that talked about nearly 1.5 million jobs over the next 5 years. That was not an EPA study, that was University of Massachusetts and CERES. That is an independent study.

Mr. UPTON. So if the Continuing Resolution which might be a funding freeze at 2008 levels is adopted, that would be—you would have a pretty difficult reaching that number of inspectors. Would these be EPA government jobs?

Ms. JACKSON. Sir, this was an independent—

Mr. UPTON. Would they be contracted out?

Ms. JACKSON. No, no. These are not government jobs in any way, and with respect to your question on budget, the EPA's regulatory authority incentivizes and promotes innovation in the private sec-

tor. It promotes investments here. There are estimates that there is almost \$2 trillion waiting to be invested in this country, and that is what that study is—

Mr. UPTON. I mean, what I am interested in is the net increase or decrease in jobs, and you may have more inspectors that are out there but at the same time you might not have nearly as many companies still producing goods here because they might go someplace else. I am more concerned about a dramatic net loss of jobs rather than an increase based on the proposal.

So I see my time is expired. Thank you, Mr. Chairman.

Ms. JACKSON. I just want to clear up for the record, I don't know what net increase in inspectors you are speaking of. I do believe that we remain committed to enforcing the Clean Air Act but none of the jobs numbers that I speak about are public sector employment, they are private sector employment. Thank you.

Mr. WHITFIELD. The gentleman from California is recognized for 5 minutes.

Mr. WAXMAN. Thank you, Mr. Chairman.

Administrator Jackson, the Republicans have made the argument that you don't have the authority under the Clean Air Act to do this regulation of greenhouse gases. Are they right?

Ms. JACKSON. No, sir, they are not.

Mr. WAXMAN. The Clean Air Act requires you to regulate carbon emissions?

Ms. JACKSON. Yes. As the Supreme Court said, greenhouse gas emissions fit within the definition of pollution under the Clean Air Act.

Mr. WAXMAN. Republicans further have made the argument that public health is not at risk from these greenhouse gases. Could that be true?

Ms. JACKSON. No, sir, I don't believe that to be the case. The endangerment finding is about that very issue, and in that finding, we determined that unchecked greenhouse gas emissions increase the intensity and duration of heat waves. That increases heat-related mortality and morbidity, especially among children, among the elderly, among the sick, people who work outdoors, people who can't afford air conditioning or have never needed it because their climate was temperate enough. By raising temperatures, you also exacerbate the impact of smog, and we know the life-threatening impacts of smog on people who have compromised lung function, especially people with asthma and other lung diseases. Unchecked emissions are said by our best scientists to increase the severity of flooding, and having grown up in New Orleans and seeing the impacts of flooding on just one small part of the town, the part I know, I know that that also means more contamination, more pollution, more disease as we deal with the impacts of our changing climate.

Mr. WAXMAN. So this is really a threat to the public health, and if we don't regulate we are allowing that threat to become greater?

Ms. JACKSON. That is the nexus of the endangerment finding. It is a threat to our public health as Americans and our welfare, sir.

Mr. WAXMAN. You have been criticized for this finding that greenhouse gases endanger the public. Mr. Abbott, the Texas Attorney General, claims that the finding is arbitrary and legally

flawed. We learned yesterday, however, that your predecessor in the Bush Administration looked at the science and apparently reached the same conclusion you did. In a private letter to President Bush, Administrator Johnson stated, and I quote, "The latest science on climate change requires the Agency to propose a positive endangerment finding as was agreed to at the Cabinet-level meeting in November." According to Mr. Johnson, "The latest climate change science does not permit a negative finding nor does it permit a credible finding that we need to wait for more research." And I gather Mr. Johnson didn't like to have to say that because he is not happy about the proposals that you have made, but as a matter of fact, what you have proposed is very similar to what he would have had to propose as well. Are you surprised that the predecessor in the Bush Administration privately reached the same conclusion that you have?

Ms. JACKSON. I think that the letter which I saw yesterday when it was released is proof that it is not me sitting in the administrator's chair who looks at the science and makes a finding of endangerment but clearly past administrators have felt and have believed the same based on their—

Mr. WAXMAN. Well, once you have reached those findings, once you have reached the conclusion that this is not a hoax but that public health and welfare are endangered, then the question is, what do we do about it? And the Republican approach is not to let anything be done, not to pass legislation—they didn't offer an alternative to our bill last year—not let EPA act. In fact, they would go so far as to say that you can't even allow some of the voluntary efforts to report and try to reduce carbon emissions. You are being vilified for proposing the same measure that your Republican predecessor called "prudent, responsible, cost-effective, and practical." Both Republican and Democratic Administrators saw the same science and reached the same conclusion. Unfortunately, President Bush and his people told Administrator Johnson don't move forward on it. You represent a President that wants to protect the public health, safety, and well-being and he has allowed you to do your job. I think that Congress ought to allow you to do your job as well. And if we have an alternative, let us hear what it is, but saying there is no problem, it is all a hoax, is not a responsible answer.

Thank you, Mr. Chairman.

Mr. WHITFIELD. I recognize the gentleman from Texas for 5 minutes.

Mr. BARTON. Thank you. Thank you, Mr. Chairman.

The Minority seems to be of the impression that we didn't want you to attend, Madam Administrator. We are delighted you are here. If I knew you better, I would come down and hug you. I can assure you that Chairman Upton and Chairman Whitfield and Chairman Stearns are going to invite you numerous times, you and your deputies, to come before this committee and its various subcommittees for the next 2 years. So welcome, and we do appreciate your attendance.

I need to educate the subcommittee briefly before I start asking my questions because there is an attempt by Chairman Waxman and perhaps by yourself to rewrite history. The Clean Air Act does

not specifically mention CO₂ as a criteria pollutant. The reference that Mr. Inslee made talks about ozone, not carbon dioxide. The court case in Massachusetts v. EPA was a 5-4 decision in which the majority of the Supreme Court said that since it did not explicitly prohibit CO₂ being regulated under the Clean Air Act, it might could be, and the EPA needed to—I don't think the EPA needed to but it said the EPA could make a decision.

As you well know, when your Administration, Mr. Obama, President Obama, came into office very quickly issued an endangerment finding, saying that CO₂ should be regulated. Mr. Waxman alluded to a private letter that has miraculously come forward in the last day or so for this hearing, and I would emphasize the term "private." I would hope that maybe we could get Carol Brown's private correspondence and some of the other Obama officials' private correspondence. We do have some e-mails from the direct supervisor of Mr. Carlin back and forth to people in the White House in which Mr. Carlin is explicitly told stop investigating whether CO₂ is a danger, the decision has been made, the White House has decided that they are going to issue an endangerment working, stop working on this report. I don't have those e-mails with me but they are available.

So I am going to ask you the same question that I asked Senator Inhofe. Under the Clean Air Act, which is the law of the land, as amended, does anything in Mr. Whitfield's and Mr. Upton's pending legislation change the standard on ozone?

Ms. JACKSON. The—

Mr. BARTON. The answer is no.

Ms. JACKSON. Would you like me to answer, sir?

Mr. BARTON. Well, I am willing if you will go through it quickly. I have got a minute and 50 seconds here.

Ms. JACKSON. I see. Well, what I would say is that I am concerned that there needs to be an analysis to ensure that there aren't unintended consequences. My belief is that there is no intention in the legislation—

Mr. BARTON. But the legislation does not change the standard on ozone, it does not change the standard on particulate matter, it does not change the standard on carbon monoxide, it does not change the standard on NO_x, it does not change the standard on sulfur dioxide and it does not change the standard on lead, does not change the enforcement criteria, does not change the quantities, does not change any of the Clean Air Act on the criteria pollutants that this committee amended and passed back in 1990. Is that not correct?

Ms. JACKSON. I believe the intent is only to gut portions of the Clean Air Act, sir, not—

Mr. BARTON. That is the Clean Air Act.

Ms. JACKSON. But it is changing, gutting portions of the Clean Air Act—

Mr. BARTON. How?

Ms. JACKSON [continuing]. For certain pollution, some of which is pollution—

Mr. BARTON. CO₂—

Ms. JACKSON [continuing]. Not only because it is a greenhouse gas.

Mr. BARTON. Madam Administrator, CO₂ is not mentioned in the Clean Air Act. It is a 5-4 decision that it might be. It is your Administration's position that it should be. I respect that. I respect that. But that doesn't mean that it has to be, and unless you can refute all these cost-benefit analyses that have been done independently about the millions of jobs and hundreds of billions of dollars per year, I would say that the Congress as an independent arm of the Federal Government has an obligation to clarify what the Clean Air Act really does regulate. That is our obligation. Do you have an objection to that?

Ms. JACKSON. Again, sir, I would not presume to tell the Congress its business in any way.

Mr. BARTON. Well, my time is expired. I am going to yield back. I am going to ask you some specific questions in writing about what you are doing in Texas. You have denied every existing air permit issued since 1992, and we are going to ask some specific questions about that. Thank you.

Mr. WHITFIELD. I recognize the gentleman from Michigan for 5 minutes of questions.

Mr. DINGELL. Mr. Chairman, I thank you.

Madam Administrator, welcome to the committee. I have a number of questions on which I would like, if possible, to get yes or no answers, and I say that with respect.

EPA has already issued regulations under Title II of the Clean Air Act. It has issued its determinations for regulations under the Title V permit program and it is also for under sections 111 for the prevention of significant deterioration, and in addition to that, it would appear that EPA can issue regulations under the National Ambient Air Quality Program. Is that correct?

Ms. JACKSON. Yes, sir.

Mr. DINGELL. So we have a potential here then for at least four different sets of regulations plus State implementation plans which could also cover these questions?

Ms. JACKSON. Yes, sir.

Mr. DINGELL. So you have an unholy complicated mess here if you are going to regulate greenhouse gases. Is that right?

Ms. JACKSON. Pursuant to the Clean Air Act, those are all requirements, sir.

Mr. DINGELL. Now, Madam Administrator, what other provisions of the Clean Air Act can EPA use to issue regulations in the next 5 years in terms of greenhouse gas emissions?

Ms. JACKSON. Sir, did you mention the new source performance standard provisions of the Clean Air Act? EPA has already announced the schedule to put forth new source performance standards for utility sector and for the refinery sector. I know you said 5 years, but those are in the next 2 years.

Mr. DINGELL. This gives you an unbelievably complicated process, especially if you are going to bring the States into the matter as required under the state implementation plans.

Now, Madam Administrator, how many different regulations to introduce greenhouse gas emissions could this add up to? I don't think you can tell us here this morning, and I am not sure anybody including the prophet Esau can give us that number. But would you please submit for the record the number of potential regula-

tions and the number of potential regulatory sources under the statute that are going to be used here.

Now, Madam Administrator, so it is clear that these regulations could add up to a great multiplicity of stationary and mobile source controls. Isn't that right?

Ms. JACKSON. Yes, sir, but I do want to point out that the purpose of tailoring rule was to manage that workload in a way that ensures that the vast majority of sources would not be caught—

Mr. DINGELL. Madam Administrator—

Ms. JACKSON [continuing]. Under the Clean Air Act.

Mr. DINGELL [continuing]. This is not to criticize you, it is to try and dig you out of an intolerable hole in which I find you, and I am looking forward to your help in achieving that very important purpose.

Now, under the provisions of the bill before us, should this legislation become law, it would repeal the endangerment finding. Does that put the national standards at risk? Yes or no.

Ms. JACKSON. Yes, sir, I would think it would invite litigation on past standards, and future standards are explicitly prohibited under the draft.

Mr. DINGELL. Now, Madam Administrator, do you and the Administration firmly support a national standard for auto fuel economy and greenhouse gas emissions, and are you committed to a single national standard for the model years 2017 to 2025?

Ms. JACKSON. Yes, sir, we are very much committed to working collaboratively with the industry and the States and staying at the table as we did for the standards that we put out in May of 2010.

Mr. DINGELL. Now, does the draft legislation prevent EPA from enforcing greenhouse gas reporting rule which contains information that could inform the Congress relative to the Congress's future action? Yes or no.

Ms. JACKSON. Yes, sir.

Mr. DINGELL. Now, Madam Administrator, EPA's endangerment finding, let us refer to that, was that or is that a scientific finding or a political finding?

Ms. JACKSON. It is a scientific finding, sir.

Mr. DINGELL. Now, Madam Administrator, could EPA have found otherwise than it did?

Ms. JACKSON. No, I do not believe so, sir.

Mr. DINGELL. Madam Administrator, did your predecessors in the previous Administration, that of Mr. Bush, find or propose otherwise than you have done?

Ms. JACKSON. An endangerment finding was prepared and sent to the White House but the White House did not open the e-mails.

Mr. DINGELL. OK. We have done it with 7 seconds overrun. Thank you.

Ms. JACKSON. Sir, may I correct one inaccuracy in my answer? National ambient air quality standards and State implementation plans are not required for greenhouse gases at this time. We have been petitioned with respect to that matter. Thank you.

Mr. DINGELL. But I should be somewhat concerned that a court which would make a finding that the Clean Air Act affected greenhouse gases, that they might insist that that also be used on the State implementation plans. Isn't that so?

Ms. JACKSON. Yes, sir. I just wanted to be clear on the current state of—

Mr. WHITFIELD. I recognize the gentleman from Illinois, Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman.

Welcome, Administrator Jackson. Just so we don't get into a debate next week when we have our hearing on the environment and job creation, I am formally asking you if you would like to return to talk, to address my subcommittee that deals with a huge portion of the portfolio and also jobs. This hearing is about jobs, and that is why we are focused on it. So I will give you time to think about it, but I am formally asking you if you would like to join us next week at our hearing.

This hearing is about jobs, and there is a chart on the screen, and I don't know if you have ever seen it, the National Environmental Policy Act and Environmental Protection Agency were both first authorized in 1970. Have you ever seen this chart? Has it ever occurred to you that there appears to be a cause and effect between U.S. oil imports and these policies? If you look, what it is up there is production and imports, and as we have been involved with, and a lot of us would agree, important Clean Air Act amendments, it has affected jobs and our reliance on imported crude oil. Have you ever seen that, and do you think there's a relation?

Ms. JACKSON. Sir, it is the first time I am seeing this particular chart, and what I do know is that the energy efficiency and ability—

Mr. SHIMKUS. But you wouldn't dispute that our importation and our ability to produce has declined? I mean, those are just Energy Information Agency. Timeliness with the Clean Air Act and Clean Air Act Amendments, it has had an effect on our energy production. Well, let me move on. I will give you a chance to look at that, and maybe next week—

Ms. JACKSON. I don't see anything on that chart that talks about the Clean Air Act, sir, but I would be happy to—

Mr. SHIMKUS. Well, it is related to the time frame on the bottom with 1970, so this is a timeline from 1920 to 2000, so—

Ms. JACKSON. I am sure there are a lot of things that happened in 1970 that can't be attributed—

Mr. SHIMKUS. Let me just go back now to other issues. This is about job creation and the effect that the Environmental Protection Agency has, and we are going to hear the testimonies when we have the next panel. Let me—you recognize these folks, right? And my friends on the other side. These are the folks that were affected by the 1992 Clean Air Act Amendments. This is from Kincaid Mine in my district. One thousand miners' jobs were closed because of the Clean Air Act. The reason why we could not pass into law through the Senate Waxman-Markey is because we successfully made the argument that this would create higher cost energy and jobs would be destroyed, and these folks should be awarded a medal for stopping the job-destroying aspects of the Waxman-Markey bill. Illinois lost 14,000 jobs during the last round, and Ohio lost 35,000 jobs during the Clean Air Act Amendments.

And so this hearing is about jobs and the effects of jobs, and I think we can make an argument on carbon dioxide not being a cri-

teria pollutant under the Clean Air Act and that we have gone around the legislative ability by using the courts and using regulatory authority to regulate something that should not be regulated but let us assume you all are successful. I have in front of me a power plant that is being built, 1,600 megawatts. If we mandate them to reduce carbon dioxide emittance by 60 percent, what amount of the energy that they produce will have to be used to capture that carbon? Do you know what that is?

Ms. JACKSON. Sir, I am sure you are going to give me the number.

Mr. SHIMKUS. It is 22 percent. The energy that they are going to put on the grid will now have to capture. If they go to 85 percent, do you know how much energy that would require? Thirty percent of what they were going to put on the grid to sell. Do you believe in the law of supply and demand?

Ms. JACKSON. Do I believe in the law of—

Mr. SHIMKUS. Supply and demand, economics 101.

Ms. JACKSON. The economic principle of supply and demand? It is not a tenet of faith, sir. It is a—

Mr. SHIMKUS. No. Do you believe it?

Ms. JACKSON [continuing]. An economic model, and I was trained in it.

Mr. SHIMKUS. Do you believe it?

Ms. JACKSON. Yes, I believe that it is generally—

Mr. SHIMKUS. That if you constrain a product and there is a high demand, that costs go up?

Ms. JACKSON. It depends on the elasticity of the cost curves.

Mr. SHIMKUS. And I would say that here is an example of us having power on the grid that this regulation is now going to constrain because we are going to have to use energy to capture carbon which is not energy we can put on the grid so the people who are going to buy this have to buy, what, higher power. You know what the capital expense for this power plant is if they are going to build new facilities to capture carbon, what is the new capital expense at 60 percent? It is \$1.8 billion. If it is 85 percent, their capital expense, this is new spending, \$2.3 billion.

Ms. JACKSON. Sir, under the—

Mr. SHIMKUS. Do you know where they have to go to pipe the carbon capture and sequestration, how far? We think the closest might be 70 miles. Who is going to pay for the pipeline? And then how big a sequestering facility has to be there? The point is, this regulation is going to skyrocket electricity costs, which will destroy jobs.

I yield back my time, Mr. Chairman. Thank you.

Mr. WHITFIELD. Thank you.

Ms. JACKSON. Sir, may I respond to just a few things for the record?

Mr. WHITFIELD. Sure.

Ms. JACKSON. The first is, under the Clean Air Act, which is a public health—

Mr. SHIMKUS. Mr. Chairman, I would like to, if she would yield, I would address this the same way that Chairman Waxman addressed Senator Inhofe and not allowing him, so if my colleagues

on the other side want to give her time, they should do it on their time.

Mr. WHITFIELD. Very good point.

Mr. Inslee, you are recognized for 5 minutes.

Mr. INSLEE. Thank you. I think this is interesting, a 5-4 Supreme Court decision was good enough in *Bush v. Gore* to be settled law. A 5-4 decision in *United Citizens* was good enough to allow corporations to run America. But all of a sudden a 5-4 decision of the Supreme Court that you expect the EPA and us to just ignore.

Now, I want to make sure that we are clear about this. The Supreme Court, which binds all of us who have taken an oath to the Constitution at the moment, says, "Carbon dioxide, methane, nitric oxide and hydrofluorocarbons are without a doubt physical and chemical substances which are emitted into the ambient air. The statute is unambiguous." The statute is unambiguous. Madam Administrator, is it clear that you are bound by this decision and that we have got to regulate CO₂?

Ms. JACKSON. Absolutely, sir.

Mr. INSLEE. And I want to tell you the last witness, Senator Inhofe, we appreciate him coming here. We know he is a person of strong beliefs. He tells us he is writing a book called *The Hoax*. Now, I haven't seen it but I think it is about the alleged Apollo moon landing on the lunar surface because we know there are people that are still out there doubting that. They are doubting that the National Academy of Science has confirmed we landed on the moon. They are doubting the IPCC that confirmed we have landed on the moon, but there are still those who doubt.

And I want to ask you about the status of science on this. Could I have the picture of the Arctic put up, please? This is a picture, I am afraid it is not as visible as I would have liked. This is a picture of the current status of the Arctic ice cap in September. It is difficult to view, but there is a red line showing what the Arctic ice cap used to look like before we started dumping millions of tons of carbon dioxide into the atmosphere, and what it shows, that the Arctic ice cap has now shrunk about 40 percent by mass. Now, several years ago thought it was going to disappear in its entirety, and this is the air conditioner for the world. This is what controls the ambient air, bounces light back, and it is going to disappear. Now, scientists thought it was by 2040. Now we think it might be within this decade actually being gone.

Now, my understanding of the status of the science, National Science Foundation, National Academy of Science, International Panel on Climate Change, 2,500 sciences who sent this committee a letter dated a couple days ago saying that this science is clear by compelling, cogent and consistent evidence in the peer-reviewed literature that we are having an impact on climate, visibly in many, many manifestations, this being just one of them.

I have not been able to find—and I understand for political purposes people are trying to drum up questions about this. I understand politics. But I have not been able to find a peer-reviewed scientific study that challenges this finding of the consensus of scientists in America, including those who work for the United States Navy, and they do a pretty good job on our submarines. Is it a fair

statement that there is wide, wide consensus about the science upon which you have made this finding?

Ms. JACKSON. Yes, sir, it is very broad and based on multiple lines of research.

Mr. INSLEE. And are you aware of any single peer-reviewed scientific journal which has questioned the foundations of the relationship between our actions on earth and the increase in CO₂ in the atmosphere? Because I am not.

Ms. JACKSON. I am not, sir.

Mr. INSLEE. Now, I tell you what, I hear a lot of political flacks, I hear a lot of people on television saying the science is questionable, but we can't find one single peer-reviewed research study that has questioned this science, and I hope the people who are distributing information at this hearing will point out that the Republican Party that wants to pass this Dirty Air Act will not produce one single peer-reviewed scientific piece of literature which questions the finding of the Environmental Protection Agency. I think that is pretty stunning that they want to put our kids' health at risk and won't produce one peer-reviewed piece of research to support their conclusion.

One last question on the economy. In fact, the research has shown that we increase our economy by a factor of three or four every time we make an investment under the Clean Air Act, and I want to put in the record, and you made reference to this. It is a study by industry and institutional investors. It is called New Jobs, Cleaner Air, and it finds as a result of your proposal, there will be an estimated job gain in Illinois of 122,695 jobs associated with the new construction jobs, the new scientific jobs, the new jobs in utilities associated with making the air cleaner. Is it a fair thing to believe that as we make our air cleaner, we can grow our economy?

Ms. JACKSON. Yes, sir.

Mr. INSLEE. Thank you.

Mr. WHITFIELD. I recognize the gentleman from Oklahoma, Mr. Sullivan.

Mr. SULLIVAN. Thank you, Mr. Chairman, for holding this hearing. I would like to state that this hearing is not about science, it is about the destructive economic impacts of the EPA trying to use the Clean Air Act for what it was never designed to do: regulate greenhouse gases.

Administrator Jackson, thank you for being here today. I have several companies my district ranging from chemical companies, manufacturing, energy companies, and they are scared to death of the EPA's pending rules on greenhouse gas. The energy industry in my State employs over 320,000 workers, and I intend to see that number grow by vigorously supporting this legislation. The Oklahoma Farm Bureau is also concerned with the GHG rule as they are the second largest industry in my State. Heck, Administrator Jackson, I even have churches that are concerned about this.

You have been petitioned to set GHG standards for agriculture emissions. Do you intend to act on this?

Ms. JACKSON. Sir, as I stated earlier, there are no agricultural sources subject to EPA's mandatory reporting rule and no agricul-

tural sources that need to address greenhouse gas emissions in Clean Air Act permits before July of 2013.

Mr. SULLIVAN. So that would be no, just no?

Ms. JACKSON. Yes.

Mr. SULLIVAN. Has EPA done an analysis on how much greenhouse gas regulations will impact the cost of producing food on farms and the price that American families will have to pay at the grocery store? We have a lot of people concerned that spend a lot of their money on groceries, you are taxing the food they eat that keeps them alive.

Ms. JACKSON. Sir, I just mentioned that we are not going to be regulating agricultural sources. They are not even subject to our mandatory reporting rule for greenhouse gases.

Mr. SULLIVAN. But did you do any analysis on how it would affect the price of food at all? You don't do any of that, huh?

Ms. JACKSON. No, sir. When we analyze our regulations or, for example, as we analyzed legislation pending before this committee last year, we analyzed changes in potential energy costs, and of course its impact on the economy.

Mr. SULLIVAN. Do you think it would be a good idea to require an economic analysis on how these rules impact family farms and the price of groceries? Is it that you don't know what the total economic impacts will be on the agricultural sector? All tolled, 17,000 farms nationwide are impacted by the EPA's greenhouse gas regulations.

Ms. JACKSON. Sir, we will do economic analysis of regulations as they are proposed and finalized. That is a process required under the Clean Air Act already.

Mr. SULLIVAN. I am concerned that we have no idea what the avalanche of greenhouse gas rules will cost, costs that could shift and shatter the economy. The Obama Administration has come out recently with an initiative for regulatory reform seeking to be more business-friendly, stating that our regulatory system must take into account benefits and costs. On paper, we agree. Has the EPA done an analysis of what the full costs of regulating greenhouse gas under the Clean Air Act will be?

Ms. JACKSON. We do regular analyses, and of course, we will be complying with the Executive Order to do a cumulative review of all of our regulations. Under the Clean Air Act, we know that the benefits to costs of the Clean Air Act are 30 to 40 to one cumulatively, and in the regulations recently proposed are oftentimes at least double if not an order or two of magnitude higher. The benefits are higher than the cost.

Mr. SULLIVAN. So you will be doing analysis. When will you be doing it? Do you know?

Ms. JACKSON. We will do economic analysis as part of the rule-making process, sir.

Mr. SULLIVAN. Has the EPA looked at the impact on jobs?

Ms. JACKSON. Yes. Just yesterday EPA put out a White Paper in response to a question from a member of this committee on jobs and the Clean Air Act, and it confirms that which we heard earlier today which is that having regulatory certainty allows businesses to innovate and give us clean air and grow our economy at the

same time. That is the history and legacy of the Clean Air Act, sir. It is a very powerful piece of legislation.

Mr. SULLIVAN. Have you looked at the risk of manufacturing jobs overseas? I hear that all the time, that people are going to do it if this happens. Do you look at that?

Ms. JACKSON. We do do an economic and jobs impacts analysis on regulations as part of the regulatory process, sir.

Mr. SULLIVAN. But you haven't done that yet?

Ms. JACKSON. We do them for the regulations as they come out so—

Mr. SULLIVAN. When will you be doing it?

Ms. JACKSON. The regulations are proposed for, for example, new source performance standards, we will do analysis as part of the regulatory process.

Mr. SULLIVAN. Thank you. I yield back.

Mr. RUSH. Mr. Chairman?

Mr. WHITFIELD. Yes?

Mr. RUSH. I respectfully request that the White Paper that the Secretary mentioned be entered into the record.

Mr. WHITFIELD. Without objection.

[The information appears at the conclusion of the hearing.]

Mr. WHITFIELD. I recognize at this time Mr. Markey of Massachusetts.

Mr. MARKEY. I thank the gentleman.

This bill that we are considering, the Polluters Protection Act of 2011, repeals the scientific finding that global warming pollution is dangerous. It ties EPA's hands and prevents it from moving forward with any regulations to reduce global warming pollution. It even prevents EPA from thinking about global warming pollution as part of its other duties under the Clean Air Act. In George Orwell's 1984, Big Brother's faceless minions at the Ministry of Truth dispose of politically inconvenient facts by pitching them down a memory hole. Today, Big Oil and Big Coal have been working with the Republican thought police to comb through each and every reference to global warming pollution in the Clean Air Act and then disappear them, sending scientific consensus down the memory hole at the expense of public health and welfare. But their bill will create new jobs. The oil and the coal and the utility lobbyists who are here today and watching on the Web all across America, there are new people being hired in those industries to make sure that the EPA cannot do its job, and we congratulate you for that purpose.

But what this bill also does is to bar EPA from doing anything further to reduce oil from cars, trucks, planes, boats or other sources. The legislation might even nullify the progress we have already made over at EPA in reducing demand for oil. The Republican bill could result in an increase in our dependence of more than 5 million barrels of oil per day by the year 2030, more than we currently import from OPEC. So that is what we are doing today. Tomorrow, in this very same subcommittee, we are holding a hearing on the impact of Middle East unrest and its impact on U.S. energy prices for consumers. That is like holding a hearing on repealing FDA's authority to regulate tobacco and then holding a hearing the very next day on the dangers of tobacco in creating

lung cancer. Five million barrels of oil per day. At \$90 per barrel, that is \$164 billion a year we would send to OPEC if the Republicans are accurate. That would fund al-Qaeda. That would fund Hamas. That would fund Hezbollah. That would fund the Muslim Brotherhood. That is what this money would be used to accomplish. That is what their bill makes possible.

Now, I understand why Arab oil sheiks and Oklahoma oilmen want the price of a barrel to continue to rise and to rise and to rise, but the consequences for American young men and women that we would have to send over there, the impact on our geopolitical status around the world would be devastating. Instead of holding the line so that we continue to back out that imported oil, the Republicans have offered us a unilateral disarmament policy that al-Qaeda and other groups around the world will be able to exploit as we send more money over there to import oil into our country.

By repealing the endangerment finding, Republicans are endangering the current standards by opening up a litigation loophole in the current standards to reduce oil use in cars and light trucks, and Republicans are barring EPA from moving forward with any new standards at all. Do you agree, Madam Administrator, that this legislation would increase our dependence on foreign oil if you are prohibited from promulgating additional regulations to reduce our dependence upon that imported oil?

Ms. JACKSON. Yes, sir.

Mr. MARKEY. Doesn't this bill also undermine the renewable fuel standards, which is driving the production of homegrown biofuels that will further our imports of oil from OPEC by 1.6 million barrels of oil per day?

Ms. JACKSON. Yes, sir, I believe it does.

Mr. MARKEY. Doesn't this bill also prevent EPA from setting standards to reduce oil use in trains, boats, planes, large trucks and other industrial sources, sources that account for almost 40 percent of all oil that we use each day?

Ms. JACKSON. Yes, sir, I believe it would.

Mr. MARKEY. So basically what we have here then is legislation that is a regulatory relief bill for oilmen in Oklahoma and at OPEC that would allow for a tightening of the noose around the neck of American foreign policy and consumers that will come back to haunt us in years ahead because we did not use America's greatest strength, our technological genius, to improve the vehicles that we drive, improve the appliances which we use, improve the efficiency of the buildings within which we live so that we reduce dramatically the amount of energy that we have to consume and tell OPEC we don't need their oil anymore than we need their sand. That is what this hearing is all about and that is why this bill has an historic place in terms of its undermining of our national security.

Mr. WHITFIELD. The gentleman from Oregon is recognized for 5 minutes.

Mr. WALDEN. Thank you, Mr. Chairman.

Woody is back in town. I want to talk to you about biomass first off. You testified, and the Administration testified in support of the Waxman-Markey bill, and I would just like to know your scientific underpinning for supporting the provision that treated biogenic

carbon emissions as if they were oil or gas when used in the production of renewable energy.

Ms. JACKSON. Sir, I recently wrote a letter saying that we believe that there is only limited climate impact through the combustion of certain biomass.

Mr. WALDEN. Now, that is interesting because the scientists at the State University of New York, College of Environmental Science and Forestry contend that woody biomass is a substantial CO₂-neutral renewable resource that can be used as a fuel for a variety of sustainable, environmentally sound energy applications. Do you disagree with that finding?

Ms. JACKSON. No, Mr. Walden. What I said is that I substantially agree that we need additional science because it may well be that many sources of biomass are neutral when it comes to greenhouse gas emissions.

Mr. WALDEN. Do you think that there is a difference between woody biomass that is used for renewable energy that is produced on private, State or county land versus that comes off federal land?

Ms. JACKSON. Sir, I don't know what the difference would be except its source, and it would depend on the type of biomass.

Mr. WALDEN. But if it were the same tree source, right? If you have a fir tree on one side of the line—

Ms. JACKSON. Scientifically, there is no difference on whose land the trees are.

Mr. WALDEN. Right. So that is what perplexed me about your support for the Waxman-Markey bill that said woody biomass off federal land was different than the woody biomass off other lands when treated—when used to create renewable energy. It is a flaw.

Now, in your tailoring rule—people in my district are real upset because there are a lot of rules, not just this one but others coming out that do affect the price of oil. I understand your agency just pulled the air permit on a Shell drilling operating Alaska that would have potentially reached into 35 billion barrels of oil. They have gone through 35 other permits. That one has been pulled. If you want to talk about accessing America's great energy reserves, didn't you pull that air permit?

Ms. JACKSON. No, sir, actually we issued the permit. The courts—the Environmental Appeals Board ruled against the EPA-issued permit, sir.

Mr. WALDEN. So what is your plan going forward there?

Ms. JACKSON. We have a motion to the Environmental Appeals Board for reconsideration, and we are working with the permit applicant to perfect the application and move forward as quickly as we can in response to the application.

Mr. WAXMAN. Will the gentleman yield?

Mr. WALDEN. No, I won't. I only have a minute ten, Mr. Chairman. Otherwise I would.

Let us go back to the biomass issue because in the—a lot of us wrote you in a bipartisan way asking you to not move forward with the rule on biomass in the tailoring rules affecting biomass. You responded and said you are going to delay this for a couple of years. Now, the practical impact in a district like mine is, we have got a lot of people that want to invest in new high-tech biomass facilities, to turn woody biomass into renewable energy. They are con-

cerned that you are going to come back in 2013 or later on with a rule that treats biomass as if it were coal or oil. Can you give us any indication that you won't do that?

Ms. JACKSON. I do know, sir, that the American Forest Products Association hailed the decision to defer for 3 years—

Mr. WALDEN. I am aware—

Ms. JACKSON [continuing]. To get the science, like the science you mentioned, to show the carbon neutrality of biomass fuel.

Mr. WALDEN. But I want to get to my question. I know what they said. I know what I said. I was glad except I think we create this delay process where you are stifling investment. The President wants to see \$2 trillion in private sector investment come off the shelves and get invested. It is rules like this that are causing the people trying to make those decisions to wait because they don't know what your agency is going to do in a couple of years that might affect them if they make that investment today. Because you could go back under the new source performance standards, could you not, and say no, actually we are going to regulate the burning of woody biomass as if it were—

Ms. JACKSON. I support the delay to get the best science, sir, to give scientists a chance to do the studies to determine how best to deal with biomass and to determine whether all biomass is created the same. It was a delay to review scientific—

Mr. WALDEN. So you can't give us any certainty. So we are on delay for a couple years?

Mr. WAXMAN. Mr. Chairman, I would ask unanimous consent that I be given 30 seconds to make a statement for the record.

Mr. WHITFIELD. Does anybody object?

Mr. WAXMAN. I just wanted to point out to the gentleman from Oregon that his criticism of our bill would have applied to its initial formulation, but by the time we passed the House floor, the biomass provisions were changed, and I think even in Oregon the industry was for it. But your criticism was of the draft bill that was in the committee, not the bill that passed.

Mr. WALDEN. Well, Mr. Chairman, if I might respond to that?

Mr. WAXMAN. I would be happy to yield.

Mr. WALDEN. Indeed, there was criticism of the original language. However, the language that was adopted by this committee still left a real problem when you accept—if you go to section 15, I believe it is, and the new language still precludes material that would come off all kinds of federal lands—roadless areas, old growth, late successional stands—except for dead, severely damaged or badly infested trees. Those definitions, those were never defined. I had Forest Service employees ask me what is a severely damaged tree, what is a badly infested tree, because they said we are the ones who are going to get sued because—and so it still is not workable language in the real forest.

Mr. WAXMAN. We thought we had corrected the problem. I just wanted to make that point.

Mr. WHITFIELD. Ms. Jackson, maybe we will have you back and we will talk about woody biomass in detail, at length.

This time I will recognize Ms. Capps of California.

Ms. CAPPS. Thank you. Before I get to my questions, I ask unanimous consent to place into the record a letter, and it is signed by

more than 1,800 physicians, nurses and other health professionals from all 50 States calling upon Congress to, and I quote, “resist any efforts to weaken, delay or block progress toward a healthier future for all Americans.”

Mr. WHITFIELD. Without objection.

[The information appears at the conclusion of the hearing.]

Ms. CAPPS. Thank you. I also ask unanimous consent to place into the record statements from a number of public health organizations including the American Lung Association and the Trust for Americans’ Health rejecting the draft bill under consideration today.

Mr. WHITFIELD. Without objection.

[The information appears at the conclusion of the hearing.]

Ms. CAPPS. Thank you, Mr. Chairman.

Administrator Jackson, thank you for your testimony and for your patience this morning. I want to talk about the very real consequences for our public health, and you know my background as a public health nurse, if we do not act to control greenhouse gas emissions. One of the best documented impacts of climate change is the in ground-level ozone smog concentrations. This is a big problem for many of our metropolitan and suburban areas. Now, I know you were asked about and already talked about some of the harmful effects of this carbon pollution on people but can you be more specific or give some examples, if you will, from your data collection on kids’ respiratory health being impacted, the cases of asthma or heart problems or cancers?

Ms. JACKSON. EPA’s work under the Clean Air Act to address smog is directed primarily at reducing ground-level ozone, which we know, which science does not dispute, increases the risk of asthma attack and premature death for people who have lung disease.

Ms. CAPPS. Thank you. I know in my years of being a school nurse, we saw a dramatic increase in the number of children with asthma, which is the case today as well.

Two years ago when you issued the endangerment finding, you considered these effects on human health. They were a part of your decision-making process, right?

Ms. JACKSON. Absolutely. The unchecked emissions of greenhouse gas emissions would change the climate, thus exacerbating the effects of smog on asthmatic children and people with lung disease.

Ms. CAPPS. Can you please also share with this subcommittee some of the other public health research and science that you reviewed in making this decision? I know that it was an extensive and thorough decision-making process in which you didn’t ask a few selectively chosen groups, that you went broad-based. Maybe we need to know how broad-based your research was.

Ms. JACKSON. Yes, it was based on the peer-reviewed work of multiple research programs, both public research as well as private and academic research. The U.S. Global Change Research Program, for example, projects that the impacts we would see in America from unchecked carbon dioxide and global warming pollution would be tremendous. They would not be limited to urban areas. They would not be limited to arid areas. The Great Plains would experience more drought and increased infestation of pests. That means

more disease. The Southeast would experience declines in livestock production. The Great Lakes would have more frequent spring flooding and more frequent drought. That's in addition to the more traditional public health impacts to people who oftentimes are least able to defend themselves: our children.

Ms. CAPPS. Exactly. And, you know, we have heard today about the costs of implementation of the EPA and your endangerment findings and all the rest, but I have been able to make the case, and I wonder if you wouldn't agree, that the benefits of the programs that you have implemented really do exceed and add greatly to balance over the costs of implementation, far and away.

Ms. JACKSON. That is right. We are talking about the Clean Air Act today and history. Facts show numerous studies, 30 to one, 40 to one, the health benefits for every dollar invested in this country in clean air technology.

Ms. CAPPS. And finally, as your agency continues to do the work that you are doing, you are going to be making decisions based on the best public health research and science, I am sure, and I just want to make sure that we have, because it is in the record now as I have introduced, one quote from the letter that these 1,800 health professionals submitted, and they say, "As health and medical professionals, we are keenly aware of the health impacts of air pollution." Air pollution is linked to a wide range of health consequences including cancer, asthma attacks, heart attacks and strokes. The Clean Air Act guarantees all Americans, especially those most vulnerable, that the air be safe and healthy to breathe. Despite air pollution reductions, more progress is needed to fulfill this promise, and maybe you will close it out with 3 seconds illustrating that.

Ms. JACKSON. I don't know what better way to say it or from a more credible source. I like a recent quote I saw from a physician in the Missouri area who said it is just not conceivable that we wouldn't our require not to pollute our air, not to make our air dirtier and our families less healthy in order to increase their profit margins.

Ms. CAPPS. Thank you. Thank you, Mr. Chairman. I yield back.

Mr. WHITFIELD. Thank you. At this time I recognize the gentleman, Mr. Terry, 5 minutes.

Mr. TERRY. Thank you, Madam Administrator. Do you like puppies?

Ms. JACKSON. Do I like puppies?

Mr. TERRY. Yes.

Ms. JACKSON. Yes, as long as somebody trains them for me, but I have a dog.

Mr. TERRY. I just wanted to ask you because I felt like joining Mr. Waxman and Mr. Markey in asking you questions.

Now, could you point to the area where in the Clean Air Act it lists—because I have looked at the Clean Air Act and it sets out rather lengthy lists of what is covered. So within the Clean Air Act, could you point to which section CO₂ is listed?

Ms. JACKSON. That determination was made by the Supreme Court, sir.

Mr. TERRY. OK. Let us go to Massachusetts v. EPA. And by the way, I want to refute, not refute, but Mr. Inslee read a portion of

or a paragraph of the Court's decision, *Massachusetts v. EPA*, that recognizes the fact that—I just put CO₂ into the air and I appreciate that the Supreme Court recognized that when I exhale or there is CO₂ emissions. I am not going to comment on any contribution by me of methane. That is humor, by the way, Ms. Jackson. Larry the Cable Guy is from Nebraska so we have a certain level of humor.

But here is a compelling part or part of the *Massachusetts v. EPA* that is really the subject of the debate over this issue of whether or not the EPA has the power to do this, and I am going to read the full paragraph like Mr. Inslee did. It is in the order part, and it just says, "In short, EPA has offered no reasoned explanation in its refusal to decide whether greenhouse gases cause or contribute to climate change. Its action was therefore arbitrary, capricious or otherwise not in accordance with law. We need not and do not reach the question whether on remand EPA must make an endangerment finding or whether the policy concerns can inform EPA's actions in the event that it makes such a finding. We only hold that EPA must ground its reasons for actions or inaction in the statute."

The issue here is whether or not this Administration is grabbing power without congressional approval, and I would submit to you that the language in *Massachusetts v. EPA* does not say that the EPA has the power to start regulating CO₂. Science and issues, as Mr. Sullivan from Oklahoma, where all evil oil men evidently reside, made the point, this isn't a debate about science, this is a debate about whether the EPA has authority. Next week we are going to do the same thing with the FCC on whether they have unilaterally sua sponte performed a power grab without congressional authority. So that is what we are here to do today. And then I want to get to the Clean Air Act. If the Clean Air Act was amended and just added carbon dioxide to the section that lists all the pollutants specifically, isn't it—well, then would you be able to say well, we are only going to apply CO₂ if there is more than 100,000 tons emitted within a calendar year? Would you be able to do that?

Ms. JACKSON. Sir, are you asking about a potential change to section 111 of the Clean Air Act?

Mr. TERRY. Well, I will have to look at 111, but the issue is that you said earlier in your testimony that the emissions that you would regulate would be for CO₂ would be over 100,000. You said that in answering Mr. Whitfield's question.

Ms. JACKSON. Pursuant to the standards under the tailoring rule that we—

Mr. TERRY. Under the tailoring rule, but when reading the Clean Air Act under what triggers it, it is either 100 or 250 tons per year, 250 being cited exemptions of which CO₂ is not or its type of industry, so let us say coal industry.

Ms. JACKSON. Right. So the United States Supreme Court, whose job it is under the Constitution to interpret our laws, ruled on whether or not EPA could ignore its need to make a finding—

Mr. TERRY. OK. So since you are saying that the EPA has already ignored that Congress didn't give you the authority and now you are interpreting they did, that you can just continue to interpret—

Ms. JACKSON. I am not interpreting. The United States Supreme Court—

Mr. TERRY [continuing]. Different sections saying that you—

Ms. JACKSON [continuing]. Ruled that—

Mr. TERRY [continuing]. Are going to redo the standards where you are able to regulate, i.e., 100 or 250, and you can arbitrarily set it at 100,000 for a coal-fired plant, correct?

Ms. JACKSON. Sir, in an attempt to ensure that we—

Mr. TERRY. OK. You are not going to answer the question.

Ms. JACKSON [continuing]. Minimize the number of—

Mr. TERRY. Thank you for your testimony.

Ms. JACKSON [continuing]. Sources that were regulated, we have proposed and summarily adopted after public comment a rule that is intended to ensure that only the very largest sources—

Mr. TERRY. Madam Administrator, the Clean Air Act does not give you that authority.

Ms. JACKSON. The United States Supreme Court says it does.

Mr. WHITFIELD. I recognize the gentleman from Texas, Mr. Green, 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman.

Welcome, Madam Administrator. I know there is an image here that there are only oilmen in Oklahoma. We have a couple in Texas and Louisiana and Alabama and Alaska and other places in our country.

My first question was talking about new source performance standards, and you have answered that. I guess my concern is that there was a consent decree signed but there was no economic analysis except during the rulemaking process. It seems like we ought to look at that ahead of the rulemaking, but I know you have already answered that question.

My question, though, concerns what happens if only the United States acts to reduce these emissions while major emitters like China or India, and China may overtake us if they haven't already, do not follow suit? Can we really address climate change without strong mandatory reductions by other major emitters in other countries?

Ms. JACKSON. We will not ultimately be able to change the amount of CO₂ that is accumulating in the atmosphere alone, but that does not mean we should all start at the exact same time.

Mr. GREEN. I am concerned that the regulations put our smaller manufacturers' plants and refineries at an economic disadvantage compared to similar industries overseas, a disadvantage that several of our witnesses later on will outline, and what specifically can your agency do to address the concerns of these smaller facilities?

Ms. JACKSON. Well, the tailoring rule which I just mentioned was intended to give certainty that those facilities would not be subject to regulation. We are talking about facilities that emit more than 100,000 tons of CO₂ or its equivalent per year. You get that by burning over a railroad car of coal every single day. That is how large these facilities are. It was intended to be a reasonable first step, to start with the large sources, not with the small ones, and to rely heavily on energy efficiency because the belief was that if we are going to invest and make ourselves more competitive, making ourselves more energy efficient will help our bottom line and

put more money in the economy for us to spend on something besides oil, especially foreign oil, of course.

Mr. GREEN. Well, I have to admit the hearing today is on potential legislation that would actually remove the EPA's authority. I think we have to address carbon in our country. I just prefer it to be on the legislative level. And we made an effort last Congress. We know cap and trade didn't pass during a Democrat Congress so it is not going to pass during a Republican Congress. But I would like to see Congress take that effort and maybe EPA doing it will push us.

Would you agree that with the measures your agency is undertaking in an attempt to curb greenhouse gases, it will still be necessary to increase environmentally responsible production of domestic natural gas supplies to meet the short-term carbon reduction goals and keep these manufacturing jobs in the United States? Is natural gas part of the solution to carbon?

Ms. JACKSON. Natural gas is much less carbon-intense than some other forms of fossil fuels, particularly coal, which is used for base-load electricity generation in this country. So it can certainly be a help, a very useful step in the right direction.

Mr. GREEN. Well, and I have said it before and I think this is something we can agree on across party lines, is that the other side is nuclear power. Our country compared to both France and Japan is so far behind in utilizing nuclear power, but as we know, nuclear power has no carbon emissions except for the construction. But natural gas emits 30 percent less carbon dioxide than oil does. For our New Englanders who still use fuel oil to heat their homes, maybe they need to put a pipeline there for the natural gas. But it is 50 percent less than coal. So I would hope this Congress would look at empowering cleaner burning fuels including the substantial expansion of nuclear. We are struggling, as you know, to get loan guarantees that were passed in the 2005 energy bill for the expansion of nuclear power in our country, yet here we are in 2011 and we still don't have it.

So I share your concern about carbon. I just am concerned that we need to do it in a legislative effort so we can do that economic analysis from the members, elected members instead of the agency.

With that, Mr. Chairman, I yield back my time.

Mr. WHITFIELD. I recognize the gentleman from Texas, Mr. Burgess, 5 minutes.

Dr. BURGESS. Thank you, Mr. Chairman.

Thank you, Administrator Jackson, for being here. I am going to ask you a series of, I think, six questions. They are detailed and complicated and I know they are going to require answers in writing. Some of these I submitted to you before. We are still awaiting answers. So what I am interested in this morning is getting affirmation that some type of response will be coming from your office on these issues.

Now, north Texas, where I live, last week, a week ago today, we were subject to rolling blackouts of electrical power. Businesses, schools, hospitals were all affected. This was not because of tree branches weighted down by the ice and cutting power lines. This was simply an effect of the very cold temperatures that were in place in Texas last week. We do all recognize there are new regula-

tions coming down the pike, and can you assure us here at the subcommittee that these rules will not make instances of rolling blackouts more common? We would also be interested in the studies that are underway to look at the cumulative effect of all of the EPA regulations on electrical reliability, not just in Texas where we have our own reliability council, but across the country.

A second area. Did the EPA consult with anyone at Office of Management and Budget or the White House before moving forward in taking over the Texas flexible permitting program under the Clean Air Act? The EPA is now issuing its own permits to utilities in Texas, displacing the State agencies that have been responsible for that historically, the first time to my knowledge that the EPA has taken over a State system. And did the EPA consult with Office of Management and Budget on regulations for the permits it is issuing in lieu of the State-based permits? And I would be interested in your development of that answer in light of President Obama's recent Executive Order calling for greater scrutiny of regulations and streamlining of problems encountered with bureaucracy so areas where you and the EPA have identified regulations for streamlining. I would like to have your thoughts on that.

Gene Green mentioned natural gas. It is a big industry. In my part of Texas, there is of course some controversy over the production of natural gas and there are issues that are being worked out at the federal, State and local level. Still your administrator in region 6 has made public statements that he is going to be much more actively involved in the regulation of this industry. It employs 100,000 in my area of north Texas. So my question that I would like for you to provide some insight is, are there active discussions within the EPA to take over—we are talking about the Clean Air Act today but this could also involve the Clean Water Act. Is there going to be greater involvement at the federal level in these activities and how are you going to justify that with the President's call for greater streamlining of burdensome regulations?

The ethanol mandate that was accelerated in December of 2007—E15 is now, we are told, going to be mandated by the EPA, 15 percent ethanol. Can you provide us with the testing that has been done in both vehicles and small engines utilizing 15 percent ethanol? Can you provide us with information on the testing done to date and the testing methodology that was employed? And again, I am particularly interested in older engines, cars produced between 2001 and 2007, and the small engine—the snow blower, the weed eater and that type of activity.

Under Title 42 of the United States Code, the section for the Department of Health and Human Services, it does allow for increased salaries for limited positions requiring specialized expertise, and I get that and that is not necessarily a bad thing, but it appears that EPA is also utilizing some of those 42 exemptions. Can you provide for the committee how many EPA employees are receiving pay under Title 42 exceptions? Have you placed a limit of pay under Title 42 and what is the total amount of the Title 42 program costing the federal taxpayer within the Environmental Protection Agency's budget?

Now, this last question, perhaps you can address this while we are here today. The Business Roundtable in June of this year

under the President's request submitted to the President some issues that they thought might help in job creation because this was an issue last June that the President was concerned about, and the Roundtable specifically mentioned the Environmental Protection Agency's moves against Texas flexible permitting program as one of the major examples of the Administration's hostility—their words—towards growth. So 6 months, what has your office, Office of Management and Budget, the White House done in response to the Business Roundtable's suggestion to remove the EPA's restrictions on the Texas flexible permitting program?

Ms. JACKSON. Sir, I will answer all the other questions in writing for the record, and I am happy to do that. I just want to point out one important fact. It was the Bush EPA, the Bush Administration that found out that under the Clean Air Act the Texas flexible permitting program was not legal. So when I became Administrator, I found a situation where businesses in Texas have no certainty that the permits they have protect them from lawsuits for emitting excessive pollution. We have worked individually with businesses in Texas to bring their permits into compliance with the law and that process will take some amount of time. But the answer certainly could not have been to look the other way as these businesses got permits that weren't worth the paper they were printed on.

Dr. BURGESS. If I may point out in the Business Roundtable report prepared for the President, similar rules exist in other States which have not been challenged by the EPA. This appears to be Texas specific, and if it is, that is wrong and I would like you to look into it, and I will await your answers. Thank you.

Mr. WHITFIELD. At this time I recognize Mr. Engel from New York for 5 minutes.

Mr. ENGEL. Thank you very much, Mr. Chairman.

As my colleagues have discussed, this legislation would repeal EPA's scientific determination that greenhouse gases threaten public health and welfare, known as the endangerment finding. I happen to believe that carbon emissions are a serious threat to our Nation's welfare. I mean, I know that some of us might wish that the earth is flat, and I understand that different districts have different needs, I understand my colleagues trying to protect industry in their districts, but the bottom line is, this is scientific research. This is proven, and we have decisions and we are supposed to abide by them.

Ms. Jackson, let me first of all thank you for the excellent job that you are doing, and your testimony here this morning has just affirmed in my mind what a grasp you have of the issues, how determined you are to be on the right track, and I just want to thank you for your good work.

Legislatively repealing that scientific determination directly conflicts with the consensus of climate scientists, including President Bush's EPA Administrator, Stephen Johnson, and the world's most authoritative scientific organizations which use words like "indisputable" and "unequivocal." We talk about it killing jobs. Well, this is an interesting statistic. Since its adoption, the Clean Air Act has reduced key air pollutants by 60 percent while at the same time the economy grew by over 200 percent. So I don't think that that

shows that jobs are being killed. From 1990 to 2008 alone, the Clean Air Act reduced key air pollutants by over 400 percent, and the economy grew by almost 65 percent. These pollution reductions save lives, improve health, particularly among children and seniors, and in 2010 alone, last year, according to a peer-reviewed EPA analysis, the Clean Air Act prevented over 160,000 premature deaths, 130,000 cases of heart disease, 1.7 million asthma attacks, 86,000 hospital admissions and millions of respiratory illnesses. So I wanted just to state that for the record.

I would like to explore with you, Madam Administrator, one question on the impacts of this legislation on the renewable fuel standard. As you know, in order to promote renewable fuels and reduce greenhouse gas pollution, Congress has required EPA to issue regulations to ensure that transportation fuels sold in the United States contain certain volumes of renewable fuel: advanced biofuel, cellulosic biofuel and biomass-based diesel. The volume of each type of fuel is established annually by the EPA and based in part of the availability of the fuel. Now, it appears to me that the new section 330(b)(1)(A) would prevent the EPA from establishing these required annual volumes in subsequent years because it prohibits EPA from taking actions related to greenhouse gases. Do you have the same interpretation that I do of section 330(b)(1)(A), and if so, what do you think that means for the renewable fuel standards specifically and the future of biofuels generally in the United States?

Ms. JACKSON. Sir, as I said in my opening statement, I believe the draft bill would likely prohibit EPA from taking further actions to implement the renewable fuels program in the United States.

Mr. ENGEL. Well, I think that that is something that is really, really important and we really need to think twice before we want to do such a thing. I mean, I think that nobody at this point should conclude that carbon emissions are not a serious threat to our Nation. I mean, they are, and we ought to not put our heads in the sand. We ought to figure out a way where we can have cleaner air and at the same time have the least impact on business and creation of jobs but we shouldn't eliminate all these restrictions just because we are concerned about these things with jobs. We don't want our children to breathe filthy air. We don't want it to go back to the bad old days. There are countries all around the world where literally people, the cancer rates are up because they don't have the rules that we have adopted to prevent these things, and I don't think we want to go back to the Stone Age.

So I thank you for your testimony, and I look forward continuing to work with you, and I yield back, Mr. Chairman. Thank you, Mr. Chairman.

Mr. WHITFIELD. A number of people have mentioned this renewable fuels issue, and as we move forward with this legislation, we are certainly going to try to address some of the concerns that you all have brought about it.

At this time I recognize the gentleman from Louisiana, Mr. Scalise, for 5 minutes.

Mr. SCALISE. Thank you, Mr. Chairman, and welcome back, Ms. Jackson.

Ms. JACKSON. Thank you.

Mr. SCALISE. I appreciate you coming to testify. And of course, today's hearing is specifically focused on the Energy Tax Prevention Act and especially its impact on jobs and how if we are able to prevent, truly prevent your agency from going into an area where it hadn't been before, we would also be able to save thousands of American jobs, potentially millions of American jobs along with billions of investment.

First I want to go back to some comments and statements that the President made when he was a candidate. President Obama on multiple occasions has talked about cap and trade and this kind of regulatory scheme increasing the cost of electricity, and I will read one of his quotes. "Under my plan of a cap-and-trade system, electricity rates would necessarily skyrocket." That was then-Senator Obama as a candidate for president. Do you agree with that statement?

Ms. JACKSON. No, sir. I think that statement is——

Mr. SCALISE. You disagree with the President's statement that a cap-and-trade scheme would necessarily——

Ms. JACKSON. I believe his larger point was that a market-based program could ensure that energy rates while producers had the certainty they needed to move forward, the market through innovation would allow it to happen in a gradual fashion.

Mr. SCALISE. A gradual fashion where electricity rates skyrocketed, though. That is the key point. The President said this. I am not saying this. I will give you Tim Geithner's statement. Tim Geithner said cap and trade would increase the cost of energy. Do you agree with that statement? Yes or no.

Ms. JACKSON. Controlling pollution is not free.

Mr. SCALISE. It is a yes or no question. Tim Geithner made the statement, President Obama made the statement.

Ms. JACKSON. Sir, I don't know what cap and trade you are asking me to speculate about. We are here to talk about the Clean Air Act and——

Mr. SCALISE. We are talking about the regulatory scheme that your agency is currently undergoing that is costing jobs——

Ms. JACKSON. No, that is not true. There is no cap-and-trade scheme——

Mr. SCALISE [continuing]. And the effects it would have on electricity rates.

Ms. JACKSON [continuing]. Planned or provided——

Mr. SCALISE. Do you think that this wouldn't have——

Ms. JACKSON [continuing]. For in the Clean Air Act.

Mr. SCALISE [continuing]. Any impact on electricity rates?

Ms. JACKSON. There is no cap-and-trade scheme provided for under the Clean Air Act——

Mr. SCALISE. Your regulatory scheme for greenhouse gases——

Ms. JACKSON [continuing]. For greenhouse gases, I should say.

Mr. SCALISE [continuing]. Which your agency is currently doing. Are you currently doing this?

Ms. JACKSON. What we are doing is——

Mr. SCALISE. Yes or no.

Ms. JACKSON [continuing]. Enforcing the Clean Air Act——

Mr. SCALISE. I hate to put you on the spot. I know Mr. Dingell——

Ms. JACKSON [continuing]. To reduce the emissions——

Mr. SCALISE [continuing]. Got a lot of good yes or no answers.

Ms. JACKSON [continuing]. Of greenhouse gases.

Mr. SCALISE. I would appreciate the same courtesy to a yes or no question.

Ms. JACKSON. Well, no, if you are asking me about cap and trade for greenhouse gases because there are no plans for cap and trade at EPA, and there are no plans——

Mr. SCALISE. So is it safe to say you disagree with the President when the President said when cap and trade would increase, skyrocket the cost of electricity?

Ms. JACKSON. Sir, what I do know is that we are not planning any cap-and-trade regulations or standards. That is not——

Mr. SCALISE. We both have limited time, and I appreciate that maybe you want to evade the question. It is a direct question. It is a pretty simple question that many in this Administration have been comfortable acknowledging. Many in business have acknowledged that this would increase the cost on families. It seems like for whatever reason you don't want to acknowledge it, but if you then go to the next step of regulating greenhouse gases, do you think that if you regulate greenhouse gases in your agency that it would cost jobs?

Ms. JACKSON. I agree with the President that investing in clean energy will make our economy stronger, will help our economy——

Mr. SCALISE. And I see you have made statements these standards will help American companies and create good jobs. The problem is, that flies in the face of what the Nation's employers in America are saying about what you are doing, and I don't know if there is a parallel universe going on but I will point to you a number of companies, and I have conversations as I am sure most of my colleagues do. The biggest impediment our job creators in this country tell us about is the threat of regulations coming from your agency and a few other agencies in this Administration as the impediments to creating jobs. So maybe you think that these policies will help create jobs.

I will just read what one of our later panelists is talking about in terms of how it is costing American jobs. Nucor, which is a plant, a company based in America that is preparing to build a major steel plant in Louisiana, in our State, the CEO of that company—that is a \$2 billion investment that right now is going to America hopefully. It was on hold during the whole debate on cap and trade. They said, and this is a comment from the CEO, “We are waiting to see what Congress does with global warming legislation.” They were holding back on a \$2 billion investment. And then I will go on to say what the testimony that the environmental manager of the company who is here today is talking about. He said, “But this project is not as large as the \$2 billion investment we initially intended due to the uncertainty created by these regulations.” He is talking about your department, the uncertainty created by these regulations. “We made the difficult decision to delay the \$2 billion investment also delaying the creation of 2,000 construction jobs and 500 permanent jobs that average \$75,000 a year. Now, this is a company.

Ms. JACKSON. Sir, respectfully——

Mr. SCALISE. This isn't theory.

Ms. JACKSON [continuing]. Based on EPA—

Mr. SCALISE. Do you recognize that—

Ms. JACKSON [continuing]. The proposed Nucor iron and steel facility in Louisiana has actually received the first-ever State-issued Clean Air Act construction permits—

Mr. SCALISE. Do you recognize that that costs jobs?

Ms. JACKSON [continuing]. That will require control for greenhouse gases. They are a permitted facility—

Mr. SCALISE. And they said they haven't created as many jobs—

Ms. JACKSON [continuing]. For greenhouse gases, so that would seem to be—

Mr. SCALISE [continuing]. Because of your agency, and I just want to talk about that.

Ms. JACKSON [continuing]. Exactly the opposite of them being held up. They have—

Mr. SCALISE. But finally, you made a statement about Katrina and flooding. You tried, to I guess, infer that flooding—

Mr. WAXMAN. Point of order, Mr. Chairman.

Mr. SCALISE [continuing]. Was related to—

Mr. WAXMAN. Point of order, Mr. Chairman.

Mr. SCALISE [continuing]. Greenhouse gases.

Mr. WAXMAN. Point of order.

Mr. SCALISE. I just want to point out the failure of the—

Mr. WAXMAN. Point of order, Mr. Chairman.

Mr. WHITFIELD. Hold on just one minute. OK, Mr. Waxman, you had a point of order.

Mr. WAXMAN. Look, she was asked a question. The gentleman's time has expired. She ought to be able to answer it.

Mr. SCALISE. I asked her to answer yes or no, and she refused to answer a yes or no question multiple times.

Mr. WHITFIELD. I think that—

Mr. SCALISE. She did it for Mr. Dingell. I appreciate that. I just would like the same courtesy.

Mr. WHITFIELD. Are you going to have any questions that you are going to submit to her in writing?

Mr. SCALISE. I will be happy to submit in writing the remaining questions, especially as it relates to the comment you made about flooding having an attribution to greenhouse gases as opposed to the federal levies in New Orleans, which I know you are aware was the real cause of flooding.

Ms. JACKSON. Let me be clear because this is my hometown. I did not say that Katrina was due to greenhouse gas emissions.

Mr. WHITFIELD. OK. At this time I recognize—

Mr. SCALISE. Thank you.

Ms. JACKSON. I said it was horrible flooding—

Mr. WHITFIELD [continuing]. Mr. Doyle for 5 minutes.

Ms. JACKSON [continuing]. Impacted that area in a way that is tragic.

Mr. WHITFIELD. Mr. Doyle, 5 minutes.

Mr. DOYLE. Thank you, Mr. Chairman.

Administrator Jackson, welcome, and thank you for your patience today. As most members of this committee know, I have long

been concerned about manmade climate change and how it affects our climate, but this committee also knows how concerned I am that as we make efforts to address this serious problem that we don't harm the competitiveness of American industry. During the comprehensive energy legislation that the House considered and passed last year, I introduced amendments to safeguard many of our industries from some of the effects of the bill because we are concerned that this not result in jobs being shipped overseas, and if I thought that was what was going to happen, I would be very concerned too.

You know, initially many of us were concerned because the Clean Air Act had the potential to require numerous sources to obtain permits for greenhouse gas emissions, but EPA acted promptly and effectively to issue a tailoring rule and limit these requirements only to the largest sources. Administrator Jackson, could you just briefly explain what that tailoring rule did?

Ms. JACKSON. The potential universe of sources could have been 6 million. The tailoring rule took it down to a universe no larger than about 15,000 potential, but since you are only regulated if you are building a new facility or substantially increasing your emissions, we expect that there are a couple hundred additional permits that would be required a year, but that was intended to be a de-regulatory action.

Mr. DOYLE. So does this rule affect every large facility?

Ms. JACKSON. It will only affect very, very large facilities, those that emit more than 100,000 tons a year and only if they are new, or 75,000 tons a year if they are going to have a significant increase in their greenhouse gas emissions.

Mr. DOYLE. So right now if you are an existing factory or steel mill and you don't expand or increase your greenhouse gas emissions by a significant amount, you don't need to spend any capital or labor on controlling your greenhouse gas emissions. Is that correct?

Ms. JACKSON. That is right, sir.

Mr. DOYLE. So let us say a steel company or other manufacturer does want to build out on an existing facility or bring an entirely new one online. What do they actually have to do? Have you issued guidance on this to let sources know the rules of the road?

Ms. JACKSON. Yes, we have issued that guidance, primarily for States, who are the permitting authorities, and they are implementing it. As you heard, Louisiana just recently implemented it to issue a permit there.

Mr. DOYLE. So the permitting authority then basically selects the best available control technology through whatever options there are. Is it your statement that I heard earlier that in most cases the best available technology for reducing greenhouse gas emissions is likely to be efficiency?

Ms. JACKSON. That is right.

Mr. DOYLE. So to be clear, you expect that almost all new sources, the main thing they are going to have to do is just become more energy efficient?

Ms. JACKSON. That is right.

Mr. DOYLE. So couldn't that actually save money over time as sources have fewer inputs and reduce their energy use?

Ms. JACKSON. Absolutely. It could increase the profits because you costs are lower going forward.

Mr. DOYLE. Yes, I mean, it just seems to make sense to me that when we build new facilities, they should be efficient, and I think that is something that industry is striving for because they realize it is good for their bottom line, and it certainly doesn't appear that it would be too costly or drive new facilities overseas.

But the other concern we have is, what if it takes too long for new facilities to get permits? Now, that could have cost implications even if the requirements are reasonable. So Administrator Jackson, what is the EPA doing to help ensure that these requirements don't lead to permitting delays?

Ms. JACKSON. The reason we got the guidance out to the State permitting authorities earlier is so that there would be no time lapse between when these requirements took effect on January 2nd and when people would be applying for and need these permits, and so EPA is offering technical assistance and guidance to step in for those States, and there are several who for whatever set of rules or legal obligations back home are not yet ready to implement the permitting requirements for greenhouse gases. But almost all States are moving in that direction. Many have already gotten to that point.

Mr. DOYLE. Now, the Upton bill here aims to stop you from issuing minimum standards for the two largest sources of greenhouse gas emissions, fossil fuel-powered plants and oil refineries. Is EPA currently developing minimum standards for any other sectors of the economy such as manufacturers?

Ms. JACKSON. No, sir.

Mr. DOYLE. OK. Thank you, Administrator Jackson. I am acutely aware of the challenges that our manufacturers are facing today, and I have to tell you that I was skeptical at first when investigating how this Clean Air Act would be used to regulate greenhouse gases, but it seems to me that when you strip away the rhetoric and the scare attacks that the approach and the scare tactics that the approach that you are taking to date seems extremely reasonable. We know our manufacturers are facing tough challenges but I really don't see how repealing the Clean Air Act authority for greenhouse gases would help them in any way. In fact, the legal uncertainties actually make things a little bit worse.

Mr. Chairman—

Mr. MARKEY. Would the gentleman yield briefly?

Mr. DOYLE. Well, if I can, I will.

Mr. WHITFIELD. His time is expired and we have a lot of witnesses, so Mr. Olson from Texas, you are recognized for 5 minutes.

Mr. OLSON. Thank you, Mr. Chairman, and thank you, Administrator Jackson, for coming here today. I am going to follow up on some questions from my colleague, Mr. Burgess from Texas, about EPA's taking control of the permitting process for refineries and power sources in my home State of Texas. This is a fundamental change. The feds under the Clean Air Act, the feds set the standards and the States and local governments are the ones who implement them through the SIPs, and to justify this change, EPA says it erred in the original approval of the SIP back in 1992, nearly 2 decades ago, three Presidential Administrations because the SIP

didn't contain the authority to regulate greenhouse gases, and that must be corrected. The mechanism to establish this correction was unilateral EPA authority to correct "minor technical errors." The feds' takeover of States' authority to issue permits under the Clean Air Act is not a minor error. It is a radical departure from existing law, and under the Constitution that is not your job. That is our job.

So the first question I have for you is twofold. Has any previous Administration used an error correction to overturn State authority to implement its SIP after it has been approved for 18 years?

Ms. JACKSON. Sir, I am happy to get you an answer, but again, I will point out that it was the previous Administration that determined that parts of Texas's permit rules did not meet the requirements of the Clean Air Act. It is EPA's job to enforce the Clean Air Act and EPA stepped in because if we didn't, Texas businesses would not be able to build or expand because they could not get a greenhouse gas emission permit in the State of Texas that was legal so they would have been subject to any number of lawsuits.

Mr. OLSON. Yes, ma'am, but the previous Administration did come in with a couple of month deadline for the Texas companies to comply. Usually this happens when there is a change in the SIP. As I understand it, there is about a 3- to 4-, 5-year process for the States to come through and propose what they are going to do to EPA. We are given less than a year, less than 6 months to do it, and that is something that is on this Administration. Is that—

Ms. JACKSON. We would prefer that Texas issue the greenhouse gas permits themselves but if Texas refuses to do it, as I am sure you will hear from the next witness, then EPA is stepping in to do so because the businesses in Texas still need permits under the Clean Air Act, sir.

Mr. OLSON. Once again, how is changing the Clean Air Act with just using the technical corrections legislation, how is that not usurping the legislative branch's authority to pass laws and regulate our environment? I mean, why do you get to be—under the Constitution, we should be doing that, not the EPA. How can you justify that?

Ms. JACKSON. Sir, under the Clean Air Act, EPA's job is to enforce the law and ensure that permits are the same all over the country, so a business in Texas gets a Clean Air Act permit, it is the same as Louisiana next door, and so what EPA has done is move in to ensure that just like the Nucor steel facility just got a permit from the State of Louisiana, if they wanted to build the exact same facility in Texas, they would need a permit for greenhouse gases and they cannot get one because Texas has refused to consider those permits at this time.

Mr. OLSON. Yes, ma'am. Well, there is one other question I have for you. Again, we have talked about what is happening in my home State and we have talked about, the other side of the aisle has been very vocal about scientifically based actions here, and I agree with that. We should do this if we are going to do it scientifically based. I think the science right now is very much in doubt. But the one thing that I am really concerned about from the other side of the aisle, at the end of the day the argument rests on what five Supreme Court justices decided, and that case did not say that

you had to regulate greenhouse gases. That was not what the decision said. I will read from the decision. The Court did find that EPA has the authority to regulate carbon dioxide as an air pollutant but they said only if the EPA makes a finding of endangerment under that provision, section 202(a)(1). And the Court further stated that EPA must ground its reasons for action or inaction in the statute. So basically they gave you the ball. I guess my question to you is, was *Massachusetts v. EPA* a mandate for the EPA to implement global greenhouse gas control or not? Yes or no.

Ms. JACKSON. Sir, it was a mandate that we consider the science, and that only if we could come up with reasonable science, which I do not believe exists, that shows that greenhouse gases do not endanger public health and welfare, could we ignore it. They said it was arbitrary and capricious to simply ignore the science and choose to make no decision. So it did give us the ball in that it said we could not stick our heads in the sand. We had to, per the law, make a determination, and in making that determination, I reviewed our Nation's best science by its best scientists and made a finding of endangerment.

Mr. OLSON. Basically you have taken something else. It was EPA that made that decision, not the Court, and those comments here are erroneous. EPA did it, not the United States Supreme Court. Thank you for your time.

Mr. WHITFIELD. The gentleman from Utah, Mr. Matheson, is recognized for 5 minutes.

Mr. MATHESON. Thank you, Mr. Chairman. Thank you, Administrator Jackson, for coming today.

I do think it is important that this subcommittee hold hearings on this issue. I think the challenge of climate change is real and I think that the legislative branch ought to be engaged. I have some concerns about legislation like Chairman Upton's draft bill which does disprove the EPA's endangerment finding and bans the EPA from regulation greenhouse gas emissions. I am concerned because I think it could substantially weaken the effectiveness of the Clean Air Act, and I think everyone in this room would argue that the Clean Air Act over the last few decades has been an undeniable success. It has been a success in providing cleaner air and contributing to public health interests.

I also have concerns that the bill overrides the ability of the EPA to regulate emissions from motor vehicles, weaken the current fuel economy standards for cars and light trucks, which is important to reducing our dependence on foreign oil. But I do hear from folks in my State who are concerned about the implementation of the greenhouse gas regulations and other regulations coming down the pike from EPA and the potential costs associated with this uncertainty and growing regulatory burden, especially as we seek to grow our economy out of this economic recession.

Administrator Jackson, I have heard from our State department of environmental quality, and I know you discussed this in response to Mr. Doyle's questions, but the Utah DEQ has said that despite the best available control technology guidance issued to the States last fall, there remains a lot of uncertainty over what BACT decisions by States will ultimately be accepted by the EPA. In particular, I have been told that the BACT is still too vague to provide

any certainty to sources who are trying to plan for new construction or modifications. In his testimony, Mr. Carter with Sandy Cooper also made similar remarks. Can you elaborate on how EPA is working with States to implement best available control technology?

Ms. JACKSON. Certainly, sir. Through our regional offices, we are offering technical assistance as States work through permit by permit. This is a permit-by-permit decision under the Clean Air Act, and essentially what you do is, you lay out the options for controlling greenhouse gases and you look at whether they are commercially available, whether they are available at reasonable cost and whether they are effective, and oftentimes we believe that is going to lead people straight to energy efficiency, which is a very much available way and certainly cost-effective way to reduce and make a real start on reducing greenhouse gases.

Mr. MATHESON. Do you think there is a way to create additional certainty or predictability that you can provide to State permitting agencies?

Ms. JACKSON. We are certainly happy to try and to continue working with Utah and the professionals there.

Mr. MATHESON. Do you believe that your regional offices have the necessary resources, whether it is funding or staff, to work with the States on implementing these rules?

Ms. JACKSON. We have made it a priority that the implementation of these rules for our air staff is priority number one, and I do believe, sir, that we have resources available to any State that needs them.

Mr. MATHESON. Do you agree with assertions by many in industry and the utility sector that permitting uncertainty in conjunction with the additional EPA rules coming down the pike over the coming months and years is affecting current and future investments in plant modifications, upgrades and construction?

Ms. JACKSON. I agree that one thing I hear often from industry is that they need certainty of regulation. I think the clean cars rule and the nationwide standard is a great demonstration of how knowing what the road ahead looks like from a Clean Air Act perspective has helped them to move forward and do what they do best, which is make cars.

Mr. MATHESON. I will ask another question. The EPA has already announced the delay in implementation of efficiency rules for biomass facilities. Do you anticipate any delays in other covered sectors will be announced?

Ms. JACKSON. I have nothing to announce right now, sir. We are trying to do what I said, which is move in a series of moderate steps that give people lots of warnings so there are no surprises about regulations that may come down the pike, and what we have announced so far is that the only two sectors that we are looking at for additional standard setting are the power sector, utilities, and refineries because they account for such a large percentage of our Nation's greenhouse gas emissions.

Mr. MATHESON. OK. Thank you, Mr. Chairman. I will yield back.

Mr. WHITFIELD. I recognize the gentleman from West Virginia, Mr. McKinley, for 5 minutes.

Mr. MCKINLEY. Thank you, Mr. Chairman.

I am trying to keep most of my questions to yes or no answers to the extent you can, and I have got a lot of others if you could submit some responses back to those at the appropriate time. Last summer, Senator Reid made a remark that said coal makes us sick and oil makes us sick. Do you agree with that?

Ms. JACKSON. Only in that pollution makes us sick, so if they are the source of pollution, then yes, but it is the pollution that makes us sick.

Mr. MCKINLEY. I have heard a lot today about the health benefits, and I don't want to diminish those concerns about the health benefits, but I have come to Congress 34 days ago with a bigger concern that there are 15 million out of work today in America, and a lot of it is attributed back to the actions of the EPA and some of their activities or overregulation. I am seeing in West Virginia a mine shut down that had a permit 3 years ago. Now 250-some people are out of work. I saw a mine just close in Pennsylvania by the EPA action. I have seen the issues of water quality in West Virginia and all other States east of the Mississippi that are more stringent than bottled water you can buy in a supermarket. I have seen fly ash being under attack and people using less of it and recycle. I am just so concerned that the EPA is, with all due respect, out of touch with what is going on in America, and I would like if you could please just cite one example of where the EPA has collaborated with a major industrial employer and they have increased their jobs in a significant way. Can you cite one example?

Ms. JACKSON. Yes, sir. The car industry has reduced their overall emissions over 40 years while the number of cars on our roads has continued to increase as our population got larger, and that is because of technological innovation that insisted that we not grow their profits at the expense of our health.

Mr. MCKINLEY. I am looking for one company that you have worked with, you collaborated with them and they have increased employment.

Ms. JACKSON. Certainly, sir. Any time an industry invests in pollution control, they are hiring workers, everything from engineers to technicians to people who design and implement and put on scrubber so that when you burn coal in a power plant, the emissions are clean. All of those jobs are part of the legacy—

Mr. MCKINLEY. The remark you made earlier—

Ms. JACKSON [continuing]. Of the Clean Air Act and EPA's—

Mr. MCKINLEY [continuing]. Madam Administrator, that—

Ms. JACKSON [continuing]. To protect the public health.

Mr. MCKINLEY [continuing]. There were thousands of scientists and physicists across America that support this matter but yet there are thousands equally in opposition to that, such as physicist Hal Lewis, people within NOAA, people within the United Nations' climate control panel. There are others that are supporting that and they conveniently seem to be ignored in this. Was Hal Lewis wrong when he said this was one of the greatest frauds being perpetrated on the people of America?

Ms. JACKSON. Well, I do not know Mr. Lewis, sir, but I will say that our best scientists in the country have reached a consensus, and it is unequivocal, that the science is clear that manmade emissions of air pollution and global warming gases are changing—

Mr. MCKINLEY. Anthropogenic global warming—

Ms. JACKSON [continuing]. Our atmosphere.

Mr. MCKINLEY [continuing]. Is still an issue that the scientists are still debating, and you know it and I know it.

Ms. JACKSON. No, I do not agree with that.

Mr. MCKINLEY. I am an engineer and I—

Ms. JACKSON. I absolutely do not agree with that.

Mr. MCKINLEY [continuing]. Can tell you, it has not been determined.

Ms. JACKSON. I am an engineer as well, and I know to look to scientific experts to make decisions like this. I am not an expert on the climate so what we have done is look at people like the National Academies across—

Mr. MCKINLEY. Let me go back to a comment that perhaps it wasn't worded, because I found the answer a little humorous. It said something to the effect that you didn't presume to direct Congress how to act, so I am going to maybe—would you favor, do you support the idea that Congress may very well want to take action to—do they have the right to vote up or down on any major EPA regulatory offering?

Ms. JACKSON. Sir, the laws passed that I implement were passed by Congress. The Clean Air Act was passed by Congress. So I understand and recognize that under the U.S. Constitution Congress makes laws and then the executive branch executes the laws, absolutely.

Mr. MCKINLEY. So you would think Congress should have the right to approve any regulations before they are implemented?

Ms. JACKSON. No, sir. Congress already has the congressional Review Act, which allows it to review every regulation that is adopted by not just my agency, so that is certainly already the law of the land.

Mr. MCKINLEY. Ma'am, I will get back with the other questions to you. Thank you very much.

Ms. JACKSON. Thank you.

Mr. WHITFIELD. The chairman recognizes Mr. Gardner of Colorado for 5 minutes.

Mr. GARDNER. Thank you, Administrator Jackson, for your time here today. I appreciate your willingness to be here, and I too have only been here for 34 days and it continues to amaze me how the scare tactics are thrown out as if everybody is speaking from the same page but the problem is, they are not, and I want to talk a little bit about criteria pollutants versus greenhouse gases. I think a lot of the scare tactics that we have heard in terms of the health concerns are criteria pollutants and greenhouse gas is not a criteria pollutant, and I think that is important to recognize, that a lot of the health concerns that have been raised here as scare tactics are based on criteria pollutants, and this bill does nothing dealing with criteria pollutants, the bill that we are discussing now.

I want to follow up another question that some of the other members have asked. I met with a CEO of a company in Colorado who employs a thousand people directly, 2,000 people indirectly, and he mentioned to me at our meeting, this was just this past Friday, that he is very concerned about regulations because he is worried that the cost and reliability of energy and the energy and power

infrastructure, he is worried about the energy infrastructure and he is worried about the ability of our country to continue to produce affordable energy for consumers and for businesses, and that being said, I believe Chairman Upton asked an earlier question regarding whether or not the EPA had done a cost-benefit analysis of the impact of EPA regulations. I believe your response was that the EPA had not done so because such analysis would have required the EPA to reach out to businesses in order to gather information regarding the impact of the EPA's regulations. Well, isn't that the right thing to be doing is to reach out to businesses in terms of the impact of this regulation?

Ms. JACKSON. No, I think that is not an accurate assessment of how the conversation went. I am happy to recount it for, it is in the record, but what I said was—

Mr. GARDNER. You don't think you ought to be talking to American businesses about these regulations first?

Ms. JACKSON. We talk to American businesses all the time, and I think that is the way to make smart commonsense regulations.

Mr. GARDNER. And so the American business community agrees that this regulation is the way to move forward?

Ms. JACKSON. The American business community has commented on the regulations as we move forward, and I would say that there are varying opinions. We have heard from small businesses who support the regulation because they believe it will help the clean energy sector. We have heard from several, I think 11 utility company, who said that this is a commonsense, reasonable approach to—

Mr. GARDNER. Have you heard from some—

Ms. JACKSON [continuing]. Help to make them efficient.

Mr. GARDNER [continuing]. That they will lose jobs as a result?

Ms. JACKSON. I think all businesses talk about, when I talk to them, they want to make sure that they have regulatory certainty, and they are worried about their bottom line.

Mr. GARDNER. And they are worried about job losses?

Ms. JACKSON. Certainly I have seen studies—

Mr. GARDNER. Do you think they need to worry about job losses?

Ms. JACKSON. I think the President has made it clear that jobs are an absolute focus, sir, absolutely. Jobs are our absolute focus and we believe the clean energy sector is a place to grow jobs—

Mr. GARDNER. But what if they are not in the clean energy sector? Should they worry about jobs? I mean, this sounds like we are picking winners and losers and saying some jobs are better than others.

Ms. JACKSON. I do know this, sir: the Clean Air Act is supposed to relieve their minds about pollution in the air that might make them and their families sick.

Mr. GARDNER. That is a criteria pollutant, not greenhouse gas.

Ms. JACKSON. No, no, no. The endangerment finding makes clear that greenhouse gases also endanger public health and welfare.

Mr. GARDNER. But I think again we are confusing the issue of criteria pollutants and greenhouse gases. You mentioned earlier that ag would not be—there would be no imposition on agriculture, agricultural sources. I believe you put a timeline of 2013 on that. Will there be ag sources put under this rule after 2013?

Ms. JACKSON. I can't speculate to that. I have made a commitment that there will be no regulations for permitting for agricultural sources until July 2013.

Mr. GARDNER. But after that, there may be permitting requirements brought into this rule?

Ms. JACKSON. Yes. It is my hope still that Congress will look towards legislation at some point.

Mr. GARDNER. And on agriculture, I think it is important too when we talk about that agriculture is not affected by these rules and jobs in agriculture aren't affected by these rules, I want to point out a letter that talked about the cost about running a sprinkler for farmers in my district. The estimated cost of certain greenhouse gas emission controls would cost the farmer in this particular rural electric association nearly \$2,000 a year per meter. Do you think that will affect their ability to hire people and to grow their operation?

Ms. JACKSON. Sir, I don't know what you are referring to. I am happy to review it, and I am also happy to again state what I said before, that as we put these regulations out, they are meant to be commonsense moves that in general will rely on energy efficiency and other moderate steps that will add up, that will get us started in moving towards reducing greenhouse gas pollution.

Mr. GARDNER. Do you believe that agriculture is affected by increased costs of energy?

Ms. JACKSON. Certainly.

Mr. GARDNER. Do you believe agriculture is impacted by the increased cost of fertilizer?

Ms. JACKSON. Certainly, sir.

Mr. GARDNER. Do you believe that these regulations will increase the cost of farming equipment?

Ms. JACKSON. No, sir, I don't necessarily believe that because I am not sure what regulations we are talking about. We have regulations on the board right now, for instance, for cars that make clear that they pay for themselves essentially because of the savings in fuel. There are tremendous opportunities in rural America for the economy to continue to grow as it has thrived over the past several years and we are not looking to regulate—

Mr. GARDNER. The economy has thrived over the past several years?

Ms. JACKSON. Rural America's economy has done fairly well as the rest of the country has seen the housing market and economy really do poorly.

Mr. GARDNER. Administrator Jackson, I would invite you to my district to meet with people who believe the economy has not thrived over the past few years.

Ms. JACKSON. I would be happy to do that, sir.

Mr. WHITFIELD. I recognize the gentleman from Kansas, Mr. Pompeo.

Mr. POMPEO. Thank you, Mr. Chairman.

Thank you, Ms. Jackson, for coming today. In the 4th district of Kansas, we do lots of things. We have agriculture, and we make airplanes, a lot of airplane stuff, manufacturing. I came from that industry. The cost of manufacturing has driven lots of jobs. We have got unemployment in our aircraft manufacturing industry

that is enormous, and families are hurting. I heard Mr. Waxman and Mr. Markey talk about children. I have seen the impacts on families from what the regulatory environment that this Administration has put forward has caused.

I want to ask you in response to something you said to Mr. Shimkus, a question. You acknowledged the existence of the law of supply and demand or the economic principle, and then you joked about price elasticity because you wouldn't answer his question yes or no about what the price elasticity of something was. Tell me what you think the price elasticity of energy is as it relates to supply and demand.

Ms. JACKSON. The price—

Mr. POMPEO. Is it zero? Does energy stay—as you impose regulations, does energy cost stay fixed?

Ms. JACKSON. Sir, I want to state here, I have not said that there are not potential costs to move to cleaner energy. What is at stake is making reasonable decisions on how to move to cleaner energy, less-polluting forms of energy but do it in a way that does not harm our economy, and I am committed as head of the EPA to enforcing and implementing the Clean Air Act to protect our public health but doing it in a way that is modest and moderate and that is mindful of our economy at the same time.

Mr. POMPEO. I appreciate that. I will tell you that the folks that I talk to in the 4th district of Kansas don't believe there is anything moderate or modest about the proposals that your agency has put forward.

I will ask you this. You earlier cited statistics that said that the benefits of the Clean Air Act have been about 40 to 1.

Ms. JACKSON. That is correct.

Mr. POMPEO. It would seem to me then if we would just appropriate a trillion dollars, we could take out all the deficit because we get a 40 to one return on that investment. Is that what you are proposing in terms of return on invested capital?

Ms. JACKSON. No, sir. What I am trying to propose is that for every dollar invested to control pollution and protect public health, that is \$40 of health costs that the American people are avoiding. They are healthier and more productive because they don't have to worry about increased asthma attacks and premature death as a result of—

Mr. POMPEO. Right, and if your analysis is therefore right, what do we spent on health care a year, we just pick 40 of that number and we would invest that amount of money and we would solve the health care problem. That is what your analysis suggests. Am I misunderstanding something?

Ms. JACKSON. Yes, you are, sir.

Mr. POMPEO. OK. Help me understand what it is I am misunderstanding.

Ms. JACKSON. You are misunderstanding the point that the Clean Air Act is a public health statute. It is designed to protect the health of Americans through preventive medicine, if you will. It removes pollution from the air that causes asthma attacks, that causes lung disease, that make us and our children—

Mr. POMPEO. I understand. I have one more question. I want to clean up a couple things you said earlier. You spoke to the fact that

you appreciated regulatory certainty being important, and then you just told Mr. Gardner that our agricultural community gets something less than 2 years of certainty with respect to greenhouse gas regulation. I will tell you that their return on invested capital calculations go far past 24 months, and so I am trying to understand how you can argue that you think regulatory certainty is important and yet tell us that our agriculture folks in the 4th district get just a little less than 24 months before you will chase them too.

Ms. JACKSON. Well, sir, I am not here to tell your constituents or anyone else for that matter that greenhouse gases are not a problem or are not something that we should be addressing as a country. I believe that we should be incentivizing and innovating to move to cleaner forms of energy and reduce the accumulation of greenhouse gases in our atmosphere, and that is something that is out there not because I sit in this seat, sir, but because—

Mr. POMPEO. If you believe—

Ms. JACKSON [continuing]. They are a challenge for our country.

Mr. POMPEO. Fair enough. If you believe that these regulations were going to have a net loss of jobs, would this change your view of how the EPA ought to proceed?

Ms. JACKSON. Certainly, sir. If I was seeing regulations that I thought—

Mr. POMPEO. Thank you.

Mr. WHITFIELD. The gentleman from Virginia, Mr. Griffith, is recognized for 5 minutes.

Mr. GRIFFITH. Thank you, Mr. Chairman.

Massachusetts v. EPA, last line, the holding, “We hold only that the EPA must ground its reasons for action or inaction in the statute.” Can you tell me where in the statute it allows you to create a tailoring rule?

Ms. JACKSON. The tailoring rule is based on our belief that the statute does not speak to the fact that there be too many sources to regulate all at once. It is an absurd result. That is the theory of the law—

Mr. GRIFFITH. And I don’t disagree with you, ma’am.

Ms. JACKSON [continuing]. On which we based the rule.

Mr. GRIFFITH. It is an absurd result but that is what the law says, and isn’t it the right of the elected officials, this Congress to make that decision and not unelected officials in the EPA?

Ms. JACKSON. Sir, the United States Supreme Court held that the Clean Air Act—

Mr. GRIFFITH. You had to do something, but it said you had to follow the statute—

Mr. RUSH. Mr. Chairman.

Mr. GRIFFITH [continuing]. You followed the statute—

Mr. RUSH. Mr. Chairman, Mr. Chairman. We have sat here and watched the questions from the members on this subcommittee and they ask questions and the witness attempts to answer, and they won’t allow her the opportunity to complete her answer. So would you admonish members to allow the witness to complete her answer before they interrupt her?

Mr. WHITFIELD. Mr. Rush, thank you for that. These members have waited a long time, and you have been very patient to be

here, but I am going to allow them to continue to ask questions and—

Mr. RUSH. And can the witness please answer? She has been here for a long time also.

Mr. GRIFFITH. I will make it a yes or no question. Do you believe that EPA should follow law as written or request Congress to change it or ask Congress to relieve them of that obligation when the result of the law would be an absurd result? Yes or no, please.

Ms. JACKSON. I believe EPA should follow the law as interpreted by the United States Supreme Court and the rules that we have on the books are designed to avoid the absurd result. That is the basis for the rulemaking we have made. That is the basis for our attempts to be as reasonable as we can.

Mr. GRIFFITH. In regard to certainty, and I am doing a little cleanup too. In regard to certainty, you indicated that there were no plans for a cap-and-trade program. How long can you give me certainty—

Ms. JACKSON. I should have said for greenhouse gases because we have a cap-and-trade for—

Mr. GRIFFITH. OK. For greenhouse gases cap and trade, you said you had no plans, do you have any ability to give the businesses, the industries and the folks that produce in my district any certainty how long can they count on that?

Ms. JACKSON. They will see proposed rules long before for public comment and we have agreed to do industry listening sessions to hear from the industries how best they think we should approach future regulations. So there will be a transparent process. There will be no secrets. I do not believe there will ever be a cap-and-trade program authorized under the Clean Air Act.

Mr. GRIFFITH. Thank you. And then let me ask you, when you talked about health and safety of the American folks in looking at the endangerment ruling, I am wondering if you all looked at the fact, because you mentioned something about the heat being higher, causing folks to have strokes or heart attacks, etc., and I am wondering if you looked at the fact that with the electric rates going up, the heating bills going up, fuel oil going up, that there are a lot of folks in my district who are having a hard time paying for their heat, and what is the offset on the other side? Did you look at what is going to cost those folks and the danger to their health by not having sufficient heat?

Ms. JACKSON. Sir, I am absolutely not asking people to freeze to death or be very warm in the summer. I am not sure I understand your question.

Mr. GRIFFITH. Well, you said in your opening statement that one of the things that you looked at in making the endangerment ruling was the fact that increased heat when folks—if the planet warms that folks are going to suffer more disease as a result of overheating and heart attacks, I think you mentioned heart attacks or strokes. And I am just asking if the counter side to that was looked at and the fact that we are going to raise the cost for Americans to buy fuel, therefore some of them are not going to have sufficient heat to heat their homes.

Ms. JACKSON. The actions we have taken under the greenhouse gas regulations are not intended to make less fuel available to

Americans, sir, so these are commonsense steps that actually in the case of the car rule means we will need less oil. They are energy efficiency. They are meant to make us get every drop of energy we can out of every drop of gasoline or fuel that we use. So perhaps I am not understanding. The endangerment finding—

Mr. GRIFFITH. All right. Are you unaware that the regulations already imposed and additional regulations that are being placed on the power plants of the United States of America will make it more difficult to use coal, which is now 50 percent of our source, and if you eliminate that as a source, you are going to raise the cost of electricity, therefore making it harder for people to heat their homes.

Ms. JACKSON. We are not intending to eliminate coal as a source of fuel. That is not the goal of reducing greenhouse gas emissions. What we are saying is that we can use the Clean Air Act to make a start in reducing greenhouse gas emissions.

Mr. GRIFFITH. And I am wondering if you all have looked at the possibility that since I believe that you will send a number of jobs overseas that the Chinese and the Indians and even the Ukrainians are going to use coal from my district and other districts around the United States that the impact of that is that we actually have more manufacturing in areas where they are not doing even the reasonable things that we are doing at this point, therefore contributing to the global environment additional pollutants in the air which will actually harm Americans more than what you believe your actions will solve.

Ms. JACKSON. As I said earlier, sir, changing the future with respect to climate change for our planet is going to require all nations to do something but I do not believe that means that we all therefore must start at the same time. Parts of Europe have already started, so clearly it is not—

Mr. WHITFIELD. Well, I think everyone has had an opportunity to ask questions. Ms. Jackson, we appreciate your taking time to be with us. We are going to be having some hearings on the air transport rules, new source review, fly ash, some other issues, and so we look forward to your coming back to have additional discussions with us.

I know throughout this questioning period with you, a number of members said they were going to be submitting written questions for you to answer. Who on your staff should we be particularly focused on to deal with that issue?

Ms. JACKSON. Well, I always accept correspondence from members but the head of my Office of Congressional and Intergovernmental relations is David McIntosh, if you would prefer to direct your staff towards him.

Mr. WHITFIELD. David McIntosh?

Ms. JACKSON. Yes, Mr. Chairman, but I will take any questions you have.

Mr. WHITFIELD. Well, thank you very much, and at this time I would like to call up the third panel, and that is the Hon. Greg Abbott, who is Attorney General of the State of Texas; Mr. Steve Cousins, Vice President of Lion Oil Company; Mr. Harry Alford, President and CEO, National Black Chamber of Commerce; Mr. Lonnie Carter, President and CEO of Santee Cooper; Mr. Steve

Rowlan, General Manager, Environmental Affairs, Nucor Corporation; Betsey Blaisdell, Senior Manager of Environmental Stewardship, the Timberland Company; and Mr. James Pearce, Director of Manufacturing for FMC Corporation.

OK. I want to thank all of you. You have been very patient today, and yet this is an issue of great importance. It has significant impact on our country in a lot of different ways, so we look forward to the testimony of all of you. Mr. Abbott, you are the Attorney General of Texas. We are going to start with you. We will recognize you for 5 minutes for your opening statement, and then we will go right down the line, and before we ask any questions we will have all of you complete your opening statements, so Mr. Abbott.

STATEMENTS OF GREG ABBOTT, ATTORNEY GENERAL, STATE OF TEXAS; HARRY C. ALFORD, PRESIDENT AND CEO, NATIONAL BLACK CHAMBER OF COMMERCE; STEVE ROWLAN, GENERAL MANAGER, ENVIRONMENTAL AFFAIRS, NUCOR CORPORATION; JAMES PEARCE, DIRECTOR OF MANUFACTURING, FMC CORPORATION; STEVE COUSINS, VICE PRESIDENT, LIONS OIL COMPANY; LONNIE N. CARTER, PRESIDENT AND CEO, SANTEE COOPER; AND BETSEY BLAISDELL, SENIOR MANAGER OF ENVIRONMENTAL STEWARDSHIP, THE TIMBERLAND COMPANY

STATEMENT OF GREG ABBOTT

Mr. ABBOTT. Thank you, Mr. Chairman, for the opportunity to appear before this subcommittee. As you noted, my name is Greg Abbott and I am the Attorney General of the State of Texas, and I want to first point out that in my submitted remarks I have more detail about this but Texas has strived to work very effectively with the EPA to enforce environmental laws. Texas also strives to prevent political before it occurs. Ozone and NO_x emissions have been on a steady decline in Texas since 2000. Texas has installed more wind power than any other State and achieved one of the largest declines in greenhouse gas emissions of any State in the Nation. Texas remains committed to working with the EPA to improve air quality and to hold polluters accountable, but Texas cannot support the EPA's regulation of greenhouse gases. Texas believes the EPA has ignored the plain language of the Clean Air Act, violated notice and comment requirements, and attempted to rewrite federal laws written by the United States Congress by the administrative rulemaking process.

Texas lodges several challenges to the EPA's regulation of greenhouse gases. For now I will try to plug in just three of them that reveal legal problems with the EPA's regulations. One that you all talked about already a lot this morning is the tailoring rule. The Clean Air Act defines in precise numerical terms the emission thresholds that trigger permitting requirements for stationary sources. The EPA concedes that regulation of greenhouse gases at these statutory thresholds produce results "inconsistent with the congressional intent concerning the Clean Air Act" by subjecting thousands of schools, churches, farms, small businesses to Clean Air Act regulation. These admittedly absurd results indicate that

greenhouse gases simply are not the kind of substance the Clean Air Act was designed to regulate. Well, dissatisfied with Congress's clear instructions, the EPA attempted to amend by administrative fiat the Clean Air Act. EPA calls the revised language its tailoring rule and we believe that the EPA has violated the Clean Air Act by its tailoring rule.

Texas also challenged the EPA's SIP call rule. The Clean Air Act empowers the EPA to require States to amend their permitting programs by issuing a SIP call. The Act gives States up to 3 years to bring their regulatory program into compliance with major federal mandates such as the greenhouse gas regulations. When the EPA issued the SIP call rule on September 2, 2010, it gave States just 15 months until December 2, 2011, to change their laws and regulations to comply with the new greenhouse gas mandate. The EPA shortening the time frame violates the Clean Air Act by giving States just 15 months, rather than the congressionally mandated 36 months.

Texas also challenged the EPA's FIP rule. In August 2010, we informed the EPA that Texas would not satisfy the EPA's greenhouse gas demands. A few months later in late October 2010, an assistant EPA administrator filed a sworn statement in federal court swearing that the EPA could not take over Texas air permitting program until December 2, 2011, at the earliest, meaning almost 10 months from this very day. Well, despite that sworn statement, the EPA did a 180-degree turn on December 23rd and issued an emergency FIP rule in an attempt to immediately federalize Texas's air permit program. When it suddenly changed courses, the EPA not only acted duplicitously, it also violated the Administrative Procedures Act, which requires the EPA to solicit notice and comment from the public. The EPA's FIP rule, however, was issued without notice and comment period at all in direct violation of federal law.

Not only did the FIP rule violate the notice and comment required by the APA, it was promulgated just before the Christmas and New Year's holidays in an obvious attempt to minimize public scrutiny. The EPA had known for more than 4 months that Texas would not comply with the SIP call rule and yet it waited until just before Christmas to announce without public comment or notice that a supposed emergency required it to seize control of the air permitting system in Texas just 2 weeks later on January 2, 2011. These are some of the reasons why Texas is lodging its legal challenges against the EPA.

[The prepared statement of Mr. Abbott follows:]



STATEMENT OF TEXAS ATTORNEY GENERAL GREG ABBOTT

**Before the Energy & Power Subcommittee
of the House Energy & Commerce Committee
February 9, 2011**

Thank you, Mr. Chairman, for the opportunity to appear before this Subcommittee. My name is Greg Abbott, and I am the Attorney General of Texas. I am here today to discuss litigation the State of Texas has filed against the U.S. Environmental Protection Agency ("EPA"), explain why the EPA's regulation of greenhouse gases ("GHGs") violates the Clean Air Act, and explain that if the proposed legislation discussed today became law, it would effectively resolve most of the lawsuits filed by Texas against the EPA.

Although the EPA's legally flawed pursuit of GHG regulations has forced Texas into a legal dispute against our federal partners, the last year of litigation stands in contrast to years of cooperative enforcement between Texas and the EPA.

For example, in 2009 we worked with the EPA to shut down a lead smelter in El Paso. Under a settlement negotiated by Texas, the EPA, and other States, ASARCO was required to pay more than \$1.8 billion for environmental remediation across the country—including more than \$100 million for clean-up in the State of Texas.¹

¹ Press Release, Attorney General Greg Abbott, ASARCO Pays \$52 Million to Fund Environmental Cleanup at Former El Paso Smelter (Dec. 10, 2009), available at <https://www.oag.state.tx.us/oagNews/release.php?id=3181>.

We also worked with the EPA to obtain the largest-ever air quality settlement with a refining company when we required San Antonio-based Valero to spend more than \$700 million upgrading its facilities.²

While Texas has a demonstrated record of enforcing environmental laws in conjunction *with* the EPA, we also have a record of doing so on our own—as we did when we obtained the largest-ever penalty under the Texas Clean Air Act in a case where Huntsman was required to pay more than \$9 million for unlawful emissions at its Port Arthur facility.³

In addition to enforcing existing environmental laws and holding polluters accountable, Texas also strives to prevent pollution before it occurs. And Texas is a success story on that front too.

According to the Texas Commission on Environmental Quality, ozone and nitrogen oxide emissions from industrial sources in Texas have been on a steady decline since 2000. Industrial ozone emissions are down 22 percent, and nitrogen oxide emissions have been reduced by 46 percent.⁴ As Governor Perry explained in a letter to President Obama last spring, “Texas electricity generators have the 11th lowest NOx emission rates for all states.”⁵

But Texas is not only reducing the harmful pollutants that have long been subject to EPA regulation under the Clean Air Act, it also has a demonstrated record of reducing greenhouse gas emissions. As the State explained in the Petition for Reconsideration that we filed with the EPA, since 2004 no other state in the nation has reduced power-sector CO2 emissions more than

² Press Release, Attorney General Greg Abbott, Attorney General Abbott Wins For Texas In Largest Environmental Settlement With A Refiner (June 16, 2005), *available at* <https://www.oag.state.tx.us/oagNews/release.php?id=1028>.

³ Press Release, Attorney General Greg Abbott, Attorney General Abbott Lands Record Environmental Penalty From Huntsman (May 13, 2003), *available at* <https://www.oag.state.tx.us/oagNews/release.php?id=78>.

⁴ Texas Ozone and NOx Emissions Trend Analysis, Texas Commission on Environmental Quality (Jan. 11, 2010), *available at* <http://www.tceq.state.tx.us/assets/public/implementation/air/success/2010.01.10-txOzoneNoxTrends.pdf>.

⁵ Letter from Governor Rick Perry to President Barack Obama (May 28, 2008), *available at* <http://governor.state.tx.us/files/press-office/O-ObamaBarack201005280133.pdf>.

Texas.⁶ Further, Texas has already installed more wind power than any other state—and all but four countries.⁷ Thanks to the State's efforts to foster renewable energy sources, Texas effectuated one of the two largest absolute declines in greenhouse gas emissions of any state in the nation.⁸

Texas remains committed to working with the EPA to improve air quality and hold polluters accountable. But Texas cannot support the EPA—and in fact must challenge it—when it pursues regulations that are contrary to the law and devastating to the economy. Such is the case when it comes to the EPA's efforts to regulate greenhouse gases. In its zeal to regulate greenhouse gases, the EPA has ignored the plain language of the Clean Air Act, violated notice and comment requirements, and attempted to re-write congressionally enacted federal laws by administrative rule-making.

I. This Legislation Will Restore Congress's Proper Law-Making Role.

The legislation this committee is considering today would put an end to the EPA's illegal effort to re-write the Clean Air Act. We are a nation of laws, and it is elected members of Congress—not unelected and unaccountable bureaucrats at the EPA—that must make legislative decisions for the country. One of those decisions is whether the federal government will attempt to regulate carbon dioxide emissions. Congress can reassert its proper role by reclaiming this important decision-making process on behalf of the American people.

Democrats and Republicans agree that the Clean Air Act is ill-suited to regulate greenhouse gases and that Congress did not intend the Act to go where the EPA is attempting to take it.

⁶ Petition for Reconsideration of the State of Texas at 5, *Endangerment Finding*, EPA Docket No. EPA-HQ-OAR-2009-0171 (Feb. 16, 2010).

⁷ *Id.* at 5-6.

⁸ *Id.*

Numerous members of Congress from both parties are on record opposing the EPA's actions and arguing that Congress, not the EPA, should make these decisions. As Senator Jay Rockefeller (D-WV) put it, "At a time when so many people are hurting, we need to put the decisions about our energy future into the hands of the people and their elected representatives. . . EPA actions in this area would have enormous implications and these issues need to be handled carefully and appropriately dealt with by the Congress, not in isolation by a federal environmental agency."⁹ Senator Jim Webb (D-VA) agrees: "I do not believe that Congress should cede its authority over an issue as important as climate change to unelected officials of the Executive Branch."¹⁰ Similarly, Senator Mark Pryor (D-AR), believes that "Congress, not the EPA should determine policy on greenhouse gas emissions."¹¹ Senator Joe Manchin (D-WV) may have put it best, when he said, "No bureaucratic agency should be able to regulate what has not been legislated, especially when their actions jeopardize thousands of jobs. In the worst economy in generations, the EPA is undermining our fragile economy and has been an adversary instead of a partner on energy issues. It is time to reevaluate the agency's use of its authority. I will work hard to make sure the EPA cannot overstep its authority. . ."¹²

When the EPA embarked on its course to regulate GHGs, it was warned that its actions invited litigation. As Senator Lisa Murkowski (I-AK) put it, "whenever an executive agency fails to adhere to the laws passed by Congress, it opens itself up to litigation. The EPA's so-called 'tailoring rule' is no exception, and I fully expect that lawsuits will be filed if the agency issues

⁹ Press Release, Sen. Jay Rockefeller, Rockefeller Leads Challenge to EPA on Greenhouse Gas Regulations (Feb. 19, 2010), available at <http://rockefeller.senate.gov/press/record.cfm?id=322365&&year=2010&>.

¹⁰ Press Release, Sen. Joe Manchin, Rockefeller, Manchin Lead Colleagues in Fight to Protect Coal and Manufacturing State Economies (Jan. 31, 2011), available at <http://manchin.senate.gov/record.cfm?id=330724>.

¹¹ Press Release, Sen. Mark Pryor, Statement by Senator Mark Pryor on Voting in Support of the Murkowski Resolution (June 10, 2010), available at www.pryor.senate.gov.

¹² Press Release, Sen. Manchin, *supra* n.10.

it. Once the rule is challenged, I expect the courts will reject it, as it has no legal basis.”¹³ Likewise, Congressman Dingell (D-MI) warned that the EPA lacks authority to regulate greenhouse gases using the Clean Air Act. At a hearing before this very committee, Congressman Dingell warned that if the EPA attempts to regulate greenhouse gases, “it is not improbable that we will have a fine array of lawsuits to bless us all with huge amounts of litigation.”¹⁴

These predictions have come true. The EPA’s actions are inconsistent with the clear language of the Clean Air Act, the Administrative Procedure Act, or both. Because the EPA exceeded its authority and acted outside the law to effectuate its policy prerogatives, Texas—and other states—have taken legal action to challenge the EPA’s greenhouse gas rules.

II. Texas’s Legal Challenges

In order to understand why the Clean Air Act cannot legally be used to regulate carbon dioxide—and why Texas has challenged the EPA’s actions—it is important to first explain what the Clean Air Act does target. The Clean Air Act was designed to target toxic pollutants that directly poison or injure the human body. As Congressman Collin Peterson (D-MN) put it, the Clean Air Act “was meant to clean up the air, to get lead out of the air. It was not meant to fight global warming.”¹⁵ According to Senator Mary Landrieu (D-LA), “the Clean Air Act was never intended to regulate greenhouse gases. It was designed to reduce the smog and acid rain that was

¹³ Press Release, Sen. Lisa Murkowski, Floor Speech: Murkowski Seeks to Halt EPA Endangerment of U.S. Economy (Dec. 14, 2009), *available at* www.murkowski.senate.gov.

¹⁴ *Strengths and Weaknesses of Regulating Greenhouse Gas Emissions Using Existing Clean Air Act Authorities: Hearing Before the Subcomm. On Energy and Air Quality of the H. Comm. on Energy and Commerce*, 110th Cong. 9 (2008) (statement of Rep. Dingell, Member, House Comm. on Energy and Commerce).

¹⁵ Press Release, Rep. Collin Peterson, Peterson Sponsors Legislation to Restrict EPA (Feb. 2, 2010), *available at* <http://collinpeterson.house.gov/press/111th/Peterson%20sponsors%20legislation%20to%20restrict%20the%20EPA.html>.

choking our cities in the 1970s and 1980s. That law, which I support, has worked fairly well. But greenhouse gases do not harm our lungs and pollute our air.”¹⁶

The Clean Air Act requires that pollution levels be measured at the state or local level, and it calls on the EPA—in partnership with the states—to set goals for reducing the amount of each regulated pollutant on the state or local level. Substances such as carbon monoxide and sulfur dioxide, which are poisonous when inhaled and can be effectively measured and reduced on a localized basis, are classic examples of substances the Clean Air Act targets. The Act provides that facilities that emit more than a certain threshold of a regulated pollutant are subject to permitting requirements. The threshold has the effect of exempting many small businesses and other small entities like farms, schools, and churches, while targeting major sources of pollution that have a major effect on air quality.

The fundamental problem underlying all the EPA’s GHG rules is that carbon dioxide simply does not fit with the pollution-reduction framework envisioned by the Clean Air Act. As Senator Landrieu put it, “to regulate carbon emissions with the Clean Air Act would be to jam a square peg into a round hole.”¹⁷

A. The Endangerment Finding Violates the Clean Air Act.

The EPA’s legal troubles begin with the endangerment finding, in which it concluded that six greenhouse gases emitted from new motor vehicles endanger public health. Contrary to what some have claimed, the Supreme Court’s decision in *Massachusetts v. EPA* did not require the EPA to regulate carbon dioxide or any other greenhouse gas. The Supreme Court ruled that

¹⁶ Press Release, Sen. Mary Landrieu, Landrieu Co-Sponsors Resolution to Halt EPA Efforts to Use Clean Air Act to Regulate Greenhouse Gases (Jan. 21, 2010), available at <http://landrieu.senate.gov/mediacenter/pressreleases/01-21-2010-2.cfm>.

¹⁷ *Id.*

greenhouse gases are “air pollutants,” as that term is defined in the Act. But the Court’s opinion clearly states that the Court “need not and does not reach the question whether” carbon dioxide is the kind of air pollutant the EPA *must* regulate under the Clean Air Act.¹⁸ The EPA, not the Supreme Court, decided to try to force the square peg of carbon dioxide into the round hole of the Clean Air Act.

The endangerment finding is legally flawed in several ways. First, the endangerment finding is arbitrary because the EPA did not define or apply any standards or criteria by which to judge endangerment to public health. Second, the endangerment finding includes two gases that are not emitted at all from motor vehicles, meaning that the EPA plainly lacked legal authority to make an endangerment finding for these gases under section 202 of the Clean Air Act.

1. The Endangerment Finding Is Arbitrary Because it Does Not Identify or Apply Any Standards by Which to Judge the Endangerment Caused by GHG Emissions or Climate Change.

The EPA cannot implement the Clean Air Act, or any other statute, in an arbitrary manner.¹⁹ The EPA needed to define standards or thresholds by which to judge whether certain levels of greenhouse gas emissions endanger public health or welfare—or whether reductions in emissions as a result of regulation will benefit public health or welfare. Because the EPA failed to do this, the Endangerment Finding is arbitrary and therefore unlawful.

In its endangerment finding, the EPA did not state the amount of greenhouse gases that endanger public health or welfare, or the amount of greenhouse-gas-related climate change that constitutes a danger to public health. Similarly, the EPA has not established a method for measuring the

¹⁸ 549 U.S. 497, 534 (2007).

¹⁹ 5 U.S.C. § 706(2)(A); *Motor Vehicle Mfrs. Assoc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 41 (1983) (“The agency’s action . . . may be set aside if found to be “arbitrary, capricious, and abuse of discretion, or otherwise not in accordance with law.”).

effect of its regulations on reductions in greenhouse gas levels. The EPA seeks to regulate greenhouse gases, but it is unwilling or unable to determine the level at which those gases pose a danger to public health or the reductions needed to avoid a danger to public health. In essence, the EPA is saying: “Just trust us.” But we cannot. Because the truth is that—unlike with other gases regulated under the Clean Air Act—there is not a specific atmospheric level of carbon dioxide the EPA can identify as a dangerous level. And even with the strictest of regulations, the EPA cannot prevent greenhouse gases from permeating our air, because the greenhouse gases in our air are just as likely to come from China and India as they are to come from Houston or Dallas.

2. The Endangerment Finding Included Gases Which Are Not Emitted by Motor Vehicles.

Section 202 of the Clean Air Act only applies to mobile sources. The EPA can only make an endangerment finding under Section 202 for substances emitted from new motor vehicles.²⁰ But the EPA failed to abide by the CAA, because two of the six gases it deemed to endanger public health or welfare under section 202 are not emitted *at all* by new motor vehicles.²¹ The endangerment finding thus contravenes the plain text of section 202, and accordingly, the EPA’s inclusion of two of the six gases in its endangerment finding violates the Clean Air Act.

B. The Tailpipe Rule is Unlawful.

The Clean Air Act requires the EPA, before issuing a rule, to give “appropriate consideration to the cost of compliance” with the rule.²²

²⁰ 42 U.S.C. § 7521(a)(1).

²¹ The two gases are hydrofluorocarbons and hexafluoride.

²² 42 U.S.C. § 7521(a)(2).

In promulgating the Tailpipe Rule—which requires motor vehicle manufacturers to comply with federal fuel economy standards—the EPA did not fully consider the costs associated with the rule. The EPA admitted that, under its interpretation of the Clean Air Act, the Tailpipe Rule would *require* the EPA to regulate stationary sources of greenhouse gases. In other words, the EPA views the Tailpipe Rule as a triggering mechanism for the EPA’s authority to regulate stationary sources. But when it promulgated the Tailpipe Rule, the EPA failed to consider costs associated with regulating emissions from stationary sources. This omission violates the Clean Air Act.

C. The Timing Rule is Unlawful.

The Timing Rule provides that the EPA’s regulation of greenhouse gases under the Tailpipe Rule automatically triggers regulation of stationary sources of greenhouse gases. According to the EPA, once it made a finding that greenhouse gases emitted by motor vehicles are dangerous, it had no choice but to regulate stationary sources of carbon dioxide.

Contrary to the EPA’s assertions, the Clean Air Act authorizes regulation of stationary sources of a pollutant only after the EPA has established a National Ambient Air Quality Standard (NAAQS”) for the pollutant. The problem for the EPA is that they have not established a NAAQS for carbon dioxide. In fact, it would be completely impracticable to do so because of the way carbon dioxide exists in the air.

The Clean Air Act was designed to reduce emissions of toxic air pollutants. Atmospheric levels of these pollutants can be meaningfully measured and reduced on a localized basis. Carbon dioxide, by contrast, is a non-toxic substance that exists throughout the atmosphere. Levels of carbon dioxide in the atmosphere cannot be meaningfully measured or reduced on a localized

basis. As the Union for Jobs and the Environment put it in comments on the EPA's proposed rules, "Due to the global nature and long atmospheric residence times of greenhouse gas emissions, individual states, regions or nations cannot effect meaningful change in atmospheric greenhouse gas concentrations."²³ In other words, it is impossible to achieve reduction-targets for atmospheric levels of carbon dioxide using the Clean Air Act, because emissions far outside Texas, for example, affect the concentration of carbon dioxide in Texas. The Timing Rule ignores this reality and improperly premises regulation of stationary sources on the Tailpipe Rule.

D. The Tailoring Rule is Unlawful.

Even the EPA concedes that regulation of GHGs produces results "inconsistent with congressional intent concerning the applicability of the [Clean Air Act]" by subjecting thousands of schools, churches, farms, small businesses, and other small facilities to Clean Air Act regulation.²⁴ These absurd results indicate that carbon dioxide and other greenhouse gases simply are not the kind of substance the Clean Air Act was designed to regulate. However, instead of acknowledging that reality, the EPA unilaterally changed the law by promulgating the Tailoring Rule.

The Clean Air Act requires stationary sources that emit above 100 or 250 tons per year (depending on the source) of a regulated pollutant to obtain permits. But the Act does not give the EPA discretion to change these congressionally established thresholds.

²³ Comments of Union for Jobs and the Environment at 7, *Endangerment Finding*, Docket No. EPA-HQ-OAR-2009-0171 (June 23, 2009).

²⁴ Tailoring Rule, 75 Fed. Reg. 31,514, 31,541.

With the Tailoring Rule, however, the EPA unilaterally raised the statutory thresholds despite the lack of any legal authority to do so. In doing so, the EPA went beyond its role as regulator and usurped the role of legislator. Under the Tailoring Rule's new thresholds, permitting requirements kick in at either 75,000 or 100,000 tons per year—instead of the 100 or 250 tons mandated by the Act. Regardless of the desirability of these new thresholds as a policy matter, as a legal matter the EPA lacks the legal authority to amend the plain terms of the Clean Air Act, which is precisely what the Tailoring Rule does. Accordingly, the Tailoring Rule is patently illegal.

E. The Sip Call Rule is Unlawful.

The EPA issued the "SIP Call Rule" on September 2, 2010. The SIP Call Rule requires states to change their laws and regulations by December 2, 2011 to comply with the EPA's new stance on greenhouse gases. A SIP is the "state implementation plan" under which state regulators issue Clean Air Act permits for pollution sources in their state. Once a state's SIP has been approved—as Texas's was under the Clinton Administration in 1994—the state's permits are federally recognized and federally enforceable.

The Clean Air Act gives the EPA the power to require states to amend their permitting programs by issuing a SIP Call, but it also gives states up to three years to bring their regulatory schemes into compliance with major new federal mandates such as the EPA's new greenhouse gas regulations. This congressionally mandated timeframe allows states adequate time to conduct their internal law-making and rule-making procedures and provides time for robust public input through an open, transparent process at the state level. The EPA's timeframe, on the other hand,

violates the Clean Air Act by giving the states just fifteen months to comply, rather than the three years required by the Act.

In an effort to justify its illegal actions, the EPA improperly invoked a section of the Clean Air Act that allows the EPA to require adjustments to SIPs that fail to comply with pre-existing federal requirements. When a major new requirement such as greenhouse gas regulation comes into existence, however, the Clean Air Act entitles the states to a three-year transition period. The EPA's failure to provide the states with the full three years therefore violates the law.

F. The FIP Rule is Unlawful.

On August 2, 2010, Texas informed the EPA of its inability to comply with the EPA's demand that states amend their air quality laws and regulations to comport with the EPA's new stance on greenhouse gases. Approximately three months later, on October 28, 2010, Assistant EPA Administrator Regina McCarthy swore in a statement filed with the D.C. Circuit Court that, in light of the SIP Call deadline established by the EPA, the federal government could not take over Texas's air permitting responsibilities "until December 2, 2011 at the earliest." Despite this sworn statement, the EPA did a 180-degree turn on December 23, 2010, when it issued an "emergency" FIP Rule that purported to immediately federalize Texas's permitting regime—which meant the EPA would not recognize Texas permits and would instead require Texas-based stationary sources to obtain additional federal permits beginning January 2, 2011.

Absent an overriding emergency, the Administrative Procedure Act requires the EPA to solicit notice and comment from the public before issuing regulations. The notice and comment period allows for transparency and public participation in the rulemaking process. The FIP Rule, however, was issued without any notice and comment period at all, in direct violation of the law.

There was no emergency, as the EPA had over four months to react to Texas's August 2, 2010 letter. Instead, the EPA waited until the last minute to announce its intentions. No emergency existed, and as a result, a notice and comment period was required for the FIP Rule just as for any other rule. The EPA's failure to provide it dooms the FIP Rule.

Not only was this FIP Rule issued without the notice and comment required by the Administrative Procedure Act, it was promulgated just before the Christmas/New Year holidays, in an obvious attempt to minimize public scrutiny of the EPA's actions. The EPA had known for over four months that Texas was unable to comply with the SIP Call Rule, yet it waited until just before Christmas to announce—without public notice or comment—that a supposed “emergency” required it to seize control of air permitting in Texas just two weeks later, on January 2, 2011.

Thus, not only are the SIP Call and FIP Rules substantively flawed in that they were premised on the EPA's misuse of the Clean Air Act to regulate carbon dioxide, they are also procedurally deficient in ways that plainly ignore the “transparency, public participation, and collaboration” that President Obama has demanded of his Administration.²⁵ Government by “emergency” bureaucratic fiat—rather than by deliberative legislative process—is not only contrary to our constitutional order, it also undermines public confidence in the rule of law and in the integrity and fairness of our political system. As Senator Ben Nelson (D-NE) put it, “Just because somebody's frustrated with the pace of action in Congress doesn't mean the EPA should become a super-legislative body.”²⁶ It is elected members of Congress, not unelected and unaccountable

²⁵ Barack Obama, Memorandum for Heads of Executive Departments and Agencies: Transparency and Open Government, *available at* http://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment/.

²⁶ Press Release, Sen. Ben Nelson, Nelson Warns EPA Overreach Could Damage Nebraska's Economy (June 10, 2010), *available at* http://bennelson.senate.gov/press/press_releases/061010-01.cfm.

bureaucrats at the EPA, that must decide whether and how the federal government regulates carbon dioxide emissions.

III. Economic Impact of the EPA's Actions

The Energy Tax Prevention Act will also help prevent the EPA from stifling the fragile signs of economic recovery and job growth that are finally appearing as Texas and other states begin to emerge from a difficult economic downturn. By bringing an end to the EPA's job-killing greenhouse gas regulations, Congress can remove a direct burden on the energy, manufacturing, and agricultural sectors, potentially saving thousands of jobs. As Senator Nelson aptly put it, we must protect all sectors "of our nation's economy from EPA overreach. . . . [F]armers, ranchers, business owners, cities, towns and hundreds of thousands of electricity consumers should not have their economic fortunes determined by unelected bureaucrats in Washington."²⁷

The effects of these burdensome new costs will be felt in all sectors of our economy and in all parts of our society. As the National Black Chamber of Commerce warned, "Instead of alleviating our country's current 10% unemployment rate, heavy handed 'command and control' of carbon emissions would trigger further fallout. These and other costs would disproportionately burden lower-income and minority populations who already spend a large portion of their earnings on energy."²⁸ The Congress on Racial Equality gave the EPA similar advice about the impact the new regulations will have—not just on industry—but on every American: "By driving up energy costs, imposing major permitting and compliance costs on businesses, and micromanaging virtually every business, economic and personal decision, the proposed

²⁷ *Id.*

²⁸ Press Release, National Black Chamber of Commerce, Unemployment Statistics Reinforce Need to Drop Climate Change Bill. NBCC Study shows Bill would kill 2.5 Million US Jobs (Dec. 23, 2009), available at www.nationalbcc.org.

regulatory program would impose the equivalent of a massive tax hike – in the midst of our most severe economic crisis in decades – further harming families, especially poor, minority and elderly households.”²⁹ At a time of high unemployment, low consumer confidence, and nagging economic uncertainty in this country, the Administration should be looking for ways to encourage investment and reduce the cost of doing business in America. Allowing unaccountable federal bureaucracies to unilaterally amend the law without Congress’ consent reduces confidence in our democratic system and in the rule of law, which in turn discourages new investment and economic growth.

In the words of our second president John Adams, ours is “a government of laws, not of men.” The public’s continued confidence that we are governed by legitimately enacted laws rather than by the political whims of powerful people is not only central to our constitutional form of government, it is vital to our nation’s future economic prosperity. If government is permitted to eschew transparency and accountability out of political expediency, the unavoidable result is public uncertainty about the rule of law. And uncertainty, particularly legal uncertainty, is the enemy of economic prosperity. We are blessed to live in a nation whose traditions of constitutionally limited government and respect for the rule of law provide an environment in which businesses and individuals can invest their resources confidently in the future. But we cannot take these blessings for granted. Most nations—both today and throughout human history—have not enjoyed them, and we will not enjoy them for long if we do not guard them jealously. By reining in a bureaucracy run-wild like the EPA, Congress can begin to restore the American people’s confidence in the rule of law and in the future of our nation’s economy.

²⁹ Comments of Congress of Racial Equality at 2, *Advance Notice of Proposed Rulemaking: Regulating Greenhouse Gas Emissions under the Clean Air Act*, Docket ID: EPA-HQ-OAR-2008-0318 (November 25, 2008).

Mr. WHITFIELD. Thank you, Mr. Abbott.
At this time I recognize Mr. Alford with the Chamber of Commerce.

STATEMENT OF HARRY C. ALFORD

Mr. ALFORD. Chairman Whitfield, Mr. Vice Chairman, distinguished members of this committee, thank you for having me. I am Harry C. Alford, President and CEO of the National Black Chamber of Commerce.

After failing to persuade the American public of its intentions to pass a cap-and-trade program through the legislative process, the Obama Administration has now unleashed its Environmental Protection Agency to tackle climate change with non-transparent, burdensome regulations. This bureaucratic zeal is not only disastrous for American consumers and businesses at large but also particularly threatening to the future of prosperity of black communities.

The Energy Tax Prevention Act of 2011, introduced by Representatives Upton and Whitfield and Senator Inhofe, offers our Nation a much-needed reprieve from this EPA overreach and it is my hope that both Democrats and Republicans will join this new effort to stop the agency's power grab of our domestic climate policy. Congress must be in charge of policymaking for such a serious issue, one that touches the lives and welfare of virtually every American, not unelected officials with zero accountability.

The Act aims to protect American jobs and businesses, especially in light of increasing competition from developing nations such as China. Again, for the African American business community and black workers nationwide, EPA's regulatory overreach will kill their competitiveness and innovation and impose significant burdens to new employment.

Back in 1979, manufacturing employment here in America reached its high point, providing jobs to roughly 19.6 million Americans. Since then, we have lost more than 8 million manufacturing jobs. Now, many of the factories that once employed our workers here in the United States are now popping up in China, Indonesia and other Asian countries.

When I was a young man, I began my career in Detroit. Upon revisiting throughout the years, I can attest to how cumbersome government regulations have come to destroy small businesses and starve families. EPA's plan to implement emission regulations will sadly result in far greater strife. This strife will be borne particularly hard by the African American labor force, one that has not only been underrepresented in the workforce historically but also badly wounded since the financial meltdown. Today 16.5 percent of African American men and women are out of work and the situation is only getting worse. According to a new study by the Economic Policy Institute, the black unemployment rate is projected to hit a 25-year high by the third quarter of this year.

Additional EPA proposals that have sought to tighten air quality standards with regard to ozone exemplified mammoth business-destroying implications as well. For instance, the National Federation of Independent Business found that as many as 675 counties across the United States would violate the proposed standards, triggering job-killing mandates, costly compliance fees and financial penalties

for businesses in those areas. Just imagine how businesses would be forced to close and how many workers would be laid off if EPA's broader proposal to implement a regulatory cap-and-trade scheme is successful.

Long story short: the environment belongs to everyone. For EPA to think that it can use the Clean Air Act to now ram through cost-prohibitive climate regulation is something I will not stomach and it certainly is not something that the African American business community is prepared to accept either. While paying a higher heating bill this month or doling out money for gasoline on the way into the office from McLean or Bethesda may mean little to government bureaucrats, people living paycheck to paycheck and small businesses trying to get by simply cannot afford it, especially now.

I applaud all members of the legislature who are working hard to make sure that EPA does not enact a cap-and-trade scheme and therefore are standing up for not only America's economic future but also for the well-being of our Nation's African American community specifically.

Again, thank you for this opportunity to testify here this morning on the important of the Energy Tax Prevention Act and halting EPA's regulatory overreach. I look forward to answering any questions you may have.

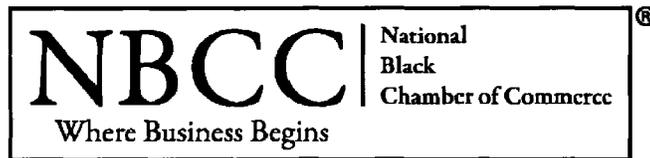
[The prepared statement of Mr. Alford follows:]

**Testimony of
Harry C. Alford**

**On Behalf of the
National Black Chamber of Commerce (NBCC)**

**Before the House Committee on Energy and Commerce
Subcommittee on Energy and Power**

Wednesday, February 09, 2011



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Chairman Whitfield, Vice Chairman Sullivan, distinguished members of the subcommittee, good morning.

I am Harry C. Alford, president and chief executive officer of the National Black Chamber of Commerce (NBCC). I appreciate this opportunity to appear before the subcommittee today to discuss the draft of the Energy Tax Prevention Act of 2011 and, specifically, how bureaucratic regulation of greenhouse gas emissions (GHG) negatively impacts our nation's African American communities.

The National Black Chamber of Commerce is a non-profit, non-partisan, non-sectarian organization dedicated to the economic empowerment of African Americans. Our business association represents 100,000+ Black-owned businesses and engages in advocacy and educational efforts that reach more than 1.9 million Black-owned businesses (US Census Bureau).

Additionally, we are dedicated to sustaining African American communities through entrepreneurship and capitalistic activity within the United States and via interaction with the Black Diaspora. In this light, the chamber strives to increase business development and growth via procurement, capital access and international trade, educate Black communities about our business' benefit to society and provide technical support to our 161 affiliated chapters both here in the United States and abroad.

After failing to persuade the American public of its intentions to pass a cap-and-trade program through the legislative process, the Obama administration has now unleashed its Environmental Protection Agency (EPA) to tackle climate change with non-transparent, burdensome regulations. This bureaucratic zeal is not only disastrous for America's consumers and

businesses at large, but also particularly threatening to the future prosperity of Black communities.

The Energy Tax Prevention Act of 2011 introduced by Representative Upton, Representative Whitfield and Senator Inhofe offers our nation much-needed reprieve from this EPA overreach. And it is my hope that both Democrats and Republicans will join this new effort to stop the agency's power-grab of our domestic climate policy. The Congress must be in charge of policymaking for such a serious issue – one that touches the lives and welfare of virtually every American – not un-elected officials with zero accountability.

The Energy Tax Prevention Act's stated goals, as presented last Wednesday,¹ ensure that our nation is not plagued by overly burdensome environmental regulation, regulation that would skirt the legislative process essential to national policy decisions. Two of these goals go to great lengths to protect the viability of African American communities. I would like to, therefore, briefly highlight their importance.

First, the Act prevents EPA from enacting a cap-and-trade tax that would significantly increase costs for many goods and services on which consumers and businesses depend. A simple review of statistics derived from the Congressional Budget Office's (CBO) methodology and calculated by proponents – yes, proponents – of cap-and-trade show just how dire circumstances will be for African American consumers if EPA is successful in enacting this new climate tax.

¹ House Committee on Energy and Commerce, "Upton, Whitfield, Inhofe Unveil Energy Tax Prevention Act to Protect America's Jobs & Families", February 02, 2011, Washington, DC, accessed at: <http://energycommerce.house.gov/news/PRArticle.aspx?NewsID=8178>.

For example, the Center on Budget and Policy Priorities finds that, for the poorest 20 percent of our population, cap-and-trade increases the cost of home energy by 45 percent, motor fuel by 25 percent and other consumption such as groceries by 35 percent.² Given the current state of our economy, EPA's implementation of cap-and-trade regulations will only victimize further the most vulnerable in our society. Public policy must be based on mutual respect and justice for all citizens. EPA's back-door approach to regulating greenhouse gas emissions thus fails America's less fortunate miserably.

Consumers and businesses are already feeling the pain of higher energy prices due to events outside of our control, such as the current unrest in Egypt. According to the American Automobile Association (AAA), the average price for a gallon of gasoline nationwide today is \$3.12. A year ago, it was \$2.66.³ Our domestic climate policy is in our control, though, and we cannot afford to stand by and let an unaccountable federal agency hijack this policymaking process with regulations that will only further exacerbate energy prices.

And let us remember the following. EPA's own analysis of cap-and-trade legislative proposals finds that small businesses will be hit with a 40 percent increase in energy prices.⁴ Yet, somehow, it now sees fit to regulate this economy-wide burden on our nation's small businesses. This is astonishing.

Second, the Act aims to protect American jobs and businesses, especially in light of increasing competition from developing nations such as China. Again, for the African American business

² Center of Budget and Policy Priorities, "Cap and Trade Can Fight Global Warming Effectively While Also Protecting Consumers", March 03, 2009, Washington, DC, accessed at: <http://www.cbpp.org/files/3-3-09climate.pdf>.

³ American Automobile Association (AAA), "AAA's Daily Fuel Gauge Report", February 07, 2011, accessed at: <http://fuelgagereport.aaa.com/?redirectto=http://fuelgagereport.opisnet.com/index.asp>.

⁴ National Federation of Independent Business (NFIB), "Cap and Trade = Massive Loss for Small Business", accessed at: <http://www.nfib.com/issues-elections/issues-elections-item/cmsid/49480/v/1>.

community, and Black workers nationwide, EPA's regulatory overreach will kill their competitiveness and innovation and impose significant burdens to new employment. Back in 1979, manufacturing employment here in America reached its high-point, providing jobs for roughly 19.6 million Americans. Since then, we have lost more than eight million manufacturing jobs.⁵ Now many of the factories that once employed our workers here in the U.S. are now popping up in China, Indonesia and other Asian countries.

When I was a young man, I began my career in Detroit. Upon revisiting throughout the years, I can attest to how cumbersome government regulations have come to destroy small businesses and starve families. EPA's plan to implement emissions regulations will sadly result in far greater strife.

This strife will be borne particularly hard by the African American labor force, one that has not only been underrepresented in the U.S. workforce historically, but also badly wounded since the financial meltdown. Today, 16.5 percent of African American men and women are out of work.⁶ And the situation is only getting worse. According to a new study by the Economic Policy Institute, the Black unemployment rate is projected to hit a 25-year high by the third quarter of this year.⁷

Just blocks away from this hearing room, the African American community continues to face an ever-steeper mountain of challenges to securing a job. In fact, the Institute's researchers find

⁵ Associated Press, Paul Wiseman, "Despite China, U.S. Factories Maintain Edge", January 31, 2011, accessed at: <http://www.time.com/time/business/article/0,8599,2045257,00.html>.

⁶ U.S. Bureau of Labor Statistics (BLS), "Employment status of the civilian population by race, sex, and age", January 2011, accessed at: <http://www.bls.gov/news.release/empsit.t02.htm>.

⁷ The *Washington Post*, V. Dion Haynes, "U.S. unemployment rate for blacks projected to hit 25-year high", January 15, 2011, accessed at: <http://www.washingtonpost.com/wp-dyn/content/article/2010/01/14/AR2010011404085.html>.

that Black unemployment in Washington, DC will reach 18.9 percent later this year.⁸ EPA's proposal to regulate into our lives the enormous cap-and-trade program that this great deliberative body rejected last year will only add insult to injury for these struggling Americans.

And upon close examination of the growing competition emanating from nations such as China, the idea of EPA imposing cap-and-trade regulations restricting our businesses' ability to innovate becomes more reprehensible. From construction and manufacturing to financial services and human resources, Black-owned businesses make breakthroughs every day that add to America's innovation and competitive edge. But the deck is being stacked against us. One specific example paints a clear picture. Before the end of this year, China is projected to surpass America for the first time in the number of patent applications filed.⁹ The higher costs and red-tape sure to arise from EPA's regulatory overreach will only further restrict American businesses' ability to keep up with the world's most populous country in creating the new technologies and services of tomorrow.

Now, I know that many witnesses before me have come to your committee to opine that small businesses are the backbone of the American economy. But given the threat EPA's proposal to quietly slip a cap-and-trade program into our economy poses to the health of these small businesses, it is definitely worth repeating. EPA's proposal to implement a cap-and-trade system by way of regulation would make it extremely difficult for businesses to create new jobs. These regulations would also have a ripple effect straight down the supply chain, hurting the suppliers, distributors and transporters with which America's small businesses work.

⁸ Ibid.

⁹ *TIME*, "Sizing up the U.S. and China", January 31, 2011, New York, NY, p. 37.

Additional EPA proposals that have sought to tighten air quality standards with regard to ozone exemplified mammoth business-destroying implications, as well. For instance, the National Federation of Independent Business (NFIB) found that, "As many as 675 counties across the U.S. would violate the proposed standard, triggering job-killing mandates, costly compliance fees and financial penalties for businesses in those areas".¹⁰ Just imagine how many businesses would be forced to close, and how many workers would be laid off, if EPA's broader proposal to implement a regulatory cap-and-trade scheme is successful.

Long story short, the environment belongs to everyone. For EPA to think that it can use the Clean Air Act to now ram through cost-prohibitive climate regulation is something I will not stomach. And it certainly is not something that the African American business community is prepared to accept, either. While paying a higher heating bill this month or dolling out more money for gasoline on the way into the office from McLean or Bethesda may mean little to government bureaucrats, people living paycheck to paycheck and small businesses trying to get by simply cannot afford it, especially now.

I applaud all members of the legislature who are working hard to make sure that EPA does not enact a cap-and-trade scheme, and, therefore, are standing up for not only America's future economic health in general, but also for the well-being of our nation's African American communities specifically.

Again, thank you for this opportunity to testify here this morning on the importance of the Energy Tax Prevention Act and halting EPA's regulatory overreach. I look forward to answering any questions you may have.

¹⁰ National Federation of Independent Business (NFIB), "Cap and Trade", accessed at: <http://www.nfib.com/issues-elections/issues-elections-item?cmsid=49409>.

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Mr. WHITFIELD. Thank you, Mr. Alford.
Mr. Rowlan with Nucor Corporation, you are recognized for 5 minutes.

STATEMENT OF STEVE ROWLAN

Mr. ROWLAN. Thank you. I am Steve Rowlan, General Manager of Environmental Affairs for Nucor Corporation. Thank you, Chairman Whitfield and Vice Chairman Sullivan, for this invitation to testify today on the impact of greenhouse gas regulations on our industry and other industries in our Nation's economy.

Nucor is the largest steel producer and recycler in the United States. We employ over 20,000 teammates in 23 States and produce steel products for use in road, bridges, automobiles, appliances, buildings and a range of other markets.

The impact of the great recession on the steel industry was swift and severe. In August of 2008, steel capacity utilization was over 90 percent. By January 2009, capacity utilization had plummeted to 36 percent. In a mere 5 months, the industry went from experiencing strong growth and excellent market conditions to the worst economy many of us in the industry have ever seen. Despite how bad that market got, Nucor did not lay off a single worker.

The economic conditions for the steel industry are improving. Capacity utilization has increased and we are seeing a return in demand. However, the strength and duration of the economic recovery remains to be seen. Greenhouse gas regulations are adding to this uncertainty.

U.S. steel producers are in a highly competitive global market that will only get more competitive in the future. We face unfair practices from steelmakers in countries like China, and increasingly, we are not competing against other companies, but against governments, governments who bring their full weight to bear to ensure the success of their domestic industry through the use of subsidies, generous loans and other protectionist measures. I would say that is a pretty strong headwind to compete against. And the uncertainty created by our government's many regulatory proposals only adds to that headwind and diminishes the competitiveness of many U.S. industries.

From an environmental perspective, America is the best place in the world to make steel. Our industry has reduced its energy-intensity by 30 percent since 1990, and reduced greenhouse gas emissions by 35 percent over the same time period while increasing overall production. This significantly exceeds the Kyoto Protocol targets. In fact, the U.S. steel industry has the lowest CO₂ emissions per ton in the world. What is more, companies like Nucor have made steel the most recycled product in the world. As the Nation's largest recycler, Nucor kept more than 17 million tons of scrap metal from cars, appliances, and other discarded products out of landfills in 2010. The recycled scrap is then melted down through the use of electrical energy and made into new steel products.

Because greenhouse gas emissions are a global issue, regulation through the Clean Air Act threatens both our competitiveness and the environmental benefit that results from making steel so cleanly in the United States. Ironically, these very regulations and prac-

tices that are intended to improve the environment actually result in increased global emissions and more environmental impact than if the industry had remained in the United States.

The problems these regulations create manifest themselves in the permitting process and other ways. Everyone expresses concern about permitting and the impact these rules have on our ability to build industrial projects that create jobs and improve people's livelihoods. However, this is not a new problem. Over time, we have created a system that is comprised of endless reviews, hearings, allegations, lawsuits and continued modeling that has turned our permitting process into a slow, frustrating experience that has eliminated the certainty necessary for the expenditure of capital. I have been quoted as saying it is like being in a hamster wheel. The lack of availability of affordable energy also remains a real obstacle.

Due to the continual halting of permits for new, traditional sources of energy generation and constantly promoting the development of expensive so-called green energy, we as a Nation are essentially pricing ourselves out of the industrial market. Mechanisms such as greenhouse gas rules, regional cap-and-trade programs, renewable energy standards and other permit battles are creating an environment where affordable energy, the lifeblood of industry, is becoming a rare commodity. For example, I modeled a facility that would recycle a million tons of steel and I looked at it in areas that had a renewable energy standard versus areas that had no renewable energy standard, and the difference in electrical cost was \$52 million a year. As I presented that to the people in that particular State, I asked where we would build that facility, and they said not in our State. That is why you see industry moving to areas that have affordable and abundant energy.

It looks like I am about out of time. We have something said about a permit that was recently issued to Nucor. I will tell you that we did receive a permit for a significantly diminished project versus the \$2.1 billion we were going to invest. That permit, however, for that project, which will be phase 2, is still not fully issued. It is stayed pending some further actions. Thank you for your time.

[The prepared statement of Mr. Rowlan follows:]

**Testimony of Steve Rowlan
General Manager of Environmental Affairs
Nucor Corporation
Hearing on The Energy Tax Prevention Act of 2011
Energy & Power Subcommittee
U.S. House of Representatives
February 9, 2011**

I am Steven Rowlan, General Manager of Environmental Affairs for Nucor Corporation. Thank you Chairman Whitfield and Vice Chairman Sullivan for the invitation to testify today on the impact that new greenhouse gas regulations are having on industry and our nation's economy.

Nucor is the largest steel producer and recycler in the U.S. We employ over 20,000 teammates in 23 states and produce steel products for use in roads, bridges, automobiles, appliances, commercial buildings and a range of other markets.

The impact of the Great Recession on the steel industry was swift and severe. In August of 2008, steel capacity utilization was over 90 percent. By January 2009, capacity utilization plummeted to 36 percent. In a mere five months, the industry went from experiencing strong growth and excellent market conditions to the worst economy many of us in the industry have ever seen. Despite how bad the market got, Nucor did not lay off a single worker.

Economic conditions for the steel industry are improving. Capacity utilization has increased and we are seeing a return in demand, however, the strength and duration of the economic recovery remains to be seen. Greenhouse gas regulations are adding to this uncertainty.

U.S. steel producers are in a highly competitive global market that will only get more competitive in the future. We face unfair practices from steelmakers in countries like China, and increasingly, we are not competing against other companies, but against governments – governments who bring their full weight to bear to ensure the success of their domestic industry through the use of subsidies, generous loans, and other protectionist measures. I'd say that's a pretty strong headwind to compete against. And the uncertainty created by our government's many regulatory proposals only adds to that headwind and diminishes the competitiveness of many U.S. industries.

From an environmental perspective, America is the best place in the world to make steel. Our industry has reduced its energy-intensity by 30% since 1990, and reduced greenhouse gas emissions by 35% over the same time period. This significantly exceeds the Kyoto Protocol targets. In fact, the U.S. steel industry has the lowest CO₂ emissions per ton in the world. What's more, companies like Nucor have made steel the most recycled product. As the nation's largest recycler, Nucor kept more than 17 million tons of scrap metal from cars, appliances and other discarded products out of landfills in 2010. The recycled scrap is then melted down and made into new steel products.

Because greenhouse gas emissions are a global issue, regulation through the Clean Air Act threatens both our competitiveness and the environmental benefit that results from making steel so cleanly in the U.S. Ironically, these very regulations and practices that are intended to improve the environment actually result in increased global emissions as industry leaves our country in favor of a less stringent regulatory climate instead of continuing to operate in the United States.

The problems these regulations create often manifest themselves in the permitting process. Everyone expresses concern about permitting and the impact these rules have on our ability to build industrial projects that create jobs and improve people's livelihoods. However, this is not a new problem. Over time, we have created a system that is comprised of endless reviews, hearings, allegations, lawsuits and continued modeling that has turned our permitting process into a slow, frustrating experience that has eliminated the certainty necessary for the allocation of business capital. This practice is certainly damaging but, the impact it has on our energy supply as generation plant construction projects are continually blocked is an even more pressing issue.

Because of the continual halting of permits for new, traditional sources of energy generation and constant promotion of expensive so called "green" energy, we as a nation are essentially pricing ourselves out of the industrial market. Mechanisms such as the greenhouse gas rules, regional cap and trade programs, renewable energy standards and other permit battles are creating an environment where affordable energy, the lifeblood of industry, is becoming a rare commodity. For example, some states are now faced with energy rates that are double and triple those found in states that are competing with them for manufacturing jobs. For energy intensive industry these cost differences amount to millions of dollars per month in cost disadvantages. Internationally, these facilities then have to compete against foreign companies that benefit from government subsidized energy production and lax environmental standards.

In response to this, people often ask for specific examples of projects going overseas or not being developed because of regulations. The lack of specific examples is often used to support the case for more regulation. That is simply not accurate. The lack of examples is because these locations are typically passed over during the initial evaluation and consequently are never even considered for projects unless all other options fall through. Because of burdensome permitting requirements and rising energy costs, increasingly industrial projects are no longer even being considered for development in the United States.

The impact of these new regulations on capital projects is real. We recently received a permit, under the new GHG rules, for a direct reduced iron facility in Louisiana. This is a \$750 million project that will create 500 construction jobs and 150 permanent ones. It is a great job-creating investment, particularly in this economy. But this project is not as large as the \$2 billion investment we initially intended. Due to the uncertainty created by these regulations, we made the difficult decision to delay the \$2 billion investment, also delaying the creation of 2,000 construction jobs and 500 permanent ones.

The history of this great country is full of innovation. That innovation is typically not the result of government rulemakings and regulations, it is rather in spite of these obstacles. These

regulations threaten to divert human and financial capital away from the research and development we need to invest in developing new energy sources.

In the end, reducing greenhouse gas emissions requires much cleaner forms of energy that do not exist today. Can we create cleaner, economical energy in large enough quantities to meet the demand of commuters, residents, businesses and industry in the U.S.? That will require developing cleaner forms of traditional energy sources, as well as renewable energy, but they must also be economical. This is where we need to focus our efforts.

Steel is part of the solution. Just as steel is essential to the construction, automotive and defense industries, steel is also a key component to our nation's energy infrastructure. Wind turbines, solar panels, transmission lines, nuclear plants and pipelines all require large quantities of steel. Renewable energy and other forms of clean energy are a new market opportunity for steel. Yet we are concerned that these regulations will deem the energy efficient and recycled steel products made here in the U.S. uncompetitive against our global counterparts also wishing to source the emerging clean energy market.

We do not believe that strict environmental regulations help us get to that clean, economical energy future or help us bring back the 25 million jobs we need to get our economy back on track. We support the effort by Congress to stop the regulation of greenhouse gases through the Clean Air Act. We believe regulation of these gases through the Act will impose stiff economic costs, result in little environmental benefit and divert financial resources away from the innovation in energy production required to significantly reduce emissions.

Mr. WHITFIELD. Thank you, Mr. Rowlan.

At this time I recognize Mr. Pearce for 5 minutes, and Mr. Pearce is Director of Manufacturing for FMC.

STATEMENT OF JAMES PEARCE

Mr. PEARCE. Mr. Chairman, Ranking Member Rush and members of the committee. My name is Jim Pearce, and I am the Manufacturing Director for FMC's Alkali Division, and I thank you for holding the hearing on this important topic.

FMC is a diversified chemical company manufacturing products for the food and pharmaceutical industries, for lithium batteries and energy storage. Our FMC products are used in a wide range of industrial usage and new applications to improve the environment.

In Green River, Wyoming, where I live and work, we are the world's largest producer of sodium carbonate, better known as soda ash. The largest use of soda ash is in glass manufacturing, including food, juice, beer and wine containers, fiberglass, and flat glass for autos, houses, and buildings. It is also used in a number of household products such as a water softener, and it is the primary ingredient in powdered home laundry detergents. In Wyoming, we produce soda ash from naturally occurring trona ore that is mined from underground deposits. The four companies that comprise the so-called trona patch in Sweetwater, Wyoming employ over 2,100 people and account for roughly 90 percent of the domestic soda ash production in the United States and 25 of total global soda ash production. In addition, there are some 100 dockworkers in Portland, Oregon, and we estimate an additional 8,300 jobs nationwide that are dependent on our industry.

Mr. Chairman, today American soda ash production is one of the good news stories in manufacturing. Our industry is a prime example of how government trade and lands policies can work to help sustain a U.S. manufacturing base. At FMC, we have improved our energy efficiency of our soda ash operations by 10 percent over the past 10 years, and as an entire company we have met our commitment to the Chicago Climate Exchange Program reducing our greenhouse gas emissions by 10 percent from 2003 to 2010. For FMC, energy efficiency simply represents smart business.

The current U.S. approach to regulating greenhouse gases not only fails to incentivize us to achieve greater energy efficiency, but over time it may lead U.S. natural soda ash producers to lose business to our off-shore rivals, mainly the Chinese, who produce their soda ash synthetically. Synthetic soda ash generates an average of 30 percent greater greenhouse gas emissions per ton than does soda ash mined from natural resources.

Mr. Chairman, our jobs growth in the natural soda ash industry is fueled by exports. The U.S. natural soda ash industry contributes over \$875 million in surplus to the overall U.S. balance of trade, and our export sales have grown at 6½ percent per year over the last 28 years. This represents a significant contribution to the President's goal of increasing U.S. exports. It also contributes to job growth. FMC recently announced that we will be adding 100 new jobs in Green River as a result of export growth, directly exports. Domestic soda ash producers export 52 percent of what we

produce, 52 percent. That means that one of our every two jobs is directly attributable to export sales.

Keeping our lead is not something that we take for granted, nor has Congress. For example, the Congress saw fit to reduce the royalties that we pay on soda ash, realizing that the export increase would result in higher Treasury revenues, yet the pressure to remain competitive continue to grow. As an example, in 1990 China imported about 1 million tons per year of soda ash. Today, they are the world's largest producer of soda ash and export about 2.5 million tons per year.

We have serious concerns about our future and our competitive position if not required to make non-economic decisions based on domestic regulations that our international competitors do not have to comply with. We do not understand why U.S. manufacturers should be required to make costly changes when less-efficient and higher greenhouse gas-emitting foreign competition does not.

A Southeast Asian glass manufacturer will not buy from a U.S. soda ash producer whose prices are high simply because of U.S. regulations. Rather, they will buy from the lower-cost foreign competition that produces more greenhouse gas emissions.

We ask Congress to take the long view on this matter and understand that acting in isolation may place the domestic soda ash industry at a significant competitive disadvantage while increasing the overall greenhouse gas global emissions. We would hope that Congress would fully debate the energy policies and drive energy efficiency in a way that not only maintains jobs but grows them along with exports.

Thank you very much for this opportunity.

[The prepared statement of Mr. Pearce follows:]

Statement to the House Energy and Commerce Subcommittee on Energy and Power

By Mr. Jim Pearce
Manufacturing Director Alkali Division
FMC Corporation
Green River, Wyoming

February 9, 2011

Summary

1. FMC is a diversified chemical company manufacturing products for the food and pharmaceutical industries, for lithium batteries and energy storage. Our FMC chemistries are used in a range of industrial uses, and in exciting new applications to improve the environment. FMC is the world's largest producer of natural sodium carbonate, better known as "soda ash." The largest use of soda ash is in glass manufacturing.
2. The U.S. soda ash industry is a prime example of how government trade and lands policies can work to help sustain a vital US manufacturing base as the world's low cost supplier. We employ over 2100 people and are announcing job growth.
3. FMC has improved the energy efficiency of our operations by 10% over the past 10 years. We continue to drive improvements in operations and energy utilization using both internal and external resources.
4. We currently export 52% of what we produce. Said another way, for every two American soda ash workers, one is directly attributable to sustaining our export growth. Our nearly one billion dollar contribution to the balance of trade, which we expect will continue to grow, is helping meet the President's export growth goal.
5. The current US approach to regulating greenhouse gases not only fails to incentivize us to achieve greater energy efficiency, but will lead US natural soda ash producers to lose significant business to our off- shore rivals who produce soda ash synthetically, and with an average of 30% greater greenhouse gas emissions per unit produced.

Testimony

Mr. Chairman; Ranking Member Rush, and, Members of the Committee, my name is Jim Pearce.

I am the Manufacturing Director of the FMC's Alkali Division. Thank you for holding a hearing on this important topic.

FMC is a diversified chemical company manufacturing products for the food and pharmaceutical industries, for lithium batteries and energy storage. Our FMC chemistries are used in a range of industrial uses, and in exciting new applications to improve the environment.

In Green River Wyoming, where I live and work, we are the world's largest producer of natural sodium carbonate, better known as "soda ash." The largest use of soda ash is in glass manufacturing, including food, juice, beer, and wine containers; fiberglass insulation; and flat glass for autos, houses, and buildings. It is also used in a number of household products; as a water softener; an industrial air pollution control agent and; it is a primary ingredient in powdered home laundry detergents.

In Wyoming, we produce soda ash from naturally occurring trona ore, mined from underground deposits. The four companies that comprise the so-called "trona patch," in Sweetwater County Wyoming employ over 2100 people, account for roughly 90% of the domestic production of soda ash, and 25% of total global soda ash production. In addition, some 100 dockworkers in

Portland Oregon have jobs today because of the growth of soda ash exports. In addition, we estimate an additional 8300 jobs nationwide are directly dependent on our industry.

Mr. Chairman, today American producers are winning the global competition for soda ash business. It is one of the good news stories in US manufacturing. Our industry is a prime example of how government trade and lands policies can work to help sustain a vital US manufacturing base as the world's low cost supplier. We want to keep it that way, and are working hard to maintain our competitive edge by keeping our costs low and our productivity high.

In our energy intensive business, this includes reviewing how we best reduce our energy usage and costs. FMC has long been committed to becoming more energy efficient. In Wyoming we have improved the energy efficiency of our operations by 10% over the past 10 years. We continue to drive improvements in operations and energy utilization using both internal and external resources. As an entire company we have met our commitment to the Chicago Climate Exchange Program reducing our green house gas emissions by 10% by 2010 from 2003 levels. Energy efficiency is a staple of our industry's Responsible Care Program, and to us simply represents smart business.

We believe our U.S. energy policies can also promote US exports by encouraging the sorts of process efficiencies we seek in order to maintain our low cost position. However, the current US approach to regulating greenhouse gases not only fails to incentivize us to achieve greater energy efficiency, but will lead US natural soda ash producers to lose significant business to our off-

shore rivals who produce soda ash synthetically, and with an average of 30% greater greenhouse gas emissions per unit produced.

Mr. Chairman, our jobs growth in the natural soda ash industry is fueled by the expansion of exports. Indeed, the US natural soda ash industry contributes over \$875 million surplus to the overall US balance of trade. Our continued export growth, currently at a rate of 6.55 CAGR over the last 28 years, represents a significant contribution to the President's goal of doubling US exports in the next five years. It also contributes to jobs growth. FMC recently announced we are adding 80 new jobs in Green River, all a result of this export growth. Not many industries in the current economic climate can make these claims.

When we look at what regulations might cost, it is important to understand that FMC and the other domestic soda ash producers cannot "out source" our soda ash business. We cannot move the world's largest and most productive source of soda ash to another country. We need to maintain the competitive edge that allows us to export 52% of what we produce. Said another way, for every two American soda ash workers, one is directly attributable to sustaining our export growth.

Keeping our lead is not something we take for granted, nor has the Congress. For example, the Congress saw fit to reduce the royalties we pay on soda ash realizing that the export increase it would result in would have a beneficial effect on Treasury revenues. Yet, the pressures to remain competitive have grown in recent years. In the late 1980's China was importing soda ash at the

rate of about one million tons per year. But by 2000, they were a one million ton net exporter. Other countries such as Turkey also provide stiff competition for our US industry.

We have serious concerns about the future of our competitive position if required to make non-economic decisions based on domestic regulations that our international competitors will likely not have to comply with. The issues that are driving current US greenhouse gas regulations are not unique to the U.S., but rather international in scope. Thus, we do not understand why, on a unilateral basis, US manufacturers should be required to make fundamental changes to their manufacturing processes -- when less efficient, and higher greenhouse gas emitting, foreign competition is not.

A Southeast Asian glass manufacturer will not buy from a US soda ash producer whose prices are higher simply because the US manufacturer is trying to come into compliance with US regulations. Rather, they will buy from our foreign competition. That makes little sense when today, they can not only buy less expensive US soda ash, but soda ash made in America that is more greenhouse gas efficient than foreign competition.

Mr. Chairman, our industry is committed to increasing its share of the world's growing demand for natural soda ash. Indeed we must, if we are to remain viable. US natural soda ash producers supply all domestic demand -- but, domestic demand for soda ash has reduced from approximately 7 million tons per year to 5.6 million tons per year in 2010. And, while we look forward to seeing domestic demand recovery, there remains no foreseeable growth in critical US

markets for flat glass or glass packaging that will lead to future domestic growth. Thus the prospects for growth in our industry and the US jobs our industry supports, hinge on growing our markets offshore.

We remain the most efficient suppliers of soda ash in the world. But we need to continually look at our cost structure, both the costs we control, and those controlled by others, in order to sustain this leadership in the years ahead. If we are to maintain this industry's global leadership role we must partner with federal, state and local governments, and our critical energy and transportation suppliers in new cost sensitive relationships that recognize our mutual dependence on one another. For these reasons we would hope that Congress would take ownership and fully debate energy policies that meet the principles of achieving the goals of energy efficiency in a way that not only maintains jobs but grows them along with exports.

We commend the Congress to take the long view in this matter and understand that acting in isolation will place the domestic natural soda ash industry at a significant competitive disadvantage, diminish our markets, and result in domestic job loss – all the while increasing the overall output of greenhouse gas globally as natural soda ash is replaced by synthetic soda ash.

As the natural soda ash industry, if we are permitted to continue to drive efficiency and capitalize on the natural advantage of our source material, we should expect to see our industry continue to prosper and add jobs based on export growth.

Thank you for this opportunity and I would welcome any questions you may have.

Mr. WHITFIELD. Thank you, Mr. Pearce.
Mr. Cousins, you are recognized for 5 minutes, of Lion Oil Company.

STATEMENT OF STEVE COUSINS

Mr. COUSINS. Chairman Whitfield, Ranking Member Rush, members of the subcommittee. My name is Steve Cousins. I serve as Vice President of Lion Oil Company. I am a chemical engineer and I have spent my 33-year career at Lion Oil.

My company's survival and our employees' jobs are threatened by the Environmental Protection Agency's moves to regulate greenhouse gas under the Clean Air Act. We believe these actions by the EPA are contrary to the plain wording of the Clean Air Act, are unwise and endanger America's economic and national security. This is why it is so important that you approve the Energy Tax Prevention Act of 2011 to stop EPA from moving forward with its regulations.

Lion Oil is in El Dorado, Arkansas. We have been in business for 88 years. We produce 80,000 barrels a day of gasoline, diesel and asphalt. We sell to customers in seven States, and we have 600 people at our unionized El Dorado plant. We employ indirectly approximately 1,800 other people that support our company. We are in rural Delta County, where unemployment runs about 10 percent.

I can give you one personal example of how EPA's current regulatory path has already inflicted real pain on the people in our small town. Lion Oil undertook a major expansion, several hundred million dollars, starting in 2007. The project created 2,000 construction jobs in a town with only 20,000 people in it. It was a real shot in the arm for our economy. Unfortunately, economic risk prevented us from reaching our goal. It left us with a much smaller project that provided much fewer jobs. The uncertainty and the potentially prohibitive costs associated with both at that time cap-and-trade legislation and also EPA's looming greenhouse gas legislation were critical factors leading us to delay completion of this expansion.

Ironically at the very same time construction jobs were being terminated in El Dorado, Arkansas, in India, more than 75,000 workers were embarking on a 3-year project to build a brand-new state-of-the-art refineries 15 times larger than our plant. It is designed purely for export purposes. Every drop of gasoline and diesel they produce is going to end up in the United States or the European Union. And while our Arkansas union workers average over \$23 an hour in wages, in India those same workers make about \$5 an hour.

It is going to take a crystal ball to determine exactly how the EPA enforces efficiency standards on refineries. We think that that is a likely thing we heard the Administrator testify to, and it sounds like a great idea but it sets up a scenario that we see where a small plant like ours is compared to plants five to ten times our size. Economies of scale always favor larger plants, the same way a 747 airliner uses a lot less fuel per passenger mile than a Piper Cub because it is larger and can be designed at far higher efficiency standards. Our plant, if we are held to the largest plants in

the world to the same efficiency standards, then there is no cost that will allow us to achieve this. It would be out of reach and it will put us out of business. EPA has traditionally not shown the kind of flexibility that you would have to have to allow for those differences.

In spite of our alarm at EPA's current path, Lion Oil is not in favor of turning back to the clock on environmental progress. We are very proud of what we have done. Since 1996, we reduced emissions from our facility by 73 percent while actually increasing plant throughput but it has come at a very high cost. Expenditures at our small facility has topped \$200 million in that time period in new environmental equipment with more than \$19 million in increased operating costs. These costs are for the most part things that foreign refineries do not have to bear, and while many of these improvements offer real tangible environmental benefits, that is not true for EPA's plan to regulate greenhouse gases. Reducing U.S. greenhouse gases unilaterally, which is all EPA has the ability to do, will not reduce global concentrations of greenhouse gases at all, not significantly, and will most likely result in the export of U.S. jobs to countries not interested in greenhouse gas limits. This is exactly why the EPA does not need to be in the greenhouse gas regulation business.

Under the Energy Tax Prevention Act of 2011, our elected representatives in Congress will have the ability to create a balanced and workable energy policy that does not disadvantage American workers. Thank you.

[The prepared statement of Mr. Cousins follows:]

**SUMMARY OF TESTIMONY FROM STEVE COUSINS
VICE PRESIDENT, LION OIL COMPANY
EL DORADO, ARKANSAS
BEFORE THE
HOUSE ENERGY AND COMMERCE COMMITTEE'S
SUBCOMMITTEE ON ENERGY AND POWER
HEARING ON
"THE ENERGY TAX PREVENTION ACT OF 2011"
February 9, 2011**

- Lion Oil is headquartered in El Dorado, Arkansas, and has been in business for more than 88 years. We operate a single oil refinery in El Dorado and our main products are gasoline, diesel fuel and asphalt, which we sell to customers in seven states. Lion Oil is not a giant international corporation, just a small American manufacturer of gasoline, diesel fuel and asphalt.
- We provide jobs for 600 American employees in a unionized plant in an Arkansas county with nearly 10 percent unemployment. The jobs of more than 1,800 people – most with families – are supported indirectly by our company, making Lion Oil a leading economic engine in southern Arkansas.
- Congress should pass the Energy Tax Prevention Act of 2011 to stop EPA from moving forward with its harmful greenhouse gas regulations. One of the biggest problems with EPA's current plan to regulate greenhouse gases (GHGs) is the uncertainty it creates for the business community. In our industry, expansions in our manufacturing capacity take years to design, permit, finance and construct. With the breakneck pace at which EPA is spewing out new regulations, seeing a clear and feasible path five years into the future is impossible.
- Lion Oil undertook a major expansion costing several hundred million dollars and creating 2,000 construction jobs at our El Dorado refinery beginning in 2007, but has delayed completion of the project due to the recession and several other factors. The uncertainty and potentially prohibitive costs associated with possible cap-and-trade legislation and EPA's greenhouse gas regulations were a critical factor leading us to delay the completion of the expansion.
- EPA's proposed GHG regulations for both refinery expansions and existing facilities will likely have a devastating effect on Lion Oil's refinery and all of our nation's fuels producers. The result of these regulations will be to ship more fuels manufacturers overseas without reducing global GHG emissions.
- This is why it is so important that Congress approve the Energy Tax Prevention Act of 2011 and stop EPA's GHG regulations from moving forward. The bill would allow our elected representatives in Congress – not EPA – to create a balanced and workable energy policy that does not disadvantage American workers in the competitive global economy.

**TESTIMONY OF STEVE COUSINS
VICE PRESIDENT, LION OIL COMPANY
EL DORADO, ARKANSAS
BEFORE THE
HOUSE ENERGY AND COMMERCE COMMITTEE'S
SUBCOMMITTEE ON ENERGY AND POWER
HEARING ON
"THE ENERGY TAX PREVENTION ACT OF 2011"
February 9, 2011**

Chairman Whitfield, Ranking Member Rush and Members of the Subcommittee, my name is Steve Cousins. I am a chemical engineer by training and I serve as a Vice President of Lion Oil Company, where I have worked for 33 years.

Thank you for giving me the opportunity to talk to you about the threat to our company's survival, to our employees' jobs and to our community's economic health created by the Environmental Protection Agency's moves to regulate greenhouse gas emissions under the Clean Air Act. We believe these actions by EPA are contrary to the plain wording of the Clean Air Act, are unwise, and endanger America's economic and national security. On top of this, EPA's greenhouse gas regulations will have zero positive impact on our global environment, bringing the American people enormous pain and no gain. These regulations are not about environmental protection – they are about job destruction. This is why it is so important that you approve the Energy Tax Prevention Act of 2011 to stop EPA from moving forward with its harmful greenhouse gas regulations. This legislation is vital to enable our company to expand our operations, to maintain existing jobs and create new ones, and ultimately to survive in the competitive global marketplace.

Lion Oil is headquartered in El Dorado, Arkansas, and has been in business for more than 88 years. We operate a single oil refinery in El Dorado and our main products are gasoline, diesel fuel and asphalt, which we sell to customers in seven states. Our refinery has been

expanded and enhanced by hundreds of millions of dollars in capital expenditures to deliver increased production capacity and superior performance, and to adhere to new environmental standards. Bearing these costs has been extremely challenging for a small refiner like Lion Oil, but we are committed to enhancing environmental protection while maintaining the high quality that consumers expect from our products.

Lion Oil is not a giant international corporation, just a small American manufacturer of gasoline, diesel fuel and asphalt. We can't offset the costs of greenhouse gas regulation through profits from other lines of business, such as upstream oil production or retail. Our refining operation has to pay for itself or the plant cannot continue to operate. This is true not just for Lion Oil, but for the domestic refining industry as a whole. We operate on a low profit margin, just like the rest of the U.S. manufacturing sector. We're a high-tech American manufacturer providing proven and reliable fuels and other products that make modern life possible for millions of people. We provide jobs for 600 American employees in a unionized plant in an Arkansas county with nearly 10 percent unemployment. Our hourly workers earn an average of more than \$23 an hour – not a fortune, but enough to raise a family and be part of America's middle class. The jobs of more than 1,800 people – most with families – are supported indirectly by our company, making Lion Oil a leading economic engine in southern Arkansas. We and our employees paid about \$15 million in local, state and federal taxes last year, even though our company barely broke even during the year. We also purchased more than \$500 million in goods and services from other Arkansas companies as part of our general operating expenses.

Our company is working hard to climb out of the recession. We're doing all we can to compete with foreign refineries that pay their workers a fraction of what we pay ours, and with

our domestic competitors. For example, the highest paying jobs at refineries in India pay only about \$5 an hour – less than a quarter of what our average hourly employee earns.

We're not asking you for a handout or subsidies, even though producers of non-petroleum sources of energy are collecting billions of taxpayer dollars in this way. We're simply asking you to act decisively to halt EPA's attack on our nation's manufacturing base. EPA's actions endanger not just the future of our company's lone refinery, but the future of the entire petroleum refining industry in the United States. We're asking you to allow us to compete on a level playing field in a global marketplace, and not allow EPA to pick winners and losers to determine our nation's energy future. And beyond my own industry, EPA's destructive regulations would threaten the future of millions of manufacturing and other jobs in the United States, reducing our exports and increasing our imports. This is a prescription for continued high employment and economic weakness, rather than for the job creation our country so desperately needs to speed our return to economic health.

One of the biggest problems with EPA's current plan to regulate greenhouse gases is the uncertainty it creates for the business community. In our industry, expansions in our manufacturing capacity take years to design, permit, finance and construct. With the breakneck pace at which EPA is spewing out new regulations, seeing a clear and feasible path five years into the future is impossible.

Let me give you an example of how EPA's current regulatory path on greenhouse gases has already had real costs and inflicted real pain on the good people in our small town. Lion Oil undertook a major expansion costing several hundred million dollars at our El Dorado refinery beginning in 2007. The project was planned to increase output at our refinery from 70,000 to 100,000 barrels per day. This expansion project created 2,000 construction jobs – a real shot in

the arm for our local economy. Unfortunately, the recession and several other factors prevented us from reaching our goal, leaving us for now with an output of 80,000 barrels per day. The uncertainty and potentially prohibitive costs associated with possible cap-and-trade legislation and EPA's greenhouse gas regulations was a critical factor leading us to delay the completion of the expansion.

Ironically, at the same time construction jobs were lost in Arkansas due to the delay of our project, in India more than 75,000 workers labored on a three-year project constructing a new state-of-the art refinery that is 15 times larger than our refinery. And while our implementation of the most efficient cutting-edge technology has been delayed, their giant refinery has the best technology money can buy. Adding insult to injury, the refinery in India is designed almost exclusively for export purposes. Almost every drop of gasoline and diesel fuel it produces is aimed at U.S. and European Union markets.

If greenhouse gas regulations were the only regulations the U.S. refining industry was facing, it might be slightly easier to see a way through the future. However, in the last 20 years we have had to stand against a tsunami of EPA regulatory initiatives. I have attached a chart at the end of this testimony prepared by the National Petrochemical and Refiners Association illustrating the blizzard of stationary and mobile source regulations, along with the new greenhouse gas regulatory requirements, that Lion Oil and the rest of the industry have faced over the past two decades.

At Lion Oil we are proud of the improvements we've made in our environmental performance. Since 1996 Lion Oil has reduced emissions by 73 percent, while actually increasing plant throughput. This has carried a very high economic cost. During the same period, expenditures at our one small refinery topped \$200 million in new environmental

equipment and more than \$19 million in increased operating costs. These are costs that for the most part foreign refiners do not have to bear. Paradoxically, the EPA initiatives to reduce emissions have required all American refineries to significantly *increase* greenhouse gas emissions, because we must perform extra processing steps on our products. So EPA is ordering us to comply with different sets of environmental regulations that are in conflict, demanding we increase and reduce greenhouse gas emissions at the same time. This is like being told by a doctor that you have to both gain weight and lose weight.

Under EPA's greenhouse gas "tailoring rule," the El Dorado refinery would need to obtain a new EPA permit for greenhouse gas emissions for any future expansions. The permit would have to show how Lion Oil plans to implement best available control technology (BACT) for controlling greenhouse gas emissions. However, it is unclear what technology constitutes BACT. EPA's federal guidance on what defines BACT is far too broad and confusing regarding what measures our refinery would be able to employ to control emissions, and whether permits would actually be approved and issued in certain circumstances. Such uncertainty is also likely to generate costly litigation over whether a permit will result in the use of "best" available control technology, as well as compliance-related costs and issues.

For example, although it would take a crystal ball to determine exactly how EPA will enforce greenhouse gas regulations on refiners based on the lack of useful data in their BACT guidelines, it seems likely that efficiency standards may be created that refiners will be forced to achieve. This sets up a scenario where the efficiency of a very small facility, such as our 80,000 barrel-per-day refinery, will be compared to the efficiency of a refinery five to ten times that size. Economies of scale almost always favor larger plants when it comes to efficiency measurements, in the same way that a 747 aircraft uses less fuel per passenger than a Piper Cub.

If Lion Oil were forced to comply with efficiency standards that might be easily attained by a larger plant, we would likely find them impossible to achieve at any cost. In the past, EPA has not shown the kind of flexibility it would take to allow small refiners to survive under these circumstances. Small refiners are typically located in underserved rural areas of the country, making them a critical part of the agricultural infrastructure. If small refiners are forced out of business, competition will suffer and American motorists, truckers and farmers will be increasingly reliant on foreign refiners to supply our nation's gasoline and diesel fuel.

EPA's greenhouse gas regulations give rise to additional concerns. Just like the failed cap-and-trade legislation considered in the last Congress, EPA's current greenhouse gas regulations will drive up the cost of virtually everything we must purchase to operate our business. Electricity, for instance, is likely to see extreme price increases. Refiners use a significant amount of electricity, and while our foreign competitors will not see increased prices for this necessary part of the refining process, domestic refiners will. This will just add to the already impressive list of advantages our foreign competitors have. It is no accident that not a single refinery has been built in the United States in the last 30 years while many have been built in China, India and the Pacific Rim.

EPA is also planning to regulate greenhouse gas emissions at existing refineries, regardless of whether or not they expand. As you know, EPA announced December 23rd that it will regulate greenhouse gas emissions from power plants and oil refineries. EPA is scheduled to propose new source performance standards (NSPS) for power plants in July and for refineries in December of this year, with final standards for power plants in May 2012 and for refineries in November 2012. EPA announced that this was necessary because together power plants and refineries account for 40 percent of greenhouse gas emissions. Although refineries are the

second-largest GHG-emitting sector, all refinery emissions are still less than 4 percent of total GHG emissions, compared with 36 percent for power plants. The relatively small size of refinery emissions should be taken into account as EPA determines its approaches to reducing sector emissions.

Reducing greenhouse gas emissions through the NSPS process poses several concerns and could be extremely costly for Lion Oil. First is the fact that, as with BACT under the greenhouse gas tailoring rule, industry does not know what will constitute “Best Demonstrated Technology” (BDT), the standard under NSPS, to control greenhouse gases. Lion Oil has already installed state-of-the-art, highly efficient equipment at our refinery. Additional gains could be extremely difficult to achieve and the cost may be prohibitive. While EPA does have to conclude that BDT is actually economically feasible, the statute allots EPA a fair amount of discretion on this front. These BDT determinations may result in significant costs to a company, but may not result in significant emission reductions.

And as I have stated, the tremendous economic pain caused by EPA’s greenhouse gas regulations has no environmental benefit. This is because greenhouse gases emitted anywhere on Earth go into the common atmosphere that every nation shares. So if EPA imposes greenhouse gas limits on U.S. manufacturers, it will shut down manufacturing facilities here and send them to India, China and other nations. The foreign facilities will then simply emit greenhouse gases within their own borders that have the same impact as greenhouse gases emitted in the United States. Those facilities will also emit pollutants that are strictly regulated in our country but lightly regulated abroad. The end result will be that our nation will export more good American jobs – and import more manufactured products like gasoline and diesel

fuel. And shipping all those products to the United States will generate even more greenhouse gases.

So ironically, instead of reducing GHG emissions, EPA's actions could end up increasing them. Doing this makes absolutely no sense. Only action taken at the international level through a binding international agreement – with participation by every nation on the planet – can have a real impact on greenhouse gas emissions, and only international action can ensure that the economic costs of such restrictions are shared equally and fairly by all parts of the world.

In addition, it is important to understand that a great deal is already being done on the national level to reduce greenhouse gas emissions, particularly in the transportation sector. These existing greenhouse gas regulations pose great challenges and come at great cost to the refining sector. Federal fuel mileage standards approved for new cars and light-duty trucks require them to be able to go an average of 36 miles on a gallon of fuel by 2016. That alone will save billions of gallons of gasoline and diesel fuel each year, sharply reducing carbon emissions. This reduction in gasoline demand will also pose significant financial challenges for refiners, who are already facing tight credit markets and high crude oil prices.

Additionally, the Energy Independence and Security Act of 2007 (EISA) will require American refiners to mix 36 billion gallons of biofuels (such as ethanol) with gasoline and diesel fuel each year by 2022. EPA's own data indicate these measures will reduce transportation sector greenhouse gas emissions 26 percent by 2030. While challenges must still be overcome to achieve this level of biofuels production, both the federal government and individual states must be careful to ensure that costly and counterproductive rules are not superimposed on these efforts.

In 2009 I testified before the Energy and Environment Subcommittee, a predecessor to the Energy and Power Subcommittee, that the cap-and-trade legislation in Congress at the time would in all probability drive Lion Oil to close our El Dorado manufacturing facility, wiping out most of the few remaining good-paying jobs in our part of Arkansas. The math was simple – the penalty costs for producing carbon dioxide were higher than our profits, so we were going to become unprofitable. That, of course, would very quickly lead to our shutting down forever. Congress did the right thing and did not pass the legislation.

However, now as we begin 2011 we appear to face the same wolf draped in a softer woolly disguise. From where Lion Oil stands, the teeth are just as sharp and the intent is just as malevolent. It is our fear that left unchecked, EPA will use the Clean Air Act to drive to exactly the same goals as the defeated cap-and-trade legislation that Congress so wisely chose not to pass. And in that pursuit, EPA will inflict the same damage on our company and our nation's economy.

It is no mistake that EPA has chosen the oil industry as one of its first targets, because we are not popular. Everyone thinks the price of gasoline is too high, and many people think it is our fault. I'm not going to try to change anyone's mind on that score, but only ask you to consider that the oil industry is not one monolithic entity. It is composed of everything from the largest integrated multinational corporations in the world to small companies like mine that have been providing good-paying jobs to Americans for almost a century. Is the EPA justified in targeting us? Greenhouse gas emissions from the operation of U.S. refineries are just under 4 percent of the total U.S. greenhouse gas emissions. Lion's emissions only represent two one-hundredths of 1 percent of the U.S. total. And for that insignificant amount, we face possible

extinction. How do you justify this to the people who will lose their jobs if my small company goes out of business?

It makes no sense to destroy existing jobs held by hard-working Americans today in hopes of creating new so-called “green” jobs that may not materialize for several years, if at all. We need to grow our economy and increase the number of jobs, not simply try to shift jobs from one sector to another, leading to a net loss in total employment.

While defending some regulations, President Obama recently wrote in an op-ed in the Wall Street Journal that “we are also making it our mission to root out regulations that conflict, that are not worth the cost, or that are just plain dumb.” EPA’s greenhouse gas regulations meet all these criteria. We’re asking you to take a long, hard look at these greenhouse gas regulations and the devastating harm they will cause. We believe if you do that based on objective facts and science, and do a cost-benefit analysis of these regulations, you will come to the same conclusion we have reached: EPA must be stopped from regulating greenhouse gases. As members of Congress, you have the power to do this.

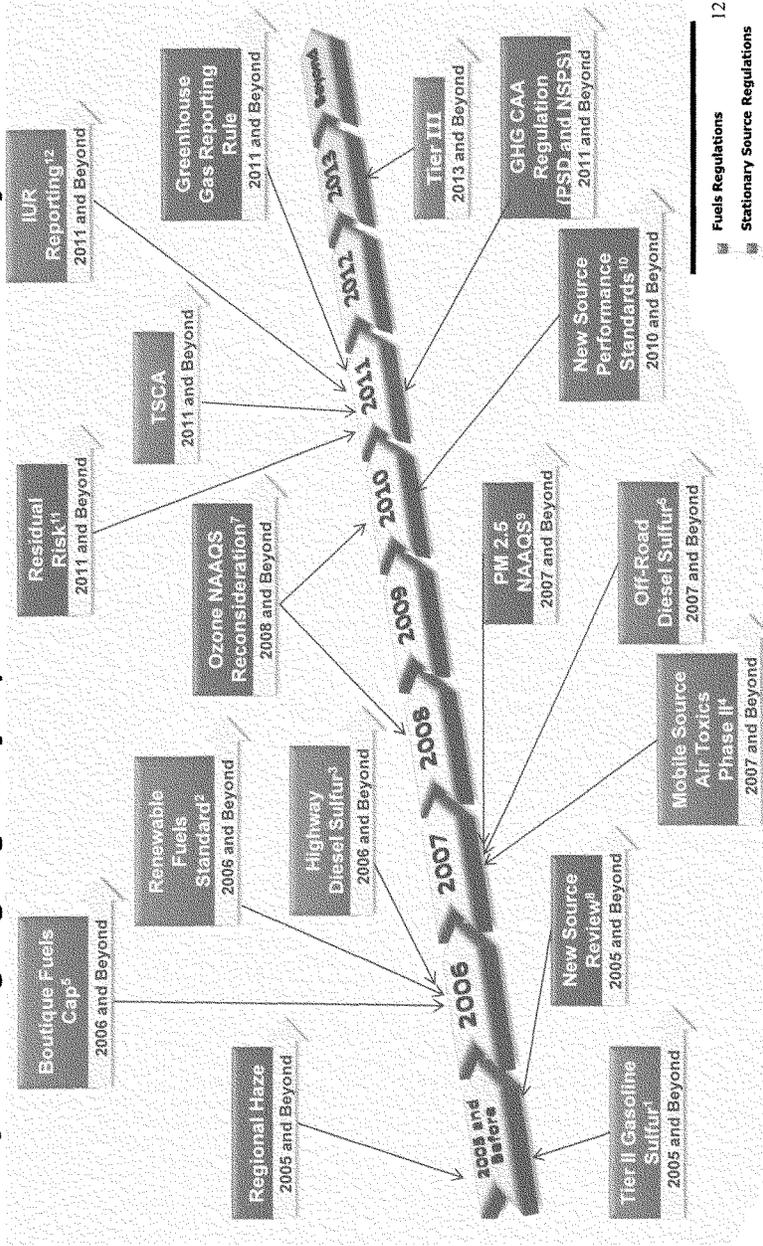
The Clean Air Act, enacted 40 years ago, was designed to deal with pollutants that are inherently harmful to human life. The Clean Air Act was not designed to regulate greenhouse gases. Members of Congress who sponsored the legislation have said that loud and clear. In fact, carbon dioxide – the principle greenhouse gas – is a necessary part of the world’s ecosystem and a necessary ingredient of life. We exhale carbon dioxide as we breathe, and every human being emits about 300 kilograms every year. EPA is trying to do by regulation what Congress refused to approve by legislation. No agency – no matter what the policy, no matter what political party controls the White House – should be able to replace the people’s elected representatives in

writing laws for our nation. This sets a dangerous precedent that could have repercussions of enormous proportions.

This is why it is so important that Congress approve the Energy Tax Prevention Act of 2011 in its current form, to reverse EPA's effort to impose regulations never authorized by legislation. Under the Energy Tax Prevention Act of 2011, our elected representatives in Congress would have the ability to create a balanced and workable energy policy that does not disadvantage American workers in the competitive global economy. This bill should also be passed in its current form to protect the domestic refining industry and the quality jobs we provide to individuals across the country. The legislation is also necessary to protect consumers, farmers and truckers from higher gasoline and diesel fuel prices. Finally, enactment of this bill is necessary to continue manufacturing transportation fuels here in the U.S. and to protect our nation's energy security.

Thank you again for giving me this opportunity to present my testimony. I would be happy to take any questions.

Projected Ongoing Regulatory Impact on Refineries, 2005 and Beyond *



Notes:

1. Longer compliance time for refineries in Alaska and Rocky Mountain states as well as small refineries covered by the Small Business Regulatory Enforcement and Flexibility Act (SBREFA). Additional compliance time is available for these refineries if they produce ultra low sulfur highway diesel beginning in 2006.
2. The Energy Policy Act of 2005 includes a renewable fuels standard (RFS) which mandates the use of 4 billion gallons of renewable fuels starting in 2006. The Energy Independence and Security Act of 2007 increased RFS volumes.
3. Longer compliance time for small refineries covered by SBREFA.
4. Phase II Mobile Source Air Toxics Rule was promulgated on February 26, 2007 (72 FR 8428).
5. The Energy Policy Act of 2005 caps the number of motor fuels available for use in State Implementation Plans at the same level as those already in use as of September 1, 2004. EPA promulgated rules on December 28, 2006 (72 FR 78192).
6. The first phase of the off-road diesel sulfur program was effective in 2007 and the second phase was effective in 2010.
7. Ozone non-attainment designations made April 2004. Due to litigation, the deadline for State Implementation Plans (SIPs) was extended to February 2008. Compliance, depending upon classification, is required between 2008 and 2022. In March 2008, EPA tightened the ozone NAAQS in accordance with the 2008 ruling, but is reconsidering the rule and will announce a new and likely tighter Agency standard by summer 2011.
8. NSR Reform rules were litigated, with the emissions increase test being upheld by the Court, the equipment replacement rule being voided and other rules being remanded. 2008 NSR reforms like debottlenecking and aggregation will suffer the same fate leaving NSR compliance confusing for refiners, and operators vulnerable to enforcement by EPA, States, and citizens for the next several years.
9. EPA set a new PM 2.5 NAAQS in 1997 and designated nonattainment areas in December 2004. In September 2006, EPA issued new fine particulate standards, strengthening the 24-hour standard and retaining the current annual standard. Due to litigation, the Agency has not yet promulgated implementation standards for the 1997 rule.
10. A final refinery NSPS will be completed by the end of 2011.
11. Final refinery residual risk rule expected in January 2009 was withdrawn. EPA will re-propose the refinery residual risk rule in 2011-2012 timeframe.
12. EPA published its proposed Inventory Update Reporting (IUR) Modification in the Federal Register for 2011 reporting, leaving very little time for companies to become familiar with the new requirements. EPA has proposed to lower or remove certain reporting thresholds, which will substantially increase the reporting burden. In addition, EPA is seeking retroactive information from 2006 through 2010 that companies were never told to collect. It would also require a greater amount of substantiation for confidential business information claims.

Mr. WHITFIELD. Thank you, Mr. Cousins.
At this time I recognize Mr. Carter for 5 minutes.

STATEMENT OF LONNIE CARTER

Mr. CARTER. Chairman Whitfield, Ranking Member Rush and members of the subcommittee, my name is Lonnie Carter and I am the President and Chief Executive Officer of Santee Cooper, the South Carolina Public Service Authority. While I am currently serving as the Chairman of the Board of Directors of the American Public Power Association, my comments and presence here today solely represent those of Santee Cooper.

Santee Cooper has been a resource for improving the health, welfare, and material success of the residents of South Carolina. Santee Cooper is guided—

Mr. UPTON. Excuse me. Is that—

Mr. WHITFIELD. Is your microphone on?

Mr. CARTER. It has got a little green light that says it is on. Is that better?

Mr. WHITFIELD. That is better. Thanks.

Mr. CARTER. It may be that slow southern accent that is slowing you down.

We are still handling our mission for improving the quality of life for the people of South Carolina by providing low-cost, reliable power and water to our customers while being good environmental stewards. As South Carolina's State-owned electric and water utility, we have served 2 million customers either directly or indirectly. We are accountable for keeping electricity affordable and the lights on.

Our industry is at a time of unprecedented change and challenge, the likes of which I have not seen in my 28 years in this industry, bringing with it uncertainty and high cost to customers. I am very concerned about the many proposed EPA regulations and what they may mean in the short and long term. As a public power entity, we have no shareholders to share the cost of regulations. We are literally where the rubber meets the road. We are the State's leader in renewable energy with 197 megawatts of renewable generation already online or under contract. They are voluntary business decisions that successfully balance low cost, reliability and care for the environment.

Santee Cooper has been a leader in installing environmental control technology and in fact already reduces nitrogen oxide by over 90 percent and sulfur dioxide by as much as 90 percent through SCRs and scrubbing at our generating stations. We launched a \$113 million comprehensive energy efficiency campaign for our customers in 2009. We are also a leader in this Nation's reentry into the nuclear energy arena on tap to build two new nuclear facility in 2016 and 2019 with our partner, SCANA.

If I were not here today, I would be at an economic development announcement. One of our largest industrial customers, Showa Denko Carbon, Inc., is announcing a multiple-hundred million dollar investment to expand their facility. This project will create approximately 100 new jobs. Here is my point. By far the biggest concern going forward with this project is the uncertainty created by EPA's greenhouse gas and non-greenhouse gas regulations. This

example highlights the issues with greenhouse gas regulations. The proposed regulations will result in higher costs and greater uncertainty for my customers.

EPA also announced its desire to address greenhouse gases for the power sector through new source performance standards that will set emission guidelines for existing facilities. There is currently no off-the-shelf technology available to address greenhouse gas emissions at a commercial scale, making it different in like and kind from other emissions regulated under the Clean Air Act. New construction projects will likely be significantly delayed because there is no clarity in how to address greenhouse gases and PDS permits. EPA's failure to provide the necessary tools, information and direction will lead to permits being delayed and complex legal challenges to permits.

The Clean Air Act simply is not designed to address greenhouse gas emissions. The policy to limit greenhouse gas emissions should be set by Congress. Setting a path forward regulating greenhouse gas emissions under the Clean Air Act would stifle an already slow permitting process, raise costs, limit economic development and industrial growth around our country at a time when we need jobs the most.

EPA also plans to adopt numerous new rules over the next few years including coal ash, maximum available control technology standards, cooling water intake rules, air quality standards for ozone, lead and particulate matter. Individually, they represent sizable cost impacts. Together, they could be enough to significantly curtail the economic development and force many premature closings of low-cost, reliable power facilities that keep our Nation running.

I support Chairman Upton's proposal that would remove regulation of greenhouse gases from Clean Air Act. The secret to success is a balanced and thoughtful approach that factors in the cost impacts of these proposed regulations to customers.

Thank you for this opportunity and for your attention, and I am happy to answer any questions you may have.

[The prepared statement of Mr. Carter follows:]

**Testimony of Lonnie N. Carter
President and Chief Executive Officer, Santee Cooper
Before the Subcommittee on Energy and Water of the
House Energy and Commerce Committee
U.S. House of Representatives
Wednesday, February 9, 2011**

Chairman Whitfield, Ranking Member Rush, and members of the Subcommittee, my name is Lonnie Carter and I am the President and Chief Executive Officer of Santee Cooper, the South Carolina Public Service Authority. I have been in the electric utility business for 28 years and while I am currently serving as Chairman of the Board of Directors for the American Public Power Association, my comments and presence here today solely represent that of Santee Cooper. Thank you for the opportunity to address the subcommittee on the important issues surrounding regulation of greenhouse gases.

I. Our History and Mission Statement

Since our founding in 1934, Santee Cooper has been a resource for improving the health, welfare and material success of the residents of South Carolina. Now 75 years later, Santee Cooper is still guided by our mission of improving the quality of life for the people of South Carolina by providing low-cost and reliable power and water to our customers while being a steward of the environment.

As South Carolina's state-owned electric and water utility, Santee Cooper is the state's largest power producer, supplying electricity to more than 163,000 retail customers in Berkeley, Georgetown, and Horry counties, as well as to 31 large industrial facilities, the cities of Bamberg and Georgetown, and the Charleston Air Force Base. Santee Cooper also generates the power distributed by the state's 20 electric cooperatives to more than 700,000 customers in all 46 counties. Approximately 2 million South Carolinians receive their power directly or indirectly.

from Santee Cooper. The utility also provides water to 137,000 consumers in Berkeley and Dorchester counties, and the town of Santee.

These are not just numbers on a sheet of paper to Santee Cooper. Every number is a customer and every customer is a person with a family, a small business, or a large industry that employs hundreds of people and so on. As a utility executive, it is my job to make sure that every day, every hour and every minute there is electricity going to our customers so they can be productive members of our community. Our industry is at a crossroads. For the first time in our company's history, I can tell you that, if the Federal government continues on its present regulatory course, our founding promise to our customers may be at risk. That is why your consideration of the Energy Tax Prevention Act of 2011 is so important to Santee Cooper. As a public power entity, we have no stockholders to bear the cost of regulations. Every cost imposed on a public power utility is imposed directly onto our customer...from the families we serve, to the business on main street and to the industries that provide jobs in our communities that must compete in a worldwide marketplace.

II. Environmental Stewardship: A Commitment to Our Community

In 1990, the Santee Cooper Board of Directors passed a resolution that formalized what we had already been practicing for years. It stated that protection and improvement of our environment are equal in importance to providing affordable energy. For Santee Cooper, environmental stewardship is a core part of our founding principles and not simply an issue of meeting regulatory requirements. Our company plays a significant role as a neighbor and an employer in our community and a key part of that is balancing the cost to the customer with ensuring a clean environment for the future.

a. State of the Art Pollution Reduction

As an industry, the U.S. electric power sector has reduced air emissions substantially under existing programs. The industry cut sulfur dioxide (SO₂) and nitrogen oxides (NO_x) emissions by 57 percent between 1980 and 2008. The power sector also has cut emissions of mercury by about 40 percent in the same time period through efforts to reduce other pollutants. To make these totals more impressive, electricity generated by coal increased 70 percent during this time period.

Environmental impacts continue to decline thanks to emissions-reducing programs enacted by electric companies. At Santee Cooper, we started out with electrostatic precipitators (ESPs) that removed the fine particulates. Then, we became an industry leader in the use of SO₂ scrubbers, becoming the longest-running operator of the technology and owner of eight out of the twelve scrubbers in our state. Santee Cooper has been a leader in installing environmental control technology and, in fact, already reduces NO_x by over 90 percent and SO₂ by as much as 98 percent through SCRs and scrubbing at our largest generation stations.

These facts demonstrate the great successes Santee Cooper has achieved in controlling the emissions of non-greenhouse gases. While we continue to explore alternative ways of generating electricity, according to the Energy Information Administration (EIA), annual electricity demand is expected to increase 30 percent by 2035. We are confident that we can meet this need while maintaining our environmental commitment, but appropriate regulation and policy will be a critical ingredient for success.

b. Clean Energy Generation

There is no doubt that Santee Cooper is committed to being an industry leader in clean power generation. Currently, we are South Carolina's renewable energy leader with 197 megawatts of renewable generation already online or under contract to come online in the next couple of years. Our electricity includes power generated from landfill biogas, forest-waste biomass, solar and wind, and now we can add agricultural biogas to that lineup. These investments were not made under a renewable energy mandate from our state or the federal government. We made them because they were solid business decisions for customers and would help in leading the way forward with the latest clean technology developments.

An integral part of our clean energy future is our investment in two new nuclear power plants. Offering safe and reliable base-load power, nuclear power generates no GHG emissions. Recognizing this, Santee Cooper, already generating 10 percent of our electricity from nuclear power, is on track to be one of the first utilities, in partnership with SCANA, to add two new 1,117 MW nuclear units to our existing plant. These two units, coming online in 2016 and 2019, bring with it \$10 billion in investment to South Carolina and thousands of construction and permanent jobs. While the future of nuclear power still faces some hurdles, the incentives offered in the Energy Policy Act of 2005 allow new nuclear plants to serve as clean and reliable sources of base-load electricity in South Carolina for decades to come.

c. Energy Efficiency

Recognizing that environmental stewardship involves a partnership with our customers, in February 2009, our board of directors charted a new course by approving a \$113-million energy efficiency blueprint to significantly reduce our customers' energy consumption. Over the next several months our staff began framing the program, which we named Reduce the Use South

Carolina. Through a series of rebates and initiatives, Santee Cooper is financially motivating customers to reduce their use of electricity; by 2020, we estimate our customers can save 209 million kilowatt hours a year through these programs. As a non-profit public power entity, it is in everyone's best interest to have customers use less of our product, and we are financially incentivizing customers to do so.

In September 2009, Santee Cooper launched Reduce the Use with a Refrigerator Rebate Program, offering customers a rebate for purchasing ENERGY STAR® refrigerators and an additional rebate for letting us pick up and recycle their old refrigerators. We doubled our goal for the first phase and actively promoted the rebates and recycling components throughout 2010. We launched Smart Energy Homes in November 2010; it includes rebates to homeowners for improving the efficiency of their homes, and rebates to builders for building new homes to certain efficiency standards, including a larger rebate for meeting ENERGY STAR® standards. Conservation means more than just encouraging our customers to reduce the use. We have to practice what we preach, and in January 2009, Santee Cooper formally launched a commuter benefits program that offers incentives to employees who commute via mass transit or carpool. The program, called iRide, already has participation from about 25 percent of our employee base in its first year, and express bus riders and carpoolers have avoided about 800,000 pounds of carbon dioxide emissions.

III. Consequences of Cumulative Regulatory Impacts

In his Executive Order issued on January 18, 2011, President Obama insisted that Executive Agencies "consider costs and how best to reduce burdens for American businesses and consumers." Nowhere is this instruction more needed than in the realm of Federal environmental

regulations already enacted or currently contemplated by the U.S. Environmental Protection Agency (EPA). To that end, it is vital that this Committee understand what we in the utility sector are facing as we strive to serve our customers and businesses with reliable and affordable electricity. We are where the rubber meets the road, we as utility leaders must balance the implementation of environmental regulations with cost concerns for our customers.

In the past year EPA has been working on many rulemakings that affect the electric utility sector. These regulations address conventional air pollutants (NO_x, SO₂, particulate matter, ozone), mercury and other hazardous air pollutants (HAPs), coal combustion residuals, use of cooling water [316(b)] and GHGs. To date, EPA has failed to provide a cumulative impact analysis of these changes or any cost or environmental benefit analysis of GHG regulation.

Whether intended or not, these proposed changes will competitively disadvantage coal as an energy resource in a manner that will lead to greater and faster retirements of coal plants. In the case of GHG regulation, this will have negative implications for all fossil fuel use including natural gas. The potential cumulative impacts of these regulatory changes include premature shutdown of significant amounts of the existing U.S. coal fleet; increases in electricity prices; risks to electric reliability; job losses; and harm to the U.S. economy.

New Greenhouse Gas Regulations

As I have said on numerous occasions, policy to limit GHG emissions should be set by Congress and today is an opportunity to communicate the impact EPA's proposed regulations would have on our customers. But, while the Congress and the public remain engaged in thoughtful and complex debates about how best to address the challenges posed by a changing climate, EPA continues on a path toward regulating GHG emissions from all sectors of our economy and our society.

On June 3, 2010, EPA finalized the "Tailoring Rule" that outlines the applicability criteria and sets the dates on which newly constructed stationary sources and modifications of stationary sources will be subject to the Clean Air Act (CAA) pre-construction permitting requirement for GHG emissions. What this means is that any effort to (1) build a new coal- or gas-fired power plant or other industrial facility or (2) make a modification of an existing plant that will increase CO₂ emissions by more than 75,000 tons per year will need to obtain a "prevention of significant deterioration" (PSD) permit. If a proposed project will need such a permit, it is illegal to begin construction on the project until such a permit has been issued.

Questions about "best available control technology or "BACT" for CO₂ have been (and will continue to be) very controversial. There is a strong argument, based on past EPA practice, that BACT for controlling CO₂ emissions from a coal-fired boiler is simply the use of a high efficiency boiler. Not surprisingly, however, there are some that have generally taken the position that BACT for CO₂ is the use of natural gas rather than coal. Others argue that carbon capture and storage (CCS) should be required as BACT – at least for coal-fired power plants. Under the CAA, BACT must be determined on a case-by-case basis in each individual permit, and the permitting authority (in most cases, the state environmental agency) has discretion to consider cost and other factors in determining BACT in each case.

With state agencies wrestling with the question of how to handle this new regulatory burden, EPA guidance on BACT was eagerly anticipated. EPA promised timely information and guidance that when "applied in a practical manner" would "reduce time and resource needs when evaluating BACT for newly regulated pollutants." 75 Fed.Reg. 31514, 31588. EPA also promised technical information on emissions factors, control technologies, measurement and monitoring for GHG sources. 75 Fed. Reg. 31514, 31588. However, the BACT guidance that

EPA issued was months overdue, left many key issues unresolved, and exposes permit applicants to legal challenges. In effect, the guidance has failed to establish the promised predictable basis for implementation and to provide our state permitting agency with adequate support to perform their permitting obligations with respect to GHG emissions.

As a result of the substantial expansion of traditional BACT and the confusion this has created, it's clear that the country is heading into a period where new construction projects will be significantly delayed because there is no certainty in how to address GHG in PSD permits. Based on EPA's past practices, and assuming that EPA works around-the-clock, it will likely take several years for permit writers in the States and industry to know what is expected of them in the permitting of GHGs. EPA's failure to provide the necessary tools, information, and direction will make it very difficult, if not impossible, to get a new construction permits over the next couple of years. Some advocates have claimed the states are largely ready to implement, failing to take into account the narrow time lines and the plain statements of many states that they will be unable to meet obligations without relying on the extraordinary and uncertain pathway of federal implementation plans - a pathway that runs counter to the federalism intended as a basic framework of the CAA.

EPA's failure to adequately address these topics calls into question the ability of the regulatory system to meet these obligations and confirms what many of us in industry -- and here on this Committee -- have been saying for months: the CAA was simply not designed to address GHG emissions in the context of climate policy. In the meantime, even though State and local permitting authorities may have the legal obligation to permit GHGs under delegated or approved PSD programs, the permit writers and consultants that draft permit applications are not trained on the technical, legal and policy implications of GHG permitting. Permit writers will

need to develop legally defensible emissions limits and justify control technologies through the comprehensive 5-step BACT process without any assistance from EPA. It would be very difficult for State and local authorities to issue GHG permits without such direction from EPA, and if a permit is issued, the legal challenges to follow will further delay construction of large energy and industrial projects at a time when the country needs those projects the most.

Remarkably, when EPA had the opportunity to provide favorable near term clarity on the issue of GHG emissions from biomass projects – they chose to delay. Santee Cooper is actively engaged in developing our renewable biomass energy resources within the state. Yet the EPA has complicated investment analysis by choosing to delay providing guidance for utilities regarding the potential determination of GHG emissions from biomass projects. Now, as we make long term commitments to renewable energy we are uncertain how to assess the potential GHG profile for these resources.

Bottom line: the problems and uncertainty that are evident with GHG permitting are not small "bumps in the road" or common to any startup program under the CAA. There is currently no commercially available cost effective technology available to reduce such emissions at power plants. EPA's failure to address the implementation of its mandate to permit GHG emissions will result in permits being delayed, and complex legal challenges to permits based on GHG permitting. This regulatory uncertainty is no way to help put Americans back to work and help our economy recover from the worst economic downturn since the Great Depression. South Carolina and the rest of the nation cannot afford to stall at a time when we are re-emerging from the current economic recession. We need to create jobs and economic development opportunities, and these regulations would unnecessarily delay economic recovery.

Non-Greenhouse Gas Regulations

In addition to new GHG regulations, EPA plans to adopt numerous new environmental rules over the next few years, with many compliance deadlines generally converging in 2015. While it is beyond the scope of my testimony to discuss all of the upcoming rules (including the various national ambient air quality standards for ozone, particulate matter, and SO₂) I will briefly mention several of the most important rules and their significant cumulative impact on our business. Individually, they represent sizeable cost impacts. Together, they could be enough to significantly curtail economic development, limit economic growth and prevent South Carolina from moving forward.

Utility MACT

In 2015, due to the timetables established by EPA and the court, the utility industry will face perhaps its costliest and most pressing environmental challenge - a maximum achievable control technology standard for electric generating units (Utility MACT). EPA is working to develop MACT standards aimed at requiring installation of costly emissions control equipment at all coal-fired boilers to reduce certain hazardous air pollutants (HAPs), such as mercury, other metals, and acid gases. EPA may craft the upcoming MACT standards in a way that would require additional PM control devices such as bag houses and Selective Catalytic Reduction Reactors for NO_x control – both of which can be very costly. South Carolina has been a leader in installing environmental control technology at our generating stations. New standards could require significant additional environmental control equipment at a significant price beyond what South Carolina already pays for its existing environmental controls.

A court-approved rulemaking schedule requires the Agency to propose Utility MACT standards by March of this year. Although the Agency has some discretion in the design of these standards

(such as setting MACT standards for different "subcategories" of power plants), the standards are likely to require the retrofit of major pollution control equipment on a large amount of existing plants within a short period of time (*i.e.*, 3 to 4 years). Although it is too early to know the full extent of the regulatory impact at this time, EPA adoption of these new MACT standards may force the premature shutdown of a substantial amount of existing coal-fired generation and impose very substantial retrofit costs on the electric power sector.

Coal Combustion Residuals (CCR)

CCRs are a byproduct of coal fired generation. Currently, over 40 percent of CCRs are "beneficially reused," primarily as a building material. EPA has stated that listing coal ash as a hazardous waste would not prevent it from being beneficially reused, but most industry officials believe that concerns about future liability for any company that knowingly used "hazardous waste" as a building material would essentially stop this practice. We are already seeing the impacts of this proposed classification on our efforts to beneficially reuse material.

Santee Cooper is proud of the fact we are well above the national average, and in some years, have reached as high as 90 percent utilization. In fact, our efforts have resulted in bringing American Gypsum to South Carolina, a \$150 million investment, creating about 100 jobs in which our recycled byproducts are used to produce wallboard. Their economic development and job creation is a win-win for the state and environment.

Today, CCR that is not beneficially reused is disposed of at relatively low cost in landfills or impoundments. EPA is currently considering alternatives to regulate CCR. Either would add substantial costs to utility operations and ultimately to their customers. However, if CCR is classified as a hazardous waste, huge amounts of coal ash would have to be disposed of in specially permitted hazardous waste facilities, which would dramatically increase disposal costs.

(perhaps up to 100 times the current cost in some cases). The Electric Power Research Institute (EPRI) has estimated that the classification of coal ash as a hazardous waste would increase costs to such an extent that it could force the shut down of more than 100 coal-fired power plants. Although the majority of these plants are relatively small, the impact on coal demand and electricity prices could be significant.

Cooling Water Intake Structures

As the Committee is aware, many electric generation plants use once-through cooling water systems to support the generation process. To accomplish this most efficiently, most plants are located at or nearby large bodies of water and withdraw water from the water body through intake structures for cooling water purposes. Under section 316(b) of the Clean Water Act, EPA is set to propose new regulations defining best technology available for minimizing adverse environmental impacts for large existing power plants with cooling water intake structures by requiring these facilities to retrofit once-through cooling water systems with cooling towers. Industry and outside groups expect the new regulations to have a significant impact on power plants across the country. Individual sites and costs should be considered. Instead of a one-size-fits-all approach, alternative options could be used that achieve the same environmental benefits with much lower costs. As the North American Electric Reliability Corporation's (NERC) study recently concluded:

Implementation of this rule will apply to 252 GW of coal, oil steam and gas steam generating units across the United States, as well as approximately 60 GW of nuclear capacity (approximately a third of all resources in the U.S.). Of this capacity, 33-36 GW may be economically vulnerable to retirement if the proposed EPA rule requires power suppliers to convert to recirculating cooling water

systems in order to continue operations. *2010 Special Reliability Scenario Assessment: Resource Adequacy Impacts of Potential U.S. Environmental Regulations*, North American Electric Reliability Corporation, October 2010.

Regulatory Cost and Uncertainty

Pouring over the details of statutes and regulations maybe interesting enough for lawyers, analysts, and engineers, but what I imagine this Committee is most interested in is the impact these requirements are going to have on utilities like ours and an industry that touches our communities and our way of life across the country. I can assure you my main interest in on what is best for my customers. Let me illustrate two potential impacts of how these regulations may impact my customers and South Carolina. The first example is a new project our company is helping announce in the state at this very moment.

If I were not here today, I'd be at an economic development event, just the kind of announcement our state needs more of. One of our largest industrial customers, Showa Denko Carbon, Inc, is announcing a multiple-hundred million dollar investment to expand their facility in our state. Showa Denko Carbon, Inc., Ridgeville, South Carolina, is a leading manufacturer of synthetic graphite for industrial applications. This project will create 100 new jobs for that community. Here's the point: by far their biggest concern going forward with this project is the uncertainty created by EPA's GHG and non-GHG regulations. They seriously question whether they can get a permit under the Tailoring Rule.

The second topic is one I mentioned earlier, the coal combustion residuals. Dramatically changing the way CCRs are regulated will have a significant cost impact on Santee Cooper. Santee Cooper has beneficially reused as much as 90% of our CCRs while offsetting operational

costs, deferring landfill space and creating economic development opportunities. This program has generated capital investment and created jobs, like American Gypsum's \$150 million investment and creation of 100 jobs next to our generating facility. The proposed reclassification of CCRs has the potential to curtail beneficial reuse, increase storage in landfills, and significantly increase the cost to our customers.

The Path Forward

Historically, this country has never backed down from a technological challenge. And, as we have done in the past, Santee Cooper is proud of its efforts to address the problems and challenges we face from a growing demand for energy and a changing climate. We will continue to strive to fulfill our guiding principle of providing our customers and our community with low-cost reliable power while upholding the highest environmental standards. All we can ask is for our government to help us sustain this effort.

President Obama embraced the need to closely scrutinize the cost and economic impact of new agency regulations. His January 18th Executive Order laid out the new review process for regulations, stated that an agency should "tailor its regulations to impose the least burden on society, consistent with obtaining regulatory objectives, taking into account, among other things, and to the extent practicable, the costs of cumulative regulations." I believe Congress and the EPA should honor the spirit of the President's position and address the timeframe and content of overlapping rules for the power sector. Also, EPA should conduct a cumulative cost impact analysis of the multiple regulations being put forward in order to better understand the impact on electric reliability, the U.S. economy and jobs.

I appreciate Congressman Upton's proposal that would remove regulation of GHG from the CAA. A full economic cost and environmental benefit analysis needs to be undertaken of GHG regulation so that the country understands the outcome of such regulation before it is initiated. I thank the Committee for this opportunity and for your attention to these urgent issues and I urge this Committee to closely examine whether these regulations and their associated impacts are really the best pathway forward for this Nation and its citizens.

Mr. WHITFIELD. Thank you very much.

Ms. Blaisdell, you are recognized for 5 minutes.

STATEMENT OF BETSEY BLAISDELL

Ms. BLAISDELL. Thank you. Good afternoon, Chairman Whitfield, Ranking Member Rush and distinguished members of the subcommittee. I appreciate the opportunity to testify at today's hearing. I am here on behalf of the Timberland Company, which produces boots, clothing and gear for the outdoors.

I am also here on behalf of BICEP, which stands for Businesses for Innovative Climate and Energy Policy. We are a group of major consumer household brand companies such as Nike, Starbucks, Levi Strauss and Co., Best Buy, Target, Symantec, Gap, Aspen Ski Company. Timberland and the other BICEP companies believe that we need strong energy and climate policies to protect our supply chain, ensure market certainty as well as to help create jobs, level the playing field among businesses, enhance economic development and ensure global competitiveness as we move into the future.

While we prefer congressional action to executive branch regulation, the latter is necessary when Congress leadership is lacking. Current EPA regulations as well as those under development would help protect our economy as well as human health and the environment.

Mr. Chairman, we couldn't agree more with a couple of statements you made in your press releasing highlighting your premises for introducing the legislation that is the topic of today's hearing. That is, number one, Congress, not EPA bureaucrats, should be in charge of setting America's climate change policy, and secondly, a 2-year delay of EPA's cap-and-trade agenda provides no meaningful certainty for job creators, fails to protect jobs and puts decision-making in Congress on a critically important economic issue past voters and the election year.

Indeed, Congress should be setting America's climate policy, and the 2-year delay would create more uncertainty and lead to other problems, as you correctly point out. I will come back to these points in a moment.

You are probably wondering why Timberland and the other BICEP companies care about climate and energy policies. We care because our supply chains are affected by current and projected climate impacts while materials for Timberland products as well as Levi and Gap jeans, Nike Sneakers, Starbucks coffee plantations, they all depend on water. If there is less water due to the projected climate change impacts, we all struggle to produce our products and meet the demands of our consumers and we will continue to suffer as weather events grow in severity and frequency, which interrupt our ability to move products to consumers. This costs us both time and money. Moreover, and this is very important, our employees and consumers are demanding that we take actions to reduce greenhouse gas emissions.

For a global company, addressing climate change is no small task. We need policies that will create long-term market certainty that parallels our planning timelines. I realize some entities want no action at all. However, many more companies recognize that we need to act to address this critically important economic issue we

are facing right now, and acting sooner rather than later is more prudent and cheaper in the long run and will help avoid the worst potential projected impacts and hopefully help avoid more costly scenarios down the road that might occur if we do nothing in the near term. Failure to act would be more costly to our businesses and consumers down the road. Thus, for Timberland and other BICEP companies, acting to address climate change is a business imperative.

Timberland is taking steps to be a leader in sustainability. In 2006, we actually voluntarily capped our own greenhouse gas emissions. Since then we have reduced our emissions for our facilities and operations by more than 40 percent, which has saved us over \$1 million a year, which is a significant savings for a company like ours during this tough economy. Investing in renewable energy in States like California has proven to be an effective hedge for rapidly rising utility costs. Energy efficiency in our corporate facilities and stores has cut energy consumption by more than 30 percent with a payback of under 2 years, usually under one. Nutrition labels on our product communicate our progress to consumers. These labels combined with Earthkeepers footwear, which is designed to have a smaller climate impact, have helped drive remarkable growth while many of our competitors have struggled to survive.

In your home State of Kentucky, Mr. Chairman, after several years of conversation with the local utility, we finally negotiated a deal to source electricity from a certified small-scale hydropower facility on the Kentucky River. We pay a premium for that power, but the benefits far outweigh the costs. Our climate impact is dramatically reduced and the local community benefits from having an emissions-free renewable source of power that is a scenic learning lab for children in and around Danville.

While Congress could be creating America's climate policy and while most businesses prefer this route, because Congress has failed to do so, we must fall back on EPA's authority and regulations. Preventing EPA from exercising its authority or rolling back any of its actions would cost the economy in human health in terms of illness and often results in lost work days and more. More specifically, in 2005 alone the Clean Air Act protections helped avoid 13 million lost work days, thereby helping maintain our Nation's economic productivity.

On the second point in your press release, again, we agree, a 2-year delay on EPA's regulation of greenhouse gas emissions would enhance uncertainty in the marketplace and hinder job creation as well as delay critical decisions that Congress should in fact be making. So rather than going after EPA's ability to regulate including repealing a number of its current actions, Congress should act responsibly and develop sound energy and climate policy. Some of America's largest businesses stand ready to work with you, to work with Congress to develop responsible policies in this area. In lieu of such action, however, EPA must be allowed to do its job, and let me reiterate, we would like to be here. Many U.S. businesses including the BICEP companies in fact do prefer EPA regulation to no protections at all, as I previously mentioned.

I look forward to constructive policy debates moving forward that focus on the best ways in which businesses can work with you to

develop sound energy policies, policies with which many business would resoundingly agree. Let us work on a bipartisan basis to produce sound energy policies we can all be proud of and which virtually everyone on and off Capitol Hill recognize will help move us toward a better path for job creation, economic growth and global competitiveness.

Thank you, Mr. Chairman.

[The prepared statement of Ms. Blaisdell follows:]

TESTIMONY OF BETSY BLAISDELL
SENIOR MANAGER, ENVIRONMENTAL STEWARDSHIP FOR
THE TIMBERLAND COMPANY
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
OF THE
HOUSE ENERGY AND COMMERCE COMMITTEE
February 9, 2011

Summary of Key Points in Testimony:

- I am here on behalf of The Timberland Company, which produces boots, clothing and gear for the outdoors, and on behalf of “BICEP” – Business for Innovative Climate and Energy Policy – of which Timberland is a member. BICEP members also include other major consumer/household brand companies, such as Nike, Starbucks, Levi Strauss & Co., Best Buy, Target, Symantec, The Gap, and more. Timberland and the other BICEP companies believe that we need strong energy – and climate – policies to protect our supply chains, ensure market certainty, as well as to help create jobs, level the playing field among businesses, enhance economic development and ensure our global competitiveness as we move into the future.
- While we prefer Congressional action to Executive Branch regulation, the latter is necessary when Congressional leadership is lacking. Current EPA regulations, as well as those under development, would help protect our economy, as well as human health and the environment.
- Mr. Chairman, we couldn’t agree more with a couple of the statements you made in your press release regarding your premises for introducing this legislation: that is, that “1) Congress, not EPA bureaucrats, should be in charge of setting America’s climate change policy; and that 2) A 2-year delay of EPA’s cap-and-trade agenda provides no meaningful certainty for job creators, fails to protect jobs, and punts decision-making in Congress on a critically important economic issue past the voters and the election next year.”
- Indeed, Congress *should* be setting America’s climate policy. And, a two-year delay *would* create more uncertainty and lead to the other problems you correctly point out. However, our conclusions diverge from here.
- Timberland and the other BICEP companies care about climate and energy policies because our supply chains are affected by current and projected climate impacts, our consumers and employees demand that we take action, and more. We also need long-term market certainty. We are proactively taking steps to be sustainable, including in the Chairman’s home state of Kentucky.
- Rather than going after EPA’s ability to regulate, including repealing a number of its current actions, Congress should act responsibly and develop sound energy and climate policy. We hope to work with you on a bi-partisan basis to produce sound energy policies we all can be proud of and on which virtually everyone on and off Capitol Hill recognize will help move us toward a better path for job creation, economic growth, and global competitiveness.

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February 9, 2011**

Good morning Chairman Whitfield, Ranking Member Rush, full Committee Chairman Upton and Ranking Member Waxman, and distinguished Members of this Subcommittee. I appreciate the opportunity to testify at today's hearing.

I am here on behalf of The Timberland Company, which produces boots, clothing and gear for the outdoors, and on behalf of "BICEP" – Business for Innovative Climate and Energy Policy – of which Timberland is a member. BICEP members also include other major consumer/household brand companies, such as Nike, Starbucks, Levi Strauss & Co., Best Buy, Target, Symantec, The Gap, and more. Timberland and the other BICEP companies believe that we need strong energy – and climate – policies to protect our supply chains, ensure market certainty, as well as to help create jobs, level the playing field among businesses, enhance economic development and ensure our global competitiveness as we move into the future. While we prefer Congressional action to Executive Branch regulation, the latter is necessary when Congressional leadership is lacking. Current EPA regulations, as well as those under development, would help protect our economy, as well as human health and the environment.

Mr. Chairman, we couldn't agree more with a couple of the statements you made in your press release highlighting your premises for introducing the legislation that is the topic of this hearing: that is, that "1) Congress, not EPA bureaucrats, should be in charge of setting America's climate

change policy; and that 2) A 2-year delay of EPA's cap-and-trade agenda provides no meaningful certainty for job creators, fails to protect jobs, and punts decision-making in Congress on a critically important economic issue past the voters and the election next year.”

Indeed, Congress *should* be setting America's climate policy. And, a two-year delay *would* create more uncertainty and lead to the other problems you correctly point out. However, our conclusions diverge from here. I will elaborate on these points in a moment.

But, first, you might ask why Timberland and the other BICEP companies care about climate and energy policies. We care because our supply chains are affected by current and projected climate impacts. Raw materials for Timberland products, as well as for Levi and Gap jeans, Nike sneakers, and Starbucks' coffee plantations depend on water. If there is less water, due to projected changes in climate, we will all struggle to produce products that meet the demands of our consumers. And, we will continue to suffer as weather events grow in severity and frequency, which interrupt our ability to move products to consumers. This costs us time and money – and further hinders our ability to keep up with our competitors overseas. Moreover, our employees and consumers are demanding that we take actions to reduce greenhouse gas emissions.

For a global company, addressing climate change is no small task. It requires a long-term strategy that enables us to develop and implement strategies at the same time that we are meeting the demands of the marketplace. We need policies that will create the long-term market certainty that parallels our planning timelines. I recognize that some entities, including some whom we have or might hear from today, prefer to take a chance on doing nothing on the policy front

and/or on doing everything possible to prevent legislative or regulatory action from moving forward – and even trying to “roll it back”. However, many more companies recognize that we need to act to address the “critically important economic issue” we face in addressing our nation’s climate and energy issues, and that acting sooner rather than later is more prudent, cheaper in the long run, and will help avoid the worst potential projected impacts and hopefully help avoid more costly scenarios down the road that might occur, if we do nothing in the near term – or worse, roll back the protections we already have in place.

Timberland is taking steps to be a leader in sustainability. In 2006 our company created a voluntary cap on its greenhouse gas emissions – essentially regulating ourselves to deliver on our shareholder promise while being a leader with regard to energy consumption and greenhouse gas emissions. Since then we have reduced our greenhouse gas emissions for our facilities and operations by more than 40 percent, which has saved us over one million dollars a year – a significant savings for a company of our size during a tough economy. Investing in renewable energy in states like California has proven to be an effective hedge for rapidly rising utility costs. Energy efficiency in our corporate facilities and stores has cut our energy consumption by more than 30 percent and in these instances our payback has been under two years (usually under one). “Nutrition labels” on our products communicate our progress to our consumers. These labels, combined with Earthkeepers footwear that is designed to have a smaller climate impact, have helped drive remarkable growth while many of our competitors have struggled to survive. In your home state of Kentucky, Mr. Chairman, after years of conversation with the local utility, we finally negotiated a deal to source electricity from a certified small scale hydropower facility on the Kentucky River. While we pay a premium for the power, the benefits outweigh the costs. Our climate impact is dramatically reduced and the local community benefits from having an

emissions-free, renewable source of power that is a scenic learning lab for the children in and around Danville. I am afraid, Mr. Chairman, that your bill, if passed, could create the type of delay and/or uncertainty, of which you expressed fear. In turn, it would become more difficult for companies like ours to implement such clean and innovative projects that also help create good, local jobs.

While Congress should be creating America's climate policy and while most businesses prefer this route, because Congress has failed to do so for the last two years, the last ten years, or prior to that, we must "fall back" on EPA's authority and regulations. EPA protects human health and the environment, as I stated a few moments ago.

Preventing EPA from exercising its authority or rolling back any of its actions would cost the economy in human health, in terms of illness that often results in lost work days, and more. More specifically, in 2010 alone, the Clean Air Act protections helped avoid 13 million lost work days, thereby helping maintain or increase our nation's economic productivity.¹ EPA must be allowed to continue to exercise its authority and move forward with its recent actions.

Without EPA and its protections, we could fall behind other industrialized nations; we might face the types of pollution that Eastern European and many Asian nations have been facing as they industrialize. The results to air and water quality, buildings, landscapes, and people is dramatic and keeps these countries from moving forward to the extent they otherwise could, if

¹ U.S.EPA, Office of Air and Radiation, *The Benefits and Costs of the Clean Air Act: 1990 to 2020, Revised Draft Report*, 5-22 (August 2010) (online at: <http://www.epa.gov/oar/sect812/aug10/fullreport.pdf>).

they had such protections in place. We do not want to face such situations here in this country or step back to the days of Pittsburgh during the 1960s and 1970s, for example. Look at how protections in that city have helped foster prosperity, economic development and have turned it around over the past several decades.

On the second point in your press release, again, we agree: a two-year delay on EPA's regulation of greenhouse gas (GHG) emissions *would* enhance uncertainty in the marketplace and hinder job creation, as well as delay critical decisions that Congress should, in fact, be making.

So, rather than going after EPA's ability to regulate, including repealing a number of its current actions, Congress should act responsibly and develop sound energy and climate policy. Some of America's largest businesses have been leaders in addressing energy, climate and sustainability, and stand ready to work with Congress to develop responsible policies in these areas. In lieu of such action, however, EPA must be allowed to do its job – and let me reiterate that many U.S. businesses, including the BICEP companies, in fact, do prefer EPA regulation to no protections at all, as I previously mentioned.

My understanding is that the recent California and federal vehicle-related greenhouse gas emissions reductions standards – which were achieved with industry and government consensus – are saving consumers nearly \$60 billion more than CAFÉ standards alone and reducing fuel consumption by 33 percent more than CAFÉ standards alone (not to mention achieving 47 percent more carbon reductions), according to a February 7 NRDC blog. We cannot afford to lose these fuel and cost savings. A next round of negotiations and standards for Model Years

2017 and beyond for cars is supposed to begin in the not-too-distant future. Your bill would stop this next round of vehicle GHG emissions reductions standards from going forward. Imagine the fuel and cost savings such standards could achieve. But, we will not realize these savings, if your bill becomes law.

I will just make a few last points, before I conclude. Cap-and-trade was developed under President Bush I to help control sulfur dioxide emissions from power plants using a market-based approach. I believe we could work together to develop market-based approaches to controlling greenhouse gas emissions and enhancing the clean energy resources we use – indeed, we will need all of the energy resources at our disposal; let's expand beyond the traditional energy sources we have and will continue to need to meet future population energy demands as well as human health and environmental protection needs and bring into the marketplace as many cost-effective energy resources as possible. In the process, we will launch innovative clean energy and energy efficient technologies that reduce harmful (GHG) emissions in the most cost-effective way possible, because that is how these market-based programs work. Is there a cost to such a program? Yes. But, the costs are less than the costs of inaction, based on widely-cited figures. And, a true carbon tax would likely be more "efficient" from a market perspective, but is not politically popular, as you know. Referring to "cap-and-trade" as a "cap-and-tax" program is a misnomer and is misleading to Members on the Hill and to the general public. I recognize, however, that most Members do not want to enact such legislation this term.

Regardless, I look forward to constructive policy debates moving forward that focus not on rolling back current and pending regulations, but on the best ways in which businesses can work with Congress to develop sound energy policies: policies that meet the criteria and avoid the

pitfalls you set out in your press release, and with which the vast majority of businesses would resoundingly agree. Let's work on a bi-partisan basis to produce sound energy policies we all can be proud of and on which virtually everyone on and off Capitol Hill recognize will help move us toward a better path for job creation, economic growth, and global competitiveness.

Thank you, Mr. Chairman.

Mr. WHITFIELD. We have two votes on the House floor. We have about 3 minutes left to vote, so we are going to go over there. We are going to take a break and hopefully be back by 2:00 and then we will get to the questions and then we will go right to the third panel. So why don't you all go have a glass or lemonade or something.

[Recess.]

Mr. WHITFIELD. I would like to call the hearing back to order, please, and I am very sorry you all had to wait a little bit longer while we finished these votes, but I want to thank you for your testimony, and I will start off with questioning here and then we will go on down the line.

First of all, Mr. Rowlan, I just want to follow up one thing. You mentioned something about \$52 million a year in additional costs in renewable mandate States versus non-renewable mandate States. Would you clarify that for me one more time?

Mr. ROWLAN. I was speaking to a business group, and I was showing the impact of a renewable energy standard on their utility rates, which is something that concerns us significantly.

Mr. WHITFIELD. Right.

Mr. ROWLAN. Economical power is the lifeblood of industry, and I looked at several northeast States and some other States scattered throughout the country that had an RES standard, and then I compared that with, I think it was South Carolina and Arkansas without an RES standard, took the average commercial rate that we would have been charged, and the difference from the high end to the low end was \$52 million annually.

Mr. WHITFIELD. Wow.

Mr. ROWLAN. And that is just for the average amount of power for what we would be considered a medium-sized facility for us.

Mr. WHITFIELD. Well, I know in Kentucky we do not have a renewable mandate, and our electricity rates are around 7 cents per kilowatt hour, which is pretty good. But you point out a good issue because the key for the United States and our growing economy is to maintain a global competitiveness, be competitive in the global marketplace, and if we unilaterally start adopting some of these rules like Ms. Jackson has on greenhouse gases, which even she admitted is not going to have any dramatic impact on greenhouse gases, and other countries are not taking any action, so it is really putting us at a disadvantage.

Ms. Blaisdell, I know that you support her actions, and you came up and we talked a little bit about Danville, Kentucky. Do you all have a plant in Danville, Kentucky?

Ms. BLAISDELL. We have a distribution center.

Mr. WHITFIELD. Oh, a distribution center. How many plants do you all have in the United States?

Ms. BLAISDELL. Are you talking about how many facilities or how many—

Mr. WHITFIELD. Where you actually make the product.

Ms. BLAISDELL. We do not own a manufacturing plant in the United States. Most of the products that we manufacture come from factories we outsource from.

Mr. WHITFIELD. From which countries?

Ms. BLAISDELL. All over the world. We do source from the United States as well.

Mr. WHITFIELD. Oh, okay.

Ms. BLAISDELL. We just don't own any in the United States.

Mr. WHITFIELD. Oh, okay. Well, time is running out here, but I just want to summarize in my view what Ms. Jackson said. She placed a lot of emphasis on the importance of certainty, and she also placed a lot of emphasis on being reasonable, and I really find myself puzzled by that because she also said really there is no technology available to control greenhouse gases, and then she said so the only thing we can do is that we can deal with efficiency, and then our friend Mr. Doyle from Pennsylvania said well, that seems perfectly reasonable, but in my view, companies are going to try to be as efficient as they can be in order to compete in the marketplace, and basically what we are doing here is, we are having government bureaucrats go in and say this is what you need to do to be efficient. And even if the State implementation plan or State enforcers say you do this, this and this to be efficient, there is not anything to preclude EPA from coming back and overruling them or changing it or whatever. And then you get to under the preventing significant deterioration the best available control technology, and it is my understanding that the State implementers or State regulators could conceivably even require you to switch your fuel; instead of coal or oil or natural gas, whatever, we want you to use wind power, that there was not anything in there that would prohibit that.

And I just find it almost impossible to believe that she would refer to that as being certain, there is certainty here, and so the business people like that. I mean, the real issue is, we have a high unemployment rate. We are trying to compete in the global marketplace. We do want certainty, and in my view, there is not any way—at least she did say this. She said we have to have coal, for example, and natural gas and nuclear and all of that because as I said in my opening statements, our energy demands are going to double by the year 2035. And so I am assuming you all would agree with what I am saying. Ms. Blaisdell may not agree. Yes, sir.

Mr. ROWLAN. I will give you a real interesting example. We heat our steel up to roll it into a shape, and that is called a reheat furnace, and the Clean Air Act BACT for the burners in that is what is called reduce NO_x or low NO_x burner, which requires us to actually be less efficient. We actually limit the heat on it so that we create less NO_x. So we are using more energy in order to keep NO_x down. As we get into a greenhouse gas rule, are faced with the exact opposite of that. We are tied up in, do you raise NO_x so that you lower CO₂ or do you raise CO₂ so that you keep NO_x down. And that is the paradox that we are in.

We also are caught up with that in CO, our CO emissions. Typically we put some oxygen with them as they come out of our furnace and convert them to CO₂ so now if we limit our CO₂ by not putting the oxygen in and burning it off afterwards, we are going to raise our CO, which is a criteria pollutant. So there is a lot of really difficult questions that would have to be asked if this were to go forward under the Clean Air Act, and frankly, I don't think

some of the people are prepared to give us answers on it or make the decision.

Mr. WHITFIELD. Right. Well, I agree with you.

Mr. RUSH, I will recognize you for 5 minutes.

Mr. RUSH. Thank you, Mr. Chairman.

Attorney General Abbott, first of all, I want to congratulate you on some of the standards and your activities and your accomplishments as it relates to alternative energy. I understand from your testimony that your State is number one in the use of wind energy, and I certainly want to congratulate you and your State for those efforts. I know that you have a cheerleader here in Mr. Barton and so I am not going to congratulate you too much because I don't want to take some of his thunder away from.

Suffice it to say that in spite of scholarly debates over the proper standards of judicial review of agency action or inaction under section 706 of the APA, in light of the Chevron Doctrine, the federal courts including the Supreme Court have been deferential to an agency's statutory interpretation where those interpretations are reasonable. This Chevron level of deference exceeds even the level of deference an appellate court must accord to trial courts under the de novo standard. De novo can be triggered when trial courts interpret laws like the Clean Air Act. Can you explain how the Supreme Court, that the outcome is wrong in the Massachusetts v. EPA decision? Were they deferring to the EPA's interpretation? Can you explain why and how the Supreme Court got it wrong?

Mr. ABBOTT. Will I explain how the Supreme Court got it wrong?

Mr. RUSH. Yes, your interpretation, from your point of view, how is the Supreme Court's decision wrong?

Mr. ABBOTT. Well, I think the Supreme Court decision is wrong because I don't think that it requires the EPA to regulate greenhouse gases but the fact of the matter is, I think under the Supreme Court's decision, it still did not mandate that the EPA must conclude that greenhouse gases pose an endangerment and it still provided certain other latitude for operating room for the EPA to operate as has been discussed in testimony throughout the course of the day.

Mr. RUSH. So are you saying that they were wrong because they did not mandate it? Is that what is wrong with the Supreme Court decision?

Mr. ABBOTT. Well, yes.

Mr. RUSH. The reason why I ask that question is because you say on page 7 of your testimony that in Massachusetts v. EPA, the Supreme Court said it need not and does not reach the question whether carbon dioxide is the kind of air pollutant the EPA must regulate under the Clean Air Act, but my copy of the Supreme Court's decision says something a little different. I will bring your attention to section 7, paragraph 2 on page 32. It says, "In short, the EPA has offered no reasoned explanation for its refusal to decide whether greenhouse gases cause or contribute to climate change. Its action was therefore arbitrary, capricious or otherwise not in accordance with law." This is the matter that I am referring to. "We need not and do not reach the question of whether on remand EPA must make an endangerment finding or whether policy concerns can inform EPA's action in the event that it makes such

a finding.” So you said that they did not and they are saying something altogether different.

Mr. ABBOTT. Actually what I am hanging my hat on is that very sentence that you read, and I may have articulated inappropriately but what I meant to articulate is exactly word for word what that sentence says.

Mr. RUSH. OK. All right.

Mr. ABBOTT. And that is that they basically don’t reach the question whether or not the—

Mr. RUSH. But you conclude that—

Mr. ABBOTT [continuing]. EPA must—

Mr. RUSH. But you are concluding that the Supreme Court was somehow wrong? I don’t understand. I am trying to—

Mr. ABBOTT. I disagree with the Supreme Court’s ruling but it is the Supreme Court’s ruling, and so we must operate under it.

Mr. RUSH. Thank you.

Mr. Rowlan, on Friday EPA—no, that is quite all right, Mr. Chairman. I yield back.

Mr. WHITFIELD. I recognize Mr. Upton of Michigan for 5 minutes.

Mr. UPTON. Thank you again, Mr. Chairman. I regret I wasn’t here for many of your presentations. We have another subcommittee that is meeting at the same time and so a number of us were there, and as you know, we had votes on the House floor as well.

In the previous panel, I talked about the impact on Michigan with the job impact. In fact, there has been independent study that showed that Michigan’s GDP would drop by \$18 billion, destroy 96,000 jobs, reduce household incomes by nearly \$1,600, and the concern that many of us have is if we allow EPA to pursue these regulations, we would have added cost. We heard from your testimony in terms of the impact on you all but I just wonder if you can summarize for me from your individual and somewhat unique perspective, I know it will be tougher for Illinois Farm Bureau because I don’t know where those farmers—you are not going to go someplace else, you are going to keep the land there in Illinois, I would imagine. But as it relates to your industry, if these regulations are imposed, where do you think things are headed for your particular industry as it relates to the jobs that are provided? Are they going to go to India and China? Are they just going to close down? What is your individual opinion in terms of what will happen to the groups of similar industries as it relates to us having these regulations and not having them in other places around the world?

Mr. ALFORD. Yes, sir. There is definitely going to be a transfer of wealth. I think there is a national security issue here where we Americans are number one in the world economically now but we could go to sixth, seventh, eighth, or ninth, and if we go to ninth, we are vulnerable to new enemies who look at us as someone who could be taken over, and I think we are at a fork in the road here. We better take the right way, and I think the EPA view or attitude towards the American worker is that of a pawn on a chessboard: expendable and no need to worry. I think that is a terrible attitude.

Mr. ROWLAN. I would say that it is already happening. I hear a lot of people ask for examples of companies going overseas. I ex-

plained it this way one time to some economic development people when EPA said that non-attainment would not impact them, and EPA said we have never heard of a company picking up and leaving an area because it was non-attainment, and I said that is because you don't even make the first cut. You are cut out and you are excluded, and that is what this lack of decisiveness and this constant 2 years, 1 year, when is this coming, when is this rule hitting, when is PM 2.5, when is ozone. That constant barrage causes you to take your capital and move someplace where you have got a level of certainty. This facility that I have worked on in Louisiana, in the time it has taken me to not completely get a permit, a full facility of that size has been constructed, permitted and is operating in China.

Mr. COUSINS. When I first started working in the refining industry, there were about 350 U.S. refineries. Today there are about 150. There hasn't been a single refinery built in this country in 30 years. There have been many built in the Pacific Rim, China, India. I mean, there is no guesswork. That is what is going to happen.

Mr. CARTER. I would turn your attention really to two areas. One is, as I have had the opportunity to meet with CEOs in a class actually for a weeklong class where the majority or the vast majority, out of 25, I think only six of us were U.S. citizens, which probably should be very telling in itself, and one of the things I learned from that group, much to my dismay, was just how they look down on us and when they look at making investments because of our permitting process and the fact that is lengthy and litigious and very poorly defined as it relates to almost every aspect of the way you permit a new plant, which makes us very uncompetitive, and what I have put in my testimony today is just another example of that, not just limited to what we deal with with EPA.

A good solid example as it relates to what we are dealing with here is the issue over biomass. As I indicated in my testimony, we have contracted for a number of biomass facilities but they are having difficulty getting financing for those projects because they don't know what the permitting requirements are going to be for their facilities. Now, that is real. That means those jobs aren't going forward.

Mr. UPTON. And I know my time is expired so that just means why we need a real decision which this draft legislation does versus a simple extension where you sit on pins and needles. I yield back my time.

Mr. WHITFIELD. Mr. Inslee for 5 minutes.

Mr. INSLEE. Thank you. Mr. Rowlan, thank you for being here with Nucor. We have a facility in Seattle. You run a very efficient business. You have found ways to make steel with great efficiencies. I will compliment you on that, and that is all this proposed regulation does for power companies was to ask them to be efficient like Nucor has been, the kind of decisions you have made to make cost-effective investments in efficiency. You have done that at Nucor. All this regulation does is ask utilities to do the same thing. That is why eight major utilities wrote a letter to the Wall Street Journal last month urging the adoption of these regulations so that they could have certainty so that they could move forward.

I want to talk about this Dirty Air Act and bring it to real life. I want to show a brief video of an 11-year-old young lady named Megan Foster from North Carolina. She is a child with asthma who is a very, very fast runner but has difficulty when her asthma is triggered, which we know can be done by ozone. Can we just play this clip briefly, and then I want to ask you gentlemen a question.

[Video shown.]

Mr. INSLEE. Thank you. Now, the Environmental Protection Agency pursuant to law and the U.S. Supreme Court and common sense has fulfilled their obligation to people like Megan to try to protect her and millions of other kids from pollutants that exacerbate asthma, and we are here today to consider a bill that would eliminate the ability of the Environmental Protection Agency to help children like Megan Foster, and I would like to know about your views and what science you can present to us about this issue. The EPA has determined that the science shows that pollutants, carbon dioxide and a variety of other climate-changing gases, have the capacity to injure human health including gases that exacerbate asthma including exacerbating ozone conditions.

So I just want to quickly go down the road and ask you if you can present to this committee a single peer-reviewed scientific journal that shows that these gases that are subject to this regulation do not result in damage to human health associated with climate change, and if you give us a yes or no, if you say yes, I am going to ask you what it is. But let us just first go down yes or no. Mr. Abbott, do you have a single peer-reviewed study like that?

Mr. ABBOTT. I haven't conducted that research.

Mr. INSLEE. Do you know of any, anywhere in the world?

Mr. ABBOTT. I haven't looked into it.

Mr. INSLEE. Thank you. Mr. Alford?

Mr. ALFORD. I haven't looked. Don't know.

Mr. INSLEE. Mr. Rowlan?

Mr. ROWLAN. I am not aware of it.

Mr. INSLEE. Mr. Pearce? Thank you.

Mr. PEARCE. I'm not aware.

Mr. INSLEE. Mr. Cousins?

Mr. COUSINS. No.

Mr. INSLEE. Mr. Carter?

Mr. CARTER. No.

Mr. INSLEE. Ms. Blaisdell?

Ms. BLAISDELL. No.

Mr. INSLEE. Now, I think this is pretty intriguing because this story gets written like "he said, she said" stuff by the press all the time. He said these gases are bad, these changes change the climate, she said they didn't, or in this case "he" meaning Senator Inhofe. It is time to start writing the truth about the science on this issue.

You gentlemen that represent the effort to repeal the Clean Air Act and pass the Dirty Air Act can't produce one single peer-reviewed scientific journal, and you are asking the United States Congress to eliminate the ability of the Environmental Protection Agency to protect kids like Megan Foster. Now, I think that is preposterous that you would come in and ask us to do this without presenting some science to us. Now, if you can find some, you can

send it to me. I am interested in it. I have looked for it, so have the scientists that we have hired to do this including those at the U.S. Navy, and you know what? They can't find any because there is none, and I just hope that we eventually will do what the law requires, which is to follow science and protect the Megan Fosters of the world and do a very commonsense thing, which is to do just what Nucor Steel has done and that is about the efficiencies in the utility business, and if we do that, we are going to do some good things.

Thank you. I would yield back.

Mr. WHITFIELD. I recognize the gentleman from Texas for 5 minutes.

Mr. BARTON. Thank you.

I hate to take up too much of my 5 minutes but I have got to respond to what my good friend from Washington just said. CO₂ is not an irritant for asthma. My good friend just asked if there was any peer-reviewed science that showed the negative. There is no peer-reviewed science that shows the positive, okay? Now, CO₂ is a component of ozone, and ozone is a regulated criteria pollutant under the Clean Air Act, but if you are intolerant to ozone, you are going to be intolerant to ozone at one part per billion. If you are not ozone intolerant, you can be subjected to a thousand parts per billion and not be affected, and there is just as much scientific evidence that asthmatics are much more affected by rat feces and roach infestments in tenements as there is of the actual air quality. So it may be politically correct to show a figure of a young, innocent asthmatic child. My son when he was growing up was asthmatic, so I know a little bit about this from a personal perspective.

But to use that and then somehow say that what we are trying to do here in protecting the American economy and keeping jobs in America is somehow going to hurt the public health is just flat not true. We are not changing one standard in the Clean Air Act. We are not changing the definitions of the criteria pollutants. We are simply rectifying a 5-4 decision of the U.S. Supreme Court that gave the EPA the right to look at CO₂ if they wanted to. The Obama Administration wanted to. They put out their endangerment finding, which I think is fatally flawed, and the result is, we are trying to do the legislative intent which is clarify what the Clean Air Act actually meant. If Chairman Upton and Subcommittee Chairman Whitfield want to come back at a later date and regulate CO₂, they will put that bill before the subcommittee and the full committee. But first let us make sure that we express the will of the people through the Constitutional authority that we have on CO₂.

Now, I want to go to Mr. Abbott, the great Attorney General from the State of Texas. You are the chief law enforcement officer of the state. Is that correct?

Mr. ABBOTT. Yes, sir.

Mr. BARTON. And I know you are not a clean air expert but you are knowledgeable about it. There are six criteria pollutants under the Clean Air Act. Is the State of Texas noncompliant on lead anywhere in the State?

Mr. ABBOTT. Not that I know of.

Mr. BARTON. Are they noncompliant in SO₂ anywhere in the State?

Mr. ABBOTT. Not that I know of.

Mr. BARTON. Are they noncompliant on nitric oxide anywhere in the State?

Mr. ABBOTT. Not that I know of.

Mr. BARTON. Are they noncompliant on carbon monoxide anywhere in the State?

Mr. ABBOTT. Not that I know of.

Mr. BARTON. Are they noncompliant anywhere in the State of Texas on particulate matter?

Mr. ABBOTT. Not that I know of.

Mr. BARTON. Now, ozone, they are in non-attainment ozone. Where are the three areas in Texas that are noncompliant for ozone?

Mr. ABBOTT. I am not sure.

Mr. BARTON. Well, I do. I know. Houston is in noncompliance, Port Arthur is in noncompliance, and the Dallas-Fort Worth area is in noncompliance under the new standard. Now, under the Clean Air Act of 1992 or 1990, the EPA put out regulations for air quality that Texas began to comply with, and since that time Texas has issued over 100 permits to private industry in Texas. They all got invalidated in December of this year. Is that not correct?

Mr. ABBOTT. That is correct.

Mr. BARTON. Were they invalidated because they were in non-compliance for any of these criteria pollutants including ozone?

Mr. ABBOTT. No.

Mr. BARTON. Why were they invalidated?

Mr. ABBOTT. Well, they were invalidated because of the SIP call and FIP calls that were issued by the EPA.

Mr. BARTON. So they were invalidated because the EPA changed their mind or just didn't like the way Texas was doing things?

Mr. ABBOTT. They were invalidated because the EPA basically took over the Texas air permit system.

Mr. BARTON. They took over, but they didn't take it over because we are in noncompliance?

Mr. ABBOTT. Correct.

Mr. BARTON. OK. Has EPA alleged that we are in noncompliance?

Mr. ABBOTT. Not that I am aware.

Mr. BARTON. I am not aware of that either. So there are two issues with regards to what is happening in Texas. One is compliance with the existing Clean Air Act, and we have just shown that with the exception of ozone in three areas, we are in compliance. The other is, these new greenhouse gas regulations. Why has the State refused, or maybe I should say what has the State of Texas done with respect to the EPA mandate on these new CO₂ regulations?

Mr. ABBOTT. Well, I can tell you from the legal perspective. I can't tell you from the TCEQ perspective.

Mr. BARTON. Well, tell me from the legal perspective.

Mr. ABBOTT. From the legal perspective, there are basically six different rulings that were made by the EPA, and as a result there are six different legal actions filed by the State of Texas in re-

sponse. One involves the endangerment finding. Another involves the tailoring rule. Another involves the timing rule. Another involves the tailpipe rule, and one involves the SIP call and the sixth would involve the FIP call.

Mr. BARTON. I will ask the rest of my questions in writing. Thank you, Mr. Chairman.

Mr. WHITFIELD. Yes, sir.

Mr. Green, 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman. I would like to welcome our panel and particularly our Attorney General. You will all have a little different questions from this side of the aisle but you at least have the same Texas accent that Joe and I have.

I want to welcome you to the committee, and we heard, the topics we are discussing today at the hearing are complicated and these are a wide range of views. Some of our views are similar, and neither of us believes that the EPA regulation of greenhouse gases is the right solution to our energy and climate change challenges. We are both interested in improving the economy and creating jobs, specifically keeping those jobs in Texas. I would like to talk to you about an area where our views may diverge a little bit. On December 23rd, EPA issued an interim final order that allowed EPA to assume responsibility for the Texas air permit program with regard to greenhouse gases. EPA has stated it took the action because under your guidance, the State of Texas indicated it would not include greenhouse gas and emissions pollution in air permits. Is that correct? Was it only greenhouse gases?

Mr. ABBOTT. Would you state the predicate again?

Mr. GREEN. Texas took this action and indicated it would include greenhouse gas emissions pollution in the air permits.

Mr. ABBOTT. Right.

Mr. GREEN. And it is my understanding that Texas is the only State that refused to modify its air program. Is that true?

Mr. ABBOTT. That is my understanding.

Mr. GREEN. That the other 49 States, including some who are suing the EPA like Texas is over the endangerment finding, have taken some action to move forward to comply with the new requirements.

Mr. ABBOTT. Well, I can't be clear about what the other States are doing. Here is my understanding, and that is the EPA sent out a letter requesting responses from all the States. Many States responded. Maybe some States said they would go along. I can't guarantee you that all States responded and all States said they would comply. Texas is the only State that made clear that we would not comply with the greenhouse gas regulations.

Mr. GREEN. I think, at least our information is the other 49 said yes, they would, and believe me, I explained to people, we are up here all the time about American exceptionalism issues worldwide. Come to Texas and we will explain to you Texas exceptionalism, and that is something we all have.

Mr. ABBOTT. I could make clear, Texas is not the only State that is challenging the EPA's greenhouse gas regulations.

Mr. GREEN. That is true. Yes, there are a number of States that are filing suit. Given your position, I understand the consequences would have been if EPA had not assumed responsibility for these

air permits, if Texas wasn't willing to start it, even though the lawsuit is filed and that is the way you do it, you go to the courthouse, and for decades the Clean Air Act has required certain sources to obtain air permits before construction begins on a new facility. These permits, called PSD permits, were required to start building. My question is, would it be legal to build a facility without one of these permits when the law requires it? So if Texas was not enforcing it—I have the Houston ship channel. I have five refineries and more chemical plants than I can count. My concern was, Texas is not enforcing it. If we wanted to expand those plants, and thank goodness over the last 15 years most of the plants have been expanded, that we would not without having a permit processed whether it is through the State of Texas enforcing a regulation that they don't agree with and going to court or the EPA taking over those air permits. Is that generally what would happen?

Mr. ABBOTT. Well, I think generally what you are saying may be true. This is outside my area of expertise. However, what I think is that had the EPA not issued the SIP and FIP calls, it is my understanding Texas would have been able to continue on with the permitting process.

Mr. GREEN. Well, we will figure that out, but my concern was that if Texas would not do it—and I have plants that are always in the process of trying to expand. And you know how competitive the chemical industry is, for example, that, you know, if they are trouble with—if they are not going to build a facility in East Harris County if they are worried they won't have that permit available, you know, or they won't be able to get permission to build it, they would build it someplace else and ship those chemicals back to us. That is where I don't mind going to the courthouse. That is what a lot of us did for a living. I just worry that I don't want to put my plants at a disadvantage because of the battle between the State and EPA.

Mr. ABBOTT. Right.

Mr. GREEN. That is my concern.

Mr. ABBOTT. I want to make clear that we stand foursquare with you on that proposition. We want the businesses in your district as well as the businesses across the State of Texas not to be at any disadvantage whatsoever. We want to make sure they have access to the permits they need in order to operate their business. We want to make sure that we continue to attract jobs to the great Houston and Texas area but, as you know, Texas has done a better job of creating jobs than all of the other States in the country. One reason why we have been so successful in that regard is because Texas has a more reasonable regulatory system and has not had to deal with every evolving changing rule like what they are seeing coming out of the EPA now.

Mr. GREEN. I am out of time and I know the Chair is going to gavel me, but I served 23 years in the legislature, and we always enforced our clean air permits even when I was there based on the EPA saying the State of Texas could enforce it. We always had to jump through hoops from the Federal Government, you know, 18 years ago and 20 years before that, and I know it is frustrating but EPA has had that authority over Texas I know for the last 38 years.

Thank you, Mr. Chairman.

Mr. WHITFIELD. Mr. Shimkus, 5 minutes.

Mr. SHIMKUS. Thank you, Mr. Chairman. The full committee is named the Energy and Commerce Committee, so our focus is energy issues and commerce issues. The Democrats who want to make this into a science argument ought to go to the Science Committee. That is why we have a Science Committee. If they want to debate science, go to the Science Committee. We want to talk about energy. We want to talk about commerce. That is why I hold up my coal miners. One thousand of them in one mine, 1,000 coal miners in one mine lost their jobs. This is replicated in Illinois, 14,000, State of Ohio, 35. These are real job losses. If you want to talk about public health, the worst thing you do for public health is not have a job and be poor and in poverty. The best thing for human health is to have a job and maybe a job that provides health care, although we are attacking that too in those provisions.

So this hearing is focusing on jobs, and as I laid out in the previous panel that when you raise energy costs, you hurt the ability to create jobs and sustain jobs. I do believe in supply and demand. I do believe that if more capital is required to produce that electricity that cost gets passed on.

Now, it is curious that Ms. Blaisdell is here, and I have your testimony, and you are not only here with respect to Timberland but also BICEP. Is that correct? And BICEP is the Business for Innovative Climate Energy Policy, so you all like this climate debate, right? I mean, you are supporting—

Ms. BLAISDELL. Sir, we don't like climate change. We are here to support aggressive legislation.

Mr. SHIMKUS. OK. Right. So you would have supported Waxman-Markey, putting a price on carbon and addressing climate.

Ms. BLAISDELL. We support addressing climate.

Mr. SHIMKUS. Great. OK. Now, it is curious that you and these folks do that because in articles in May 2002, many companies that are in this Business for Innovative Climate and Energy Policy, guess where your products are produced? China. I will quote this article May 9, 2002: "While companies such as Gap, Guess, and Ralph Lauren have long farmed out production overseas in China," also Levis they mention here. Now, your company is not immune from this. In an article by Business Daily Update, except for your answering to the question, March 27, 2006, article is, "Unbeknownst to many"—talking about Timberland—"actually operated 45 factories throughout the country since the 1990s." Forty-five factories throughout the country, that country being China. So wouldn't it be to your advantage to force higher utility rates on manufacturers in this country while taking advantage of low power rates in China along with low labor rates, along with low environmental standards? In fact, following up on an article August 7, 2009, on Timberland, who you represent, "Two mainland suppliers of outdoor clothes manufacturer Timberland have consistently breached environmental regulations, two NGOs said yesterday." This is Chinese environmental regulations. You have to be pretty bad to violate Chinese environmental regulations.

Now, I find it just incredible that you would come here supporting hard action on climate change, raising the cost of doing

business while your production is in these very same countries that will never comply, do not pay the same wage rate, and do not have any environmental standards, and I am glad that the Minority asked you to come because it highlights the hypocrisy of this debate, that you can stand here and you can call for increased regulations and costs while your company outsources manufacturing and we don't have jobs, and with that, Mr. Chairman, I yield back my time.

Mr. WHITFIELD. Thank you, Mr. Shimkus.

Ms. BLAISDELL. May I please reply?

Mr. WHITFIELD. I want to ask unanimous consent that we enter into the record at this point, these are documents relating to Mr. Waxman's introducing into evidence the Stephen Johnson issue on the endangerment finding, and these are the complete set of documents from the government, and then I understand Mr. Inslee had a document he would like to enter into the record.

Mr. INSLEE. Yes. Thank you. I just would like to introduce two documents. One is actually the endangerment finding that reads, "Climate change is expected to worsen regional ground-level ozone pollution. Exposure to ground-level ozone has been linked to respiratory health problems ranging from decreased lung function and aggravated asthma to increased emergency department visits, hospital admissions and even premature death." That is one. The second is this letter I referred to in my questioning from 1,800 doctors, and the third is testimony by Dr. Mark Jacobson of Stanford, who presented testimony in April to the Select Committee that specifically addressed the health impacts of CO₂ on respiratory illness. Thank you, Mr. Chair, for your courtesy.

Mr. WHITFIELD. Without objection.

[The information appears at the conclusion of the hearing.]

Mr. WHITFIELD. At this time I recognize Mr. Walden for 5 minutes.

Mr. WALDEN. Mr. Chairman, I thank you for that, and I am going to yield my 5 minutes to the distinguished gentleman from Texas, Mr. Barton.

Mr. BARTON. I thank the gentleman from Oregon, and I will root for the Ducks at least one time next year because you are yielding to me.

Mr. WALDEN. If it is in the BCS, I will especially appreciate that.

Mr. RUSH. Mr. Chairman, let me just ask a question.

Mr. WHITFIELD. Excuse me just one minute.

Mr. RUSH. The previous member made some pretty significant and strong remarks to Ms. Blaisdell, and she did not have a chance to respond at all on the record, so I think that she should be allowed to respond to some of the sharp remarks.

Mr. WHITFIELD. Do you want to respond, Ms. Blaisdell?

Ms. BLAISDELL. Yes, please.

Mr. WHITFIELD. All right.

Ms. BLAISDELL. So my first response would be that addressing our own greenhouse gas emissions hasn't created additional costs for our company. In fact, as I mentioned in my testimony, it saved us over \$1 million a year, which makes us more competitive, and we do employ close to 2,000 people in the United States, so all those jobs he talked about in China, he is denying the fact that we

actually do employ quite a few people here and in fact in many of the States that you represent.

One of the concerns I have about the conversation we have had so far is that we have talked about the cost of action and we haven't talked about the cost of inaction, which I why I believe I am here. Our industry is very different than the industries represented. There is a significant cost of inaction in the outdoor industry and for brands whose supply chain rely on raw materials that we can't necessarily source in this country, so I would like to bring that to light.

Mr. WHITFIELD. Well, I would just say that we appreciate your comments but I think most of us certainly agree with Mr. Shimkus, that if you are doing work in China and you are violating environmental regulations in China, to be coming over here and saying we need stronger regulations is a little bit—

Ms. BLAISDELL. Sir, I don't understand what violations he is talking about so I will have to explore what he submitted.

Mr. WHITFIELD. We will try to get that to you and maybe you can get back to us in writing about that.

Ms. BLAISDELL. I would be happy to.

Mr. WHITFIELD. Mr. Walden.

Mr. WALDEN. Thank you, Mr. Chairman. Again to Mr. Barton.

Mr. BARTON. Thank you.

Attorney General Abbott, is Texas air quality improved or diminished during the period since Texas implemented its flexible permitting program under the Clean Air Act Amendments as implemented by regulation in 1992?

Mr. ABBOTT. I don't have the information on Texas health quality.

Mr. BARTON. You don't have information that our air quality is actually improved?

Mr. ABBOTT. I thought you said health quality.

Mr. BARTON. Air quality.

Mr. ABBOTT. Absolutely air quality has improved.

Mr. BARTON. Significantly?

Mr. ABBOTT. Significantly, yes.

Mr. BARTON. So we have not diminished our air quality under our permitting program?

Mr. ABBOTT. I will tell you the information I do have, and that is the information that as I understand, it was provided by TCEQ, the Texas Commission on Environmental Quality, as well as information that we received from the governor's office. One point is that industrial ozone and NO_x have steadily declined since 2000. Another is that ozone is down 22 percent while NO_x is down 46 percent. Another is that electricity generators in Texas have the 11th lowest NO_x emissions in the United States. But I think equally important, and that is without any kind of greenhouse gas mandates from D.C., Texas on its own has since 2004, no other State has cut more power sector CO₂ output than the State of Texas. Also, as you know very well, we have installed wind power at a rate more than any other State in the United States and I think we would rank either fourth or fifth of all the countries in the entire world, and, as I understand it, Texas has one of the two largest absolute declines in greenhouse gas outputs of any State.

Mr. BARTON. I just want the record to show that Texas has issued all these permits since 1992. They have been in compliance with the Act. Our air quality has improved yet our economy has grown, and just arbitrarily here in the last 6 months they have come in and invalidated the existing permits. We are not talking about new permits under the CO₂ regulations, we are talking about existing permits.

Now, specifically, Attorney General, with regard to this pending legislation, do you support the draft Energy Tax Prevention Act of 2011?

Mr. ABBOTT. There are reasons why we think this legislation is a good idea. First and foremost, in the big picture we are a Nation of laws, and that is one thing that has separated this country from all other countries in the world, in fact, made the United States the envy of all countries in this world, and that is that we as a Nation base our decisions on the law, not the whims of different people, and a challenge that the State of Texas is having with the EPA is that we feel that the EPA is acting in a way unconstrained by the Clean Air Act passed by the United States Congress, unconstrained by other laws such as the APA, and causing industry as well as States to have to deal with a moving target, and we think that the rule of law is essential in this country and we want to see the EPA comply with the rule of law. And along those lines Texas has six lawsuits on file right now challenging the legality of the greenhouse gas rules that were created by the EPA.

Mr. BARTON. If this bill were to become law, how would that impact the litigation that the State currently has against the EPA?

Mr. ABBOTT. As the Attorney General of Texas, I am here to tell you that if your legislation passes, it will mean that Texas will be dismissing those six lawsuits against the EPA.

Mr. BARTON. And that is a good thing?

Mr. ABBOTT. Anything that gets rid of lawsuits is a good thing.

Mr. BARTON. I agree with that.

My last question is to the general panel. If we had to implement these greenhouse gas regulations which hopefully we won't but if we did, is there the technology currently on the shelf to cost-effectively implement the greenhouse gas regulations as proposed by the EPA?

Mr. ALFORD. I daresay no.

Mr. ROWLAN. No.

Mr. COUSINS. For our industry, we looked at the 2008 ANPR that the EPA released as a guide for possible greenhouse gas regulations, and we have evaluated every one of those technologies at various times in the past to do efficiency improvements. Those things are all cost-prohibitive for us.

Mr. BARTON. My time has expired. I again want to thank my friend from Oregon for his courtesy.

Mr. WHITFIELD. At this time I recognize Mr. Burgess for 5 minutes.

Dr. BURGESS. Thank you, Mr. Chairman, and Attorney General Abbott, thank you for spending the day with us. I think there was some—I know it is difficult because the Administrator is not here any longer but it seems like there was some confusion when we were talking about the problem that Texas is having currently with

the flexible permitting and her discussion of regulating greenhouse gases under the Clean Air Act. Those are two very serious issues but they are separate issues. Is that not correct?

Mr. ABBOTT. That is correct.

Dr. BURGESS. And currently when I was discussing with her the report of the Business Roundtable, they pointed out that this would be one thing that would be extremely deleterious to Texas. Similar conditions exist in other States and no other State is being required to perform what Texas is being required to perform under their removal of the flexible permitting. Is that correct?

Mr. ABBOTT. That is my understanding.

Dr. BURGESS. And then to the issue of regulation of greenhouse gases, she is correct that Texas right now is not proceeding with setting up those guidelines. Is that correct?

Mr. ABBOTT. That is correct also.

Dr. BURGESS. And so as a consequence, the EPA feels it is necessary for that job to be done, and we can argue about the rightness or wrongness of that but that is indeed a separate issue when she says that since Texas wasn't doing its job, the EPA had to do the job for Texas but that in no way applies to the flexible permitting process that is going on down in the Gulf Coast area?

Mr. ABBOTT. That is correct.

Dr. BURGESS. And these are difficult concepts to deal with. Mr. Barton talked about the air quality issues that have occurred since the enactment of the Clean Air Act, and while to be certain there are still significant challenges for us in the Dallas-Fort Worth metropolitan area, there are challenges in the Houston metropolitan area. When you look at the overall air quality, there has been improvement since 1992.

If you look at what has happened to population growth, particularly in the Dallas-Fort Worth metropolitan area, with which I am most familiar, you have only got to look at what is happening with congressional redistricting and the fact that Texas is going to have four more seats in the next Congress to understand what is happening to our population in the Lone Star State. It is exploding. I have the 10th largest congressional district in the country, 280,000 residents over and above what I should have with the normal congressional allotment, so it is a phenomenal development that air quality has improved while our population has in fact expanded many times over what it was in 1992. Do you think that is a fair assessment?

Mr. ABBOTT. Based on information I have, you are exactly right and that is that air quality in Texas has continued to improve despite the growing population.

Dr. BURGESS. Well, just in your experience in working with the EPA, is that an easy situation or a difficult situation? Has the EPA been open to your suggestions and your observations or is it a closed door and the cake is already baked, we don't need your input?

Mr. ABBOTT. For more than a decade, I would say Texas has had a fairly collaborative, cooperative working relationship with the EPA. I can tell you that my office directly has been working side by side with the EPA to hold polluters accountable and has been quite successful in that regard. It seems as though over the past

18 months or so the challenges in dealing with the EPA have escalated dramatically and it has been a lot more difficult.

Dr. BURGESS. And that has just been my observation as well, and I was wondering if other people were noticing that as well.

Mr. Rowlan, if I could, let me ask you a question, and again, I appreciate you being here. You are headquartered in my hometown in Denton, Texas, and we are all so grateful for your great efforts there. We are grateful for your great efforts with the University of North Texas and the research program that you have there. I think you have developed the largest frame testing machine west of the Mississippi. Is that an accurate statement? Well, we heard from Administrator Jackson that there are so many of these things that—and I am a believer in efficiency, and no one, I think, should be in favor of wasting energy but can you really capture the return on investment necessary to do the things that you are going to be required to do by simply latching on to those increases in efficiency? Are they going to pay for themselves over time?

Mr. ROWLAN. Well, we pursue those continually. We actually have energy intensity goals within our own company. We are pursuing improving our efficiency constantly, because if we don't, we are going to run into problems with our international competition. There are projects throughout the country, and I am aware of one steel mill that was shut down, however, for tenths of a cent per kilowatt-hour. When you consume as much energy as we do, the cost of energy becomes a huge impact for us and so as that starts to escalate, we are no longer able to compete because we are really close to the physical reality of what we can do with the equipment that we have got and the technology that presently exists and even the technology that is coming on now.

Dr. BURGESS. Thank you for your answer. I yield back my time. Thank you, Chairman.

Mr. WHITFIELD. Mr. Waxman is recognized for 5 minutes.

Mr. WAXMAN. Thank you, Mr. Chairman. We have heard quite a bit of criticism of EPA at today's hearing. We have heard that EPA is out of control and that simple commonsense measures like requiring newly built facilities to be energy efficient will be burdensome to the economy. But there are other voices who are not fairly represented here today. Many in industry believe that EPA is acting reasonably and taking modest first steps to combat a serious problem.

On Friday, EPA held the first of a series of five listening sessions on New Source Performance Standards that it plans to propose later this year for power plants and refineries. I think it is worth pointing out that EPA is beginning the process of crafting these new standards by hearing from industry. At Friday's session, Eric Svenson of PSEG, a major utility company, said this about climate change: "We obviously would prefer to have seen legislative action but absent legislative action, we support regulatory action," which by the way is my view.

Mr. Rowlan, were you aware that this major utility supports EPA's regulation?

Mr. ROWLAN. Was I aware that they support regulation?

Mr. WAXMAN. Yes.

Mr. ROWLAN. Yes, I would be aware of that.

Mr. WAXMAN. Don Neal of Calpine, another utility, said this: "Calpine has been a long supporter of EPA regulating greenhouse gases under the Clean Air Act and certainly the NSPS is an extension of doing that so we applaud EPA in doing this."

Mr. Carter, were you aware that at least one major utility is applauding EPA's program?

Mr. CARTER. Yes, sir.

Mr. WAXMAN. OK. Well, the public wouldn't have known about these statements either, because these witnesses weren't invited to testify. In fact, we wanted these companies to come and testify but we were told by the Majority that they would not allow our request to hear from a coalition of businesses who develop energy-efficiency projects at major manufacturing facilities like, for example, steel plants. One member of this coalition recently helped a northern Indiana steel plant install technology to capture and harness the manufacturer's waste heat to generate 220 megawatts of power. That is more clean electricity than all of the solar panels connected to the U.S. electric grid, and that recycled energy saves the plant \$100 million every year. Since we can't hear this testimony for ourselves, Mr. Chairman, I would ask that the written statement of the Alliance of Industrial Efficiency be placed in the record.

Mr. WHITFIELD. Without objection.

[The information appears at the conclusion of the hearing.]

Mr. WAXMAN. Thank you.

Ms. Blaisdell, in your testimony you say that EPA regulations would help protect the economy. By the way, I heard earlier in this hearing you were accused by one of my colleagues on the Republican side of the aisle, that you would be at a competitive advantage if these EPA regulations go through. Do you have any comment on that? Would you be at a competitive advantage if we regulate as EPA is proposing to do here in the United States?

Ms. BLAISDELL. I am not familiar with how we would be—

Mr. WAXMAN. Press your mic.

Ms. BLAISDELL. It is on. I am sorry. I don't know how we would be at a competitive advantage.

My other concern about his remarks is, he implied that energy costs drove our jobs overseas, and that is not the case in our industry, so I want that to be clear for the record as well.

Mr. WAXMAN. Well, your company has been abiding by a self-imposed limit on its carbon pollution, and I would like you to tell the committee about your company's experience. Have your investments in efficiency produced cost savings, and if so, do you think other companies are likely to experience similar savings?

Ms. BLAISDELL. Our initiatives which have involved investing in renewable energy and in energy efficiency have saved our company money, over a million dollars a year, which is significant. We are a \$1.4 billion company, so especially during a tough economy, that has been significant for us. And I do believe that other companies can benefit by taking a more critical look. I am sad to say that without leadership from Congress that many companies just aren't looking hard enough, and this could help.

Mr. WAXMAN. And when somebody comes forward to suggest that maybe we can look harder to save money by doing what is right in efficiency which would make the company even more competi-

tive, you are bullied by saying that you are part of some international conspiracy because you also have activities offshore. I don't think that is right.

EPA has acted reasonably so far. We have heard from Administrator Jackson that the Agency plans to continue working with business to develop commonsense standards. Let us allow the Clean Air Act to do what it has always done: improve the air we breathe and make our families healthier while the economy grows. Thank you, Mr. Chairman.

Mr. WHITFIELD. Yes, sir.

Mr. Sullivan, you are recognized for 5 minutes.

Mr. SULLIVAN. Well, I thought it was interesting, Ms. Blaisdell, that you said that your company did these things voluntarily, and I think that is great, and you have efficiencies and everything. That is what these business people do voluntarily. They do a lot of things like that too. You weren't mandated to do things, and I think that is the big difference, and that is what we are talking about here today.

I appreciate all of you coming. I am sure you like the people in my district in Oklahoma are scared to death about what could happen to your businesses and the people that you work for, that you know their families and you know them very well, and it is frightening.

I would like to ask you, Mr. Cousins, a question. You mentioned that while you were having trouble expanding your refinery, in India a refinery was built 15 times larger than your refinery and it took about 3 years. Could we build such a refinery in the United States today, in today's regulatory climate? And how long would the permitting for such a facility take? You mentioned the Indian refinery took 3 years to build. Would it take you longer?

Mr. COUSINS. Oh, I am not an expert on obtaining permits but I don't believe it would be possible to permit that refinery in the United States if you had all the time in the world, and I would—they have been trying to build a refinery at least at one time outside of Phoenix. I know that project has been going on for 10 years. I don't believe they have permits.

Mr. SULLIVAN. And we haven't built a refinery in this country in, what, 30 years?

Mr. COUSINS. Over 30 years.

Mr. SULLIVAN. And we probably need some, don't we?

Mr. COUSINS. Well, you would think. Actually we either need them here or they are just going to keep building them overseas.

Mr. SULLIVAN. Have we ever domestically produced oil that we had to actually send somewhere else to be refined in this country?

Mr. COUSINS. I am not sure if any—we don't drill any oil. We just buy oil on the market. It could be that some Alaskan crude was sold. I don't know, but I am not aware of any significant oil exports.

Mr. SULLIVAN. Your company has delayed a major project due to EPA's greenhouse gas regulations. Can you please explain how this business decision was made? How were the costs of these regulations calculated?

Mr. COUSINS. It is business uncertainty. We went about halfway through an expansion project of several hundred million dollars. In

the climate of Waxman-Markey at the time and the fact that even if it was defeated as it was—well, Waxman-Markey wasn't, but if climate change was defeated, we didn't perceive the demand or the margins to justify the expansion we were in, not sure enough to bet our entire company's survival on it, and the debt load we would have carried would have put us in that situation. We actually had to terminate the project at the cost of 14,000 man-weeks of construction that was not completed in our town, so that is a couple of thousand jobs for weeks and weeks.

Mr. SULLIVAN. I will start this with all the witnesses. What potential EPA regulations coming down the pike are you most concerned about from a business perspective? General Abbott?

Mr. ABBOTT. From a business perspective, what regulations?

Mr. SULLIVAN. Yes.

Mr. ABBOTT. Well, the greenhouse gas regulations are the ones that are posing a huge problem.

Mr. SULLIVAN. And in Texas, you are hearing that from everybody, huh?

Mr. ABBOTT. Well, as I visit with people across the State, frankly, it is the overall uncertainty that seems to be emanating from the EPA, not knowing what the standards are going to be and how to plan for the future.

Mr. SULLIVAN. Mr. Alford?

Mr. ALFORD. Congressman, I am also a member of the board of directors of the U.S. Chamber of Commerce, and I chair the regulatory affairs committee for them, and this greenhouse gas business is about 70 percent of the discussion, and I believe the Chamber has filed a series of lawsuits against EPA concerning that.

Mr. SULLIVAN. Mr. Rowlan?

Mr. ROWLAN. While I agree that greenhouse gas is a big issue and has a lot of impact, I would not discount or put anything below that with respect to the new one-hour criteria pollutant standards that we are getting along with several MACT standards. We are getting hammered from every which direction. So I think they are all right there. If one doesn't catch you, the other one does, and it is almost like a game of gotcha.

Mr. SULLIVAN. And the economy is bad enough, with all this. Mr. Pearce?

Mr. PEARCE. I would say the greenhouse gas.

Mr. SULLIVAN. Mr. Cousins?

Mr. COUSINS. With my written testimony, I included a slide that showed a blizzard of EPA regulatory initiatives. We are concerned about all of them, but the PSD and the NSPS portions of the greenhouse gas regulations are the most immediate concern.

Mr. SULLIVAN. Mr. Carter?

Mr. CARTER. I would say the greenhouse gas regulations but we should not ignore the other items that are coming out of EPA today because some of them may actually have a faster impact on utilities in the immediate term. And the reason is, is that we do not have commercially available technology to look at our plant, and what we have created is a system where there is a great deal of uncertainty because even if Ms. Jackson, who I have a lot of respect for, even if she goes forward, she does not prevent the legal challenges much like we saw on the CARE rule. If you are familiar

with the CARE rule, it was in place for years and then it got vacated and now it is being completely rewritten. That is pretty scary if you are in my business.

Mr. SULLIVAN. That is a very good point.

Ms. Blaisdell, are there any regulations that concern you and your company?

Ms. BLAISDELL. They don't. Actually the EPA has been quite helpful to our company, not hurtful.

Mr. SULLIVAN. There are no regulations that concern you at all about EPA?

Ms. BLAISDELL. The greenhouse gas regulations do not concern our company. They don't apply. We don't emit over 100,000 tons.

Mr. SULLIVAN. Thank you, sir.

Mr. WHITFIELD. Mr. Scalise, you are recognized—no, I am sorry. Mr. Terry, you are recognized for 5 minutes.

Mr. TERRY. Thank you, Mr. Chairman.

Ms. Blaisdell, thank you for being here, and I don't know what, somebody on our side of the aisle evidently insulted you, but that is not the way it is supposed to work here. I appreciate that Timberland is voluntarily undertaken, and I know several businesses in the Omaha metropolitan area that I represent that have voluntarily undertaken a variety of energy efficiencies in their business too, and we like that. I love it. What I don't like is the EPA just assuming that they have legislative powers, and that that is what this is about.

But I do want to make it clear, Betsey, that unlike the gentleman that was asking you questions, I am not going to call your boss and ask that you be fired for coming here and speaking your mind nor like somebody else on the Minority side, I am not going to write a letter to a regulatory agency asking that they investigate Timberland because you are here. I actually think it adds, and I want to state that for the record because that is exactly what happened to one of our Minority witnesses at a cap-and-trade global warming hearing, and it was a constituent of mine so I am always going to stick up for that person.

Getting to Nucor, Mr. Rowlan, thank you. Nucor facility, not in my district, but an hour-and-a-half drive and I have been up there, I have seen the operation, and would join with Mr. Inslee in saying thank you for the efficiencies. I think it is a well-run business. Like Timberland, I appreciate that you have undergone voluntary measures to reduce your energy costs and emissions. Likewise, let me ask you this question under the clean air law. Even with all of the efficiencies that you have adopted, will one of your recycling plants like the one in Norfolk emit more than 250 tons of CO₂ in a calendar year?

Mr. ROWLAN. Most definitely. We are caught up, all of our steel mills like the one in Nucor are caught up.

Mr. TERRY. Is there any way of getting your plants considering the smelting, melting processes, to be under 250 tons of CO₂ in a given calendar year?

Mr. ROWLAN. There is no physical law I am aware of that could ever cause that to happen.

Mr. TERRY. And you are aware that that is what your company, Nucor, would be under the exempted area where it would be not

100 tons in a year but 250 tons would be what is currently written in the Clean Air Act?

Mr. ROWLAN. We are already a major stationary source.

Mr. TERRY. You understand that rule very well.

Mr. ROWLAN. I understand and live that rule.

Mr. TERRY. And probably, since you understand the rule, know that EPA directors just can't willy-nilly change that part of the statute. Is that your understanding?

Mr. ROWLAN. I would believe that that was the case, and I hope Congress—

Mr. TERRY. If an EPA director can just start willy-nilly throwing out, okay, the statute says very clearly and your history has been that under the major emitter rule that you would qualify under the exemption of 250 tons and then she comes around and says something different and enforces that. Does that give you more or less certainty in the industry?

Mr. ROWLAN. If we use the 250 tons?

Mr. TERRY. No, if someone, the EPA, this EPA director says it is 100,000, the next one starts saying it is 50,000 or 10, if that is the power that they have, does that provide you certainty?

Mr. ROWLAN. It gives me no certainty at all. I defer to what the Attorney General from Texas said. We are a Nation of laws and I don't see that it is consistent with the law at that point.

Mr. TERRY. I appreciate that.

And then Mr. Alford, I have some charts regarding the study that you have done or your organization that shows the job losses, and I am just wondering what the criteria were generally to determine that in 2015 you would have a million and a half jobs lost and by 2030 it would be pushing 2,500,000 jobs lost just due to this rule. Because we heard from Administrator Jackson that it is going to be actually a job creator, but you are showing job losses. How do we jibe those two?

Mr. ALFORD. Well, we spent some good money on that study from Charles River Associates. That is a very reputable firm based here in Washington, D.C., and that was done early 2009. We have shown it to the world, and we have not had one person or entity challenge those studies that are in that study, the charts.

Mr. TERRY. So you are standing behind your study?

Mr. ALFORD. Absolutely.

Mr. TERRY. All right. Thank you very much.

Mr. WHITFIELD. Thank you, Mr. Terry.

At this time I recognize Mr. Scalise for 5 minutes.

Mr. SCALISE. Thank you, Mr. Chairman.

Mr. Rowlan, I first want to thank you for the commitment you made to create jobs in America but specifically in southeast Louisiana, and we really appreciate the presence of Nucor. I think you were here when I had a conversation with Ms. Jackson about her report, that she stated that these regulations will create jobs, and I think she tried to use Nucor as a poster child for how these new regulations will actually grow the economy and yet I know in your testimony, you talked about the opposite, and believe me, yours is not an isolated example. I hear this day in, day out of companies that talk about the burdens of EPA and how it runs more jobs out of the country, and I know in your testimony you talked about the

larger presence of American jobs that would have been created here if not for the threat of EPA. So I wanted to first thank you, of course, but also give you an opportunity to talk about that specifically in her comments of using you all as the poster child for how this is working so well yet it seems to contradict what is actually happening in reality.

Mr. ROWLAN. Well, are you speaking of our Nucor Louisiana project, and yes, we had originally planned to build, I think it was the first two blast furnace operation permitted under the Clean Air Act along with coke ovens and cinder plants and produce 6 million tons of pig iron. We now have reduced that project and that is moved off to phase 2 if we do get the final permit on that.

Mr. SCALISE. So you are still waiting on a permit from EPA?

Mr. ROWLAN. That permit has been issued but it is stayed until the litigation over it is completed. There are a couple of lawsuits going on right now against Louisiana Department of Environmental Quality. The replacement project was a direct reduced iron project, and so that people can understand, if you say we were going to build pickups at the original facility, what we ended up making are, I don't know, bicycles or something like that. This is a different product. It is still iron but it is a different product, and it is significantly different in the overall employment impact. I think we had—

Mr. SCALISE. Can you touch on that? What would the jobs have been versus what they will be here in America?

Mr. ROWLAN. I believe the original was around 1,000 jobs when the full project was in, and we are around 150 jobs right now. I think that is right. And then there was about 2,000 construction jobs originally and we are at about 500 construction jobs right now, around 2.1 billion and we are around 750 million right now.

Mr. SCALISE. So you are talking about well over a billion and a half dollars roughly that was lost in investment, 1.25 billion maybe that was lost in investment—

Mr. ROWLAN [continuing]. Not moving forward with it at this point. It is still in phase 2. We would hope to be able to do that at some point.

Mr. SCALISE. What is the average pay for those jobs, the thousand you were originally anticipating versus the 150 now? What is the average pay of those jobs?

Mr. ROWLAN. Our publicized average pay at a Nucor facility is \$70,000 a year.

Mr. SCALISE. Gee, whiz. Well, these are great jobs, and unfortunately, a lot less of them right now because of the regulations. Again, I have heard the story time and time again and EPA will come out and say the regulations are creating jobs. Maybe what they are not realizing is, it is jobs in China and India that they are creating, not here in America. So I appreciate what you are doing. I share your frustration, and we are going to continue to work through and get real clarity so that businesses can go forward.

Mr. Cousins, there was some comment earlier by another member talking about how the Energy Tax Prevention Act would somehow lead to increased dependence on Middle Eastern oil. Of course, this Administration's policies have led to an increased dependence

on Middle Eastern oil and higher gas prices. The bill, in my opinion, would actually at least give some sustainability and hopefully we can then get to a point where we reduce our dependence, but do you see anything in the legislation that would increase this country's dependence on Middle Eastern oil?

Mr. COUSINS. No, not at all. I think acts already carried on by Congress and by the EPA, CAFE standards increase have cut fuel use quite a bit. Renewable fuel standard is putting 36 billion gallons of non-gasoline into the gasoline and diesel supply through the next few decades. I think everything is tending toward a reduction.

Mr. SCALISE. And in fact, when Administrator Jackson agreed with that comment, I thought it undermined the credibility to say that a bill that prevents EPA from shutting jobs out of America, running more refineries to India and other places, for her to suggest that that increase our dependence on foreign oil when actually it is EPA's actions that increase the dependence.

And the final question, can you talk in terms of the jobs that you haven't been able to create, the expansion that you haven't been able to do because of EPA's regulations?

Mr. COUSINS. Well, as I said earlier, we were partway through a multi-hundred million dollar expansion in a small town. There were about 14,000 man-weeks, which would be one person working for 14,000 weeks on the job to complete the construction, or 2,000 people working for 2 months. We just had to stop, and those people were terminated, and that is a big hit in a county where we lost 2,000 jobs out of 40,000 workers in a poultry operation that shut down.

Mr. SCALISE. Well, hopefully we can pass this legislation and save those jobs. I appreciate your testimony. I yield back.

Mr. WHITFIELD. Thank you.

Mr. OLSON of Texas for 5 minutes.

Mr. OLSON. Thank you, Mr. Chairman, and I can assure the witnesses and all the people here watching this hearing that I am the last Texan that is going to speak today, and we are Texans, we are very proud and please bear with us.

But I would like to speak to General Abbott, and first of all, sir, I would like to thank you for what you have done for our State to create an environment that we do have some stability, some predictability, some certainty, and I greatly appreciate that.

One of the things all of us when we go back home, one of the biggest concerns our constituents have is jobs, jobs, jobs, and as my colleague Gene Green said, our State has had the good fortune of creating half the private sector jobs since our economy went into a recession, half the ones here in America. My colleagues Joe Barton and Mike Burgess have told us about the success of the flexible permitting system. Our air is demonstrably cleaner. There is no doubt about that. We have the facts. And I know personally because I moved to Houston in 1972, and our general grew up in Houston as well and it wasn't such a clean town. I mean, you could not see downtown from 20 miles out when I came out of Clear Lake and headed towards downtown. Now that is the exception maybe one or two days during the summer that that exists. Most every day you can see downtown, so that is just demonstrably cleaner from my own personal experience. Our process has worked. You

would think we would be a role model for the country, here is how we can get through this, here is how we can have a cleaner environment and a good environment for business and be clean. But it concerns me that what is doing with this excessive regulation, how that is coming into our economy in Texas.

Attorney General Abbott, do you see a tipping point here? I mean, if they keep going forward down this line with all this, the flexible permitting, some of the hydraulic fracturing issues, some of the other issues, the ozone standards, do you see a turning point here where the environment that the Federal Government creates starts killing jobs in our State?

Mr. ABBOTT. Well, a couple things. If I could pick up on one of your earlier comments, first of all, to help people understand, people see Texas challenging the EPA both regulatorily and with lawsuits, but I want to emphasize a point that you made, and that is that Texas takes pride in trying to achieve the best. That includes achieving the best possible environment and health environment for our citizens, and as a result, that is one reason why we have worked so hard and achieved so much in improving air quality in your district and across the State of Texas, and we stand committed to continuing to achieve improvements in air quality and the environment, but that doesn't mean that we are going to stand aside or roll over if we believe that the EPA is imposing its will in a way that is contrary to the law.

You mentioned a tipping point, and there is another phrase you could also use in tandem, and that is a slippery slope. We are very concerned about the slippery slope. I think it was Representative Terry who brought up earlier in the context of the tailoring rule, and we are very concerned about what the tailoring rule could turn into once it starts moving on a slippery slope where it gives latitude to the EPA to decide what the standards may be. It could shift from today to 5 years from now to 10 years from now and it could very well bring in Nucor and some other industries within the gambit of what they are able to emit.

But I think we are at a tipping point also because if these greenhouse gas regulations by the EPA go into place or upheld, we are a tipping point in two ways. One, it means that the EPA does have carte blanche to make up its own rules as they go along and that they are saying they are not confined by the terms of the Clean Air Act that was passed by the United States Congress. But also we are at a tipping point in the sense of what it is going to mean for our jobs, our economy and the future of this country when we have out-of-control regulations that are crushing the attempt to expand our economy at a time that we most desperately need it to grow.

Mr. OLSON. Thank you for that answer, Mr. Attorney General. You are a great public servant.

I have about run out of time. Thank you to all the witnesses. I appreciate your views and perspectives.

Mr. WHITFIELD. Mr. McKinley, you are recognized for 5 minutes.

Mr. MCKINLEY. Thank you. I am coming from the perspective of the coal fields of West Virginia and what the EPA has done in the coal fields, the uncertainty that is coming to them from water, fly ash, dust, revoking retroactively permits. Then I see the next fight looming on the horizon is not going over into another segment with

the EPA and the uncertainties that they bring with their regulatory extremism. We have all heard in West Virginia job killers, the extreme, irrational lack of common sense. It is bad enough for us in the coal fields. What happens when it sweeps across America controlling the greenhouse gases? So you all have—understand, there are still 15 million people unemployed and until the uncertainty is removed, I have got to think you are reluctant to take on more responsibility. So we are going to continue having 15 million people unemployed in America. That is not where I want us to be as a country.

So now, having framed that, you have all been listening for hours here of testimony today. I am just curious, are any of you more confident in what you have heard from either the other side or here that things are going to be okay, allow the EPA to continue down this path of regulating the greenhouse gases? Can each of you just, are you more comfortable now after you have heard 2 hours?

Mr. ABBOTT. Let me say that I grew more comfortable when I saw this bill, this Act being proposed by this subcommittee. The concern that we had in Texas was the imposition of the greenhouse gas regulations. We perceive that the most meaningful way, the most meaningful pathway in order to protect the future was not by our litigation fights in the courthouse against the EPA but by action by this body. The promise of the future rests with regard to this potential legislation, and we hope that it passes because we believe it will provide certainty and clarity for the environment regulation side of the world.

Mr. MCKINLEY. Thank you. Mr. Alford?

Mr. ALFORD. I have optimism in that Carol Brown has left the Administration, which I believe was pulling or pushing Ms. Jackson, who is a fine lady and a fine American, but the cap-and-trade bill died. The American people rejected it. It is gone. You can't have it. So you can't go around through chicanery or deception or end around or making the EPA a runaway freight train to make it happen, and we have got to stand tall and be resolved to fight it again.

Mr. ROWLAN. I can't say that I have more certainty. I think I will watch for the votes. I think my issues always go back to this, and it is whether—I am a technical person and an engineer by training, and when I look at it, I always look at what is the end result that you are trying to achieve, and everything that I have seen with respect to the regulation of greenhouse gases, nothing ever accomplishes the end goal of lowering the global concentration, and so the question I ask is, why do we do it if it not going to accomplish what we state is the end goal? And I have gone on record as saying if we are doing it and we are just doing it to hurt ourselves and we don't accomplish a lowering of the global concentrations, we are on a fool's errand.

Mr. MCKINLEY. Thank you.

Mr. PEARCE. I am encouraged by what this legislation and I am encouraged by the support that we have heard for it today, but I am concerned that if we don't pass this, if it is not legislative, what kind of ticket that does that write for the EPA and other areas? It sets a precedent.

Mr. COUSINS. The Energy Tax Prevention Act gives us a fighting chance. Without it, the future is quite grim.

Mr. CARTER. I am encouraged because we are considering this piece of legislation. That is why I am here today. I would point out that there are things that we can do that could be done if we want to adopt policy that will allow electric utilities to move forward fewer emissions like the things that we are doing—new nuclear plants, which still have a great deal of hurdles in front of them, not from a technology perspective but from a regulatory perspective. I can speak directly to that as being part of that restart.

Also, industry or entities like us, we need to make sure we have the comparable incentives so that we can move into what I would call other green types of resources and clear some of the regulatory hurdles associated with those also.

Ms. BLAISDELL. I think this legislation encourages inaction, and I don't believe that that creates more certainty, and in fact, it could lead to more patchwork of State regulations, which I can't speak to greenhouse gas patchwork of State regulations because that hasn't applied to our company yet other than to say I know from experience with other patchwork of regulations that that is not good for our company. I imagine that wouldn't be good for the companies that are represented here as well.

Mr. WHITFIELD. Mr. Gardner, you are recognized for 5 minutes.

Mr. GARDNER. Thank you, Mr. Chairman, and thank you to the witnesses for being here today, taking time away from work and for participating in this hearing. I really appreciate it.

Mr. Cousins, I have a question for you from your testimony earlier today. During Administrator Jackson's testimony, she said that the economy was doing great, and when I pushed back a little bit on that question, she said just the rural economy is doing great, and you had mentioned that in your county you are facing some significant unemployment. Could you describe that again?

Mr. COUSINS. Well, our county has about 43,000 people in it, and we lost almost 2,000 jobs in one blow when a poultry operation shut down in our area. Our unemployment is double digit, and that is hardly thriving to our way of thinking.

Mr. GARDNER. And is it your view, Mr. Cousins, that regulations like this will hurt rather than help the employment situation in your county?

Mr. COUSINS. Absolutely.

Mr. GARDNER. And a question for Mr. Rowlan or Mr. Pearce. There was some discussion during the Administrator's testimony that these regulations are actually creating jobs, that the more we have regulations, the more jobs are created, and she also mentioned, and I think it was \$2 trillion in money that is sitting out waiting to be invested and she believe that because of this regulation that that money would start moving back into the economy and being invested. Are any of you planning on investing because of this regulation? Ms. Blaisdell?

Ms. BLAISDELL. The cost of inaction for us means that our supply chain will suffer and our ability to deliver products to our consumers will suffer as well.

Mr. GARDNER. Mr. Carter or Mr. Alford, anybody else want to comment on that?

Mr. ALFORD. Some of my stronger members are going to Ghana, Kenya, China. I have got a board member going to Mongolia next month. They are looking elsewhere, and I think that is sad.

Mr. GARDNER. And a question, do you believe that regulations create jobs?

Mr. ALFORD. Regulations, I believe, are intended to prevent crime and fraud and adherence to good corporate responsibility. That is it.

Mr. GARDNER. I thank you. And I wanted to ask a few more questions based on some statements that were made here in the committee, following up on that last question. The EPA analysis mentioned by some on this committee had said that just one of EPA's Clean Air Act standards has kept about 200,000 people occupied, 200,000 person-years of labor over the past 7 years, and in your opinion, doesn't this mean that this means the EPA is keeping people employed? I mean, what would you say to somebody who actually is trying to bring capital investment into this country, given the regulatory structure that we are facing today? Mr. Abbott or Mr. Alford?

Mr. ABBOTT. Along that line, it is good for jobs in the legal sector. We will need more lawyers to handle more legal work. But other than that, of course, with the way that greenhouse gases work and if we have regulations here in the United States and there are not similar regulations around the world, logically it seems like it is going to force industry, jobs, employers across the border into Mexico or Canada or to China and India and other parts of the world.

Mr. GARDNER. Thank you, Mr. Chairman. I yield back my time.

Ms. BLAISDELL. Can I respond as well?

Mr. WHITFIELD. Sure.

Ms. BLAISDELL. I think without a lack of certainty, what ends up happening is what we are seeing right now in China where they are actually producing renewable energy systems because we didn't create any certainty here, a long-term demand for those alternative energy sources. We haven't talked about those jobs today. That could have been U.S. jobs.

Mr. WHITFIELD. Mr. Griffith, you are recognized for 5 minutes.

Mr. GRIFFITH. I think Mr. Rowlan wanted to add something to that comment, I will ask you to say whatever it is you were thinking.

Mr. ROWLAN. As you know in my testimony I said that affordable energy is the lifeblood of industry, and renewable energy has to be affordable. If it isn't affordable, then all it does is displace a job because the price of your energy goes up as we talked about, and I was privy to some research that should be coming out shortly that in the last couple of years there has been 333 projects, energy generation projects that have been stalled, shut down, or otherwise abandoned in this country, 111 coal-fired power plants, 22 nuclear plants, 21 transmission projects, 38 gas and platform projects and 140 renewable projects that haven't even gotten through. Eighty-nine of those were wind, four were wave, 10 were solar, seven were hydro and 29 were biomass. Now, if you sit and we said we got all that energy and let us just take the affordable part of it and not the renewable unaffordable part of it, if we got that energy, look at the jobs that would begin to create because that energy goes out

and that creates industry which builds things, which makes jobs and that just continues to roll forward.

But the sad part of this is, 45 percent of those 333 projects are renewable projects and we can't even get them permitted without the greenhouse gas rules. Now, let us add another brick onto that burden and let us see if that mule can walk.

Mr. GRIFFITH. Thank you.

General Abbott, I am a lawyer or a recovering lawyer. Now that I am doing this, I can't practice anymore. But I have read the Massachusetts v. EPA decision, and you obviously have too, and I looked at that next-to-last sentence where it says "We hold only that the EPA must ground its reasons for action or inaction in the statute." Now, earlier today when I was speaking with Ms. Jackson, she indicated that the reason that they had changed instead of it being 100 of 250 to 100,000 in their tailoring was because if they had enforced the law as written, it would be absurd, and I agreed with her on that. But I guess my question to you is, is that she said that they felt that because it was going to be an absurd result, that they had the authority to change the rule, so to speak, and I went to law school, I never got that class, and I am just wondering if I missed something over the years or maybe you knew, is there authority for a bureaucracy to change the law because they end result would be absurd or is that the duty of the legislative branch of government?

Mr. ABBOTT. As I understand it, their legal argument is based upon what would be called the absurdity doctrine. As understand it, the absurdity doctrine is not a valid legal doctrine for them to base their decision on and it is more like a hope and a prayer that they can get away with changing the clear language established by Congress in the Clean Air Act. This is a way in which there is an evasion of the law and a creation of new law by the EPA.

Mr. GRIFFITH. And in that vein, am I not correct that once she made the determination that there was an endangerment, she needed to apply the rules to all 6 million businesses that would come under the 100 or 250 regulation and that by not doing so if someone were to sue, all 6 million in that universe would come under the law and that that would create chaos, I mean, not just damage the economy but create sheer chaos in the economy, and isn't it then better that we pass this legislation so that we can then have that argument in the halls of Congress instead of having the fear that at some point in the future a court is going to rule that you have to apply it to all—whatever rules they come up with apply to all 6 million in the universe and that 6 million is of course her number.

Mr. ABBOTT. Right. You are absolutely correct. Our great concern is that the tailoring rule is going to be challenged, not just from our side but also from those who really want to decrease those thresholds, thereby making schools, farms, hospitals, small businesses, literally thousands upon thousands of job creators and employers across the country suddenly subject to these limitations, almost stifling overnight our economy.

Mr. GRIFFITH. And the solution would be passage of this bill?

Mr. ABBOTT. The solution has to be the passage of this bill.

Mr. GRIFFITH. I thank the gentleman and yield back whatever time I have left.

Mr. WHITFIELD. Mr. Griffith, thank you very much, and I want to thank the panel. We genuinely appreciate your taking time to come and talk to us about practical issues as we try to balance environment protections, health care and economic development, and your testimony on job creation was very important and we appreciate it, and so I will dismiss this panel. Ms. Blaisdell, I asked them to get these newspaper articles that Mr. Shimkus referred to, if you all would like to see them.

We will call up the fourth panel, and on the fourth panel we have Peter Glaser, a partner with Troutman Sanders; Dr. Margo Thorning, Senior VP and Chief Economist, American Council for Capital Formation; Mr. Philip Nelson, President of the Illinois Farm Bureau; Mr. Fred Harnack, General Manager, U.S. Steel Corporation; Mr. James Goldstene, Executive Officer, California Air Resources Board; and Dr. Lynn Goldman, American Public Health Association. I want to thank you all very much for being with us. We appreciate your patience. We are going to declare you honorary members of the Energy and Commerce Committee because you have been here so long. And then at this time Mr. Glaser, I will call upon you for your 5-minute opening statement, and then we will get to questions after that. Mr. Glaser, thank you for being here.

STATEMENTS OF PETER S. GLASER, PRESIDENT, TROUTMAN SANDERS LLP; DR. MARGO THORNING, SENIOR VICE PRESIDENT AND CHIEF ECONOMIST, AMERICAN COUNCIL FOR CAPITAL INVESTMENT; PHILIP NELSON, PRESIDENT, ILLINOIS FARM BUREAU; FRED T. HARNACK, GENERAL MANAGER, ENVIRONMENTAL AFFAIRS, U.S. STEEL CORPORATION; JAMES N. GOLDSTENE, EXECUTIVE OFFICER, CALIFORNIA AIR RESOURCES BOARD; AND DR. LYNN R. GOLDMAN, AMERICAN PUBLIC HEALTH ASSOCIATION

STATEMENT OF PETER S. GLASER

Mr. GLASER. Thank you very much, Mr. Chairman. Members of the committee, I appreciate the opportunity to testify here today. My written testimony, which is very detailed, provides an analysis from a legal standpoint of why the Clean Air Act is such a poor vehicle for addressing greenhouse gas emissions, and I will just summarize some of my points there.

I want to emphasize at the outset that I am not representing any of my clients here today. I am not being compensated for this testimony, and the views I express here are my own and do not necessarily reflect the views of my clients.

I also want to say at the beginning that my testimony has nothing to do with the science. Whatever you feel about the science either way, if you believe in the science one direction or another, my testimony still works.

The main problem with regulating greenhouse gas emissions under the Clean Air Act, even if you think that greenhouse gases is something that the country needs to regulate, is that the statute was not designed for that purpose, and as a result, EPA's regu-

latory aims do not comfortably fit within the programs that are in the Clean Air Act. We know this because EPA itself has said that regulating greenhouse gases under the literal language of the statute, as we have heard many times today, creates an absurd result. If you use the statute, you get an absurd result, and the only way to avoid this is for EPA to tailor the statute itself. You have to change the statute.

Just putting aside legal arguments about whether or not EPA could do that, the problem is that EPA has been forced to engage in this kind of creative legal interpretation in this area and in several other areas that are set forth in my testimony, and all of this shows is that EPA is trying to make the statute do something that it was not designed to do. And so what you get from this are lawsuits and you get regulatory uncertainty, and in the end what might happen if EPA is wrong is that you end up unleashing regulation on a very, very large number and variety of small emitters.

Indeed, we may be facing more absurd consequences of trying to regulate under this statute. As EPA confronts a petition to regulate greenhouse gases under the National Ambient Air Quality Standards. I actually thought the single most disturbing thing that I heard today having sat here all day was the Administrator's statement that in fact they may get forced into establishing a greenhouse gas National Ambient Air Quality Standard. Unfortunately, the only legal precedent on the books on this would seem to be point to a necessity that they do that. This is set forth in more detail in my testimony. That would create truly severe economic consequences under a program that could never be complied with. That is very concerning.

Now, importantly, and there has been some discussion of this today, EPA has not done an overall comprehensive assessment of the cumulative costs and benefits of all of the greenhouse gas regulation that it has in mind nor has EPA set forth its overall plan of regulation where it lists out in advance for everybody to see what the requirements will be, what categories of sources that they intend to regulate, what programs they intend to regulate under and what the full regulatory timetable is. We heard the Administrator say today that they are taking this on a rule-by-rule basis but that they can't anticipate what all the rules will be because they don't know what all the rules will be. We heard her say that they got petitions, multiple petitions to regulate different sources. They don't know how they are going to act on that. We heard her say that they are going to be doing cost-benefit analysis but only in the context when they get to actual rules.

Now, all this is despite the fact that they have a 5-year plan. EPA has a 5-year strategic plan, and goal number one of the 5-year strategic plan is taking action on climate change and air quality. So presumably they have a plan but they have not told us in advance what the specific elements of the plan are. As a result of all of this, we are in the process, we have started down this path of one regulation after another, but before we decided to do that in the first place, we never assessed what the overall cost and consequences and benefits were going to be, and this to be should be very concerning because it contributes to the large uncertainty of where exactly the Nation is going.

You know, one flaw with proceeding on a rule-by-rule basis and trying to determine what the costs and benefits of regulation are can be seen in their first foray into greenhouse gas regulation. Their first foray, of course, was the motor vehicle, the tailpipe rule. In the tailpipe rule, they assessed the costs of the tailpipe rule on the motor vehicle industry. They also said that the tailpipe rule automatically and as a matter of law triggers greenhouse gas regulation of large, stationary sources. But there was no study as to what those regulations were going to be and what the cost was going to be. So as we have started out as of January 2nd in regulation greenhouse gases under these programs, we still have no overall assessment of whether the benefit will exceed the cost.

Mr. WHITFIELD. If you would summarize, Mr. Glaser?

Mr. GLASER. Sure. I think the overall question for this committee is what part of government should make the critical policy choices that are inherent in determining how the Nation uses energy. To me, this is the main issue before this committee. Should it be EPA under a statute that they are relying on that was enacted in 1970 or should it be Congress? Thank you.

[The prepared statement of Mr. Glaser follows.]

**Testimony of Peter Glaser
Partner, Troutman Sanders LLP**

**Before the Subcommittee on Energy and Power
of the House Energy and Commerce Committee**

Hearing on “H.R. ____, The Energy Tax Prevention Act of 2011”

February 9, 2011

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Summary of Testimony of Peter Glaser

The purpose of my testimony is to present a legal perspective on the issue of regulation by the Environmental Protection Agency (EPA) of greenhouse gases (GHGs) under the Clean Air Act (CAA). In my opinion, the CAA is a poor vehicle for regulating GHGs and may result in high costs for little environmental benefit.

The main problem with regulating GHG emissions under the CAA is that the statute was not designed for that purpose and, as a result, EPA's regulatory aims for GHGs do not comfortably fit within the programs set forth in the CAA. This is demonstrated by the "creative" ways in which EPA has gone about implementing GHG regulation, including, in EPA's phrase, "tailoring" numerical regulatory thresholds set forth in the statute.

Moreover, evidently relying on its view of what the statute does and doesn't require, EPA has not done an overall comprehensive assessment of the cumulative costs and benefits of all of the GHG regulation it has in mind. Thus, the nation is proceeding with GHG regulation under the CAA – and indeed EPA's five-year strategic plan identifies taking action on climate change and air quality as its number one goal – without any assessment of whether the benefits of regulation exceed the costs.

In finding that GHGs fit within the "capacious" definition of the CAA term "air pollutant," the Supreme Court relied on a provision that was included in the 1970 version of the CAA long before concern developed as to the effect of GHG emissions on climate change. Congress has thus never intentionally authorized EPA to regulate GHGs under the CAA. With EPA proceeding with GHG regulation, Congress must now decide whether such regulation represents wise public policy.

My name is Peter Glaser. I am a partner and Chair of the Climate Change practice team at the law firm of Troutman Sanders LLP. My testimony addresses why the Clean Air Act (CAA) is such a poor vehicle for addressing greenhouse gas (GHG) emissions. My purpose today is to provide the Committee with a legal perspective on GHG regulation under the CAA. My recommendation is that Congress should amend the CAA so that Environmental Protection Agency (EPA) is not authorized to regulate GHGs for climate change purposes. Concerns about GHG emissions and climate change should be addressed through a different path.¹

Let me emphasize at the outset that I am not representing any of my clients in my testimony and I am not being compensated by any of them for this testimony. The views I express here are my own and do not necessarily reflect those of the clients I work with.

I. Introduction

As the Committee knows, EPA began regulating GHGs in 2010. EPA has taken the position that its regulation flows from the Supreme Court decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), a case that began with a petition to EPA to regulate GHG emissions from new motor vehicles. *Massachusetts* found that GHGs are within what the Court termed the CAA's "capacious" definition of "air pollutant" as any substance or matter emitted to the air.²

According to the Court, however, the fact that GHGs are "air pollutants" does not require EPA to regulate GHG emissions. The Court said that CAA air pollutants may only be regulated if EPA makes an "endangerment finding" – a finding (in the specific context of the *Massachusetts* case) that GHGs emitted by new motor vehicles "cause, or

¹ I do not, however, object to preservation of the regulatory authority set forth in the draft bill.

² 549 U.S. at 532.

contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” The Court remanded the case to EPA to do one of three things: find endangerment, find no endangerment, or determine that EPA is justified in making neither finding based on factors set forth in the CAA.

Following the remand, EPA issued its endangerment finding³ and promulgated regulations limiting GHG emissions from new motor vehicles.⁴ The Agency also took the position that its regulation of GHG emissions from motor vehicles, automatically and as a matter of law, made GHGs “subject to regulation” under the Prevention of Significant Deterioration (PSD) preconstruction permit program and the Title V operating permit program. As a result, according to EPA, new and modified *stationary* facilities that potentially emit GHGs above a certain amount are required to obtain these permits and become subject to GHG control requirements. EPA adopted two further rules, known as the PSD Interpretive Rule⁵ and the Tailoring Rule,⁶ discussed in more detail below, under which this stationary source regulation commenced as of January 2, 2011.

EPA has additional GHG regulation in the works. It has proposed GHG regulations for medium and heavy-duty vehicles.⁷ It is examining more GHG regulations for light-duty vehicles commencing in model year 2017. It recently asked for comment on settlement agreements under which it will promulgate New Source Performance

³ *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule*, 74 Fed. Reg. 66496 (Dec. 15, 2009).

⁴ *Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards*, 75 Fed. Reg. 25,324 (May 7, 2010).

⁵ *Prevention of Significant Deterioration (PSD): Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by the Federal PSD Permit Program*, 74 Fed. Reg. 51,535, 51,545-46 (Oct. 7, 2009).

⁶ *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, 74 Fed. Reg. 55,292, 55,344/2 (Oct. 27, 2009).

⁷ *Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles*, 75 Fed. Reg. 74152 (Nov. 30, 2010).

Standards (NSPS) for GHG emissions from petroleum refineries and fossil fuel powerplants, and signaled that it intends to promulgate GHG NSPS for other categories of facilities.⁸ And it has pending before it and is considering petitions to regulate a large variety of mobile and stationary facilities.

EPA's first round of regulation – the endangerment finding, its light-duty vehicle rule, the PSD Interpretive Rule, and the Tailoring Rule – are all now on appeal before the D.C. Circuit.⁹ The Court will determine, among other issues, whether EPA was legally required to regulate GHG emissions and, if so, whether it was legally required to do so for stationary as opposed to mobile sources. However, in the nature of lawsuits, final disposition of the case, including ultimately a Supreme Court decision, may not occur for several years.

That leaves it in Congress' hands to determine whether EPA should continue on its GHG regulatory path or whether Congress should decide on some different approach. Regardless of whether EPA is correct in its interpretation of its legal obligations, plainly the Agency believes it has a mandate from Congress to proceed with the GHG regulations it has adopted and plans to adopt. If Congress does not believe that it has given EPA that mandate, or if Congress does not believe that regulating GHGs is a wise course of action, now is the time for Congress to do something about it before the regulatory program becomes too advanced. My own view, as discussed below, is that Congress should adopt legislation prohibiting EPA from regulating GHGs under the CAA because regulating GHGs under that statute is likely to do more harm than good.

⁸ *Notice of Proposed Settlement Agreement; Request for Public Comment*, 75 Fed. Reg. 82390 (Dec. 30, 2010), *Proposed Settlement Agreement, Clean Air Act Citizen Suit*, 75 Fed. Reg. 82392 (Dec. 30, 2010).

⁹ *Coalition for Responsible Regulation v. EPA*, No. 09-1322 (D.C. Cir.), *Coalition for Responsible Regulation v. EPA*, No. 10-1073 (D.C. Cir.), *Coalition for Responsible Regulation v. EPA*, No. 10-1092 (D.C. Cir.).

II. The CAA Was Not Designed to Regulate GHG Emissions

GHGs are not like other emissions that the CAA was designed to regulate. The CAA was designed to regulate emissions that have a local or regional impact within the United States. Because of this local or regional impact, the controls required by the CAA can eliminate, and indeed in most circumstances are required to eliminate, that impact.

A. CAA Programs

The National Ambient Air Quality Standards (NAAQS) program, which has been referred to as the “cornerstone” of the CAA, authorizes EPA to define safe levels in the air of the most ubiquitous air emissions and establishes a process of designating areas of the country as being either in attainment or nonattainment of those levels. The level of air quality necessary to protect public health and welfare is termed the NAAQS. States are then required to prepare state implementation plans (SIPs) in order to attain those NAAQS.

Many CAA programs are designed around the goal of bringing the entire country into attainment with the NAAQS and making sure areas of the country that have better air quality than the NAAQS do not experience a significant deterioration of that air quality. Thus, the New Source Review (NSR) permitting program requires preconstruction permits for sources that potentially emit air pollutants above certain statutorily defined thresholds. Oversimplifying somewhat, new and modified facilities located in attainment areas must obtain PSD permits requiring them to undertake Best Available Control Technology (BACT) for the relevant pollutants. New and modified facilities located in nonattainment areas are required to obtain NSR nonattainment permits requiring them,

among other things, to install controls that will achieve the more stringent Lowest Achievable Emission Rate (LAER) standard.

Similarly, the NSPS program under section 111 of the CAA was largely designed as a tool for implementing the NAAQS program or to otherwise eliminate local or regional air pollution. Under the program, the Administrator establishes a list of categories of facilities that “in his judgment...cause[], or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.” The Administrator then establishes NSPS that, based on a number of factors, represent the “best demonstrated technology” for reducing such pollution. Like the NSR permit program, these standards apply to new and modified facilities. In certain situations, as I will discuss, the NSPS program can also apply to existing facilities whether or not they modify.

The NSPS program is often said to work in tandem with the PSD program in establishing a “floor” for what type of controls a facility seeking a permit must install. BACT or LAER must at least be as strict as the NSPS. However, if at the time the developer submits its permit application, technology has moved forward since the NSPS was established, then the developer may be required as BACT or LAER to meet a more stringent standard.

Certain CAA programs do not apply to NAAQS pollutants but are limited to other forms of pollution that are emitted by fewer sources. Yet these programs also are aimed at local or regional air pollution. For instance, the Hazardous Air Pollutants (HAPs) program requires the Administrator to make a list categories of sources that emit especially dangerous air pollutants and then promulgate very stringent Maximum

Achievable Control Technology (MACT) standards that new, modified and existing facilities must meet.

B. GHGs Are Different

GHGs, however, are not like any of the pollutants that EPA has previously regulated under these and other CAA programs. GHGs mix in the global atmosphere so that atmospheric concentrations globally are uniform. As a result, a ton of carbon dioxide (CO₂) emitted in Washington, D.C., has the same effect on atmospheric CO₂ concentrations as a ton emitted in Beijing.

Because of the unique nature of GHGs, none of the CAA programs are capable of materially affecting atmospheric GHG concentrations or the danger to public health and welfare that EPA is concerned results from GHG emissions. GHG are emitted by a very large number of sources worldwide, and the United States is no longer the leading global emitter. Over time, as the developing world continues to develop, U.S. share of global emissions will diminish. Keep in mind that, notwithstanding the pace of global development, approximately three billion people still lack access to reliable supplies of electricity. Given the phenomenal pace of development in what used to be referred to as the Third World, coal has become by far the fastest growing global fuel. Try as we might, we cannot use the CAA to significantly reduce global atmospheric GHG concentrations.¹⁰

¹⁰ The only real instance where the CAA has been used to address a global atmospheric issue like GHGs is stratospheric ozone stemming from concern about thinning of the stratospheric ozone layer. But for stratospheric ozone, the country did not try to address the problem as EPA is doing here, by trying to utilize poorly fitting existing CAA programs. Instead, Congress itself legislated a program as a part of implementation of the Montreal Protocol, an international treaty, and added that program as Title VI of the CAA.

EPA's first GHG regulation is a case in point. Last year, EPA promulgated GHG standards for light-duty motor vehicles for model years 2012-16. By EPA's own analysis, those standards will, by 2100, reduce global temperature by 0.006 to 0.015 [degrees] C and sea level rise by 0.06 – 0.14 cm by 2100.¹¹

It is, of course, true that the Supreme Court found that GHGs fit the broad definition of "air pollutant" under the CAA. But that does not mean that regulating GHGs represents wise public policy. The definition of "air pollutant" on which the Supreme Court relied was a part of the 1970 version of the CAA, which was adopted before concern developed as to the potential climatological effects of global atmospheric GHG concentrations. Whether or not GHGs technically fit the CAA definition of "air pollutant," the fact is that the statute was not designed with GHGs in mind and that GHGs do not comfortably fit within the CAA's framework.

III. EPA as the Regulator of Everything?

GHGs, and particularly carbon dioxide, are unlike other substances regulated under the CAA in another equally important sense. Carbon dioxide is the inevitable byproduct of combusting fossil fuel (oxidizing carbon) for energy. Eighty-five percent of the nation's energy is produced from fossil fuel. About 50 percent of the nation's electricity comes from coal.

Given the central role of fossil fuel energy in the nation's life, EPA authority to impose GHG regulation means that EPA has authority over the American economy in a way that no other environmental statute gives it. This is reflected in the petitions pending before EPA to regulate GHG emissions from so many types of sources. But the issue is

¹¹Regulatory Impact Analysis, Final Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, at 7-124.

broader than that because virtually every business and every household uses electricity and is therefore indirectly responsible for the production of CO2 emissions. To produce fewer CO2 emissions, we must utilize less fossil fuel energy and that will have a direct and potentially serious impact on most Americans. There are obviously reasons why the nation chooses to use fossil fuels, and if regulation forces a lesser use of fossil fuels, there will obviously be consequences.

I make this point not because I intend to debate here the wisdom of using more or less fossil fuel. My point, however, is to pose the question as to what part of government is best suited to make the decision as to the types of energy we should use. And my own view is that given the almost accidental way in which the nation has backed into EPA regulation of GHGs – where after decades of congressional debate and international negotiations we have ended up with EPA regulation as a result of a court decision construing a statute enacted before GHGs became a concern and ill-suited to the issue – EPA is not the right vehicle. Only a governmental institution with oversight over the entire economy, including but not limited to the environment, should make the economy-wide decisions that are necessary in controlling GHGs. That institution is Congress.

A case in point in this regard is the electric utility industry. EPA has said that it intends to utilize all of its regulatory authority over the utility industry, both as to GHGs and non-GHGs, to “transform” that industry.¹² Maybe the utility industry needs transforming, maybe it doesn’t. But given that electricity is the life’s blood of modern life, and that anything that interferes with a reliable supply of electricity could have grave

¹² Remarks of Gina McCarthy, EPA Assistant Administrator for Air and Radiation, at EUCI Conference in Phoenix, Arizona, January 31, 2011. See also *Federal Implementation Plans To Reduce Interstate Transport of Fine Particulate Matter and Ozone*, 75 Fed. Reg. 45210, 45227 (Aug. 2, 2010) (EPA seeking through a variety of rulemakings to “creat[e] a clean, efficient, and completely modern power sector.”)

consequences, the question is whether EPA is the right body to determine whether or not the utility industry should be transformed. Again, I would suggest that the right body to make that decision is Congress.

IV. No Weighing of Costs and Benefits

As EPA embarks on CAA regulation under the CAA, it is curious that the Agency has not undertaken a study of the overall costs and benefits of that regulation. Since EPA regulation of GHGs is one of the most momentous and controversial decisions the Agency has made in its forty-year history, it would be supposed that the Agency would not embark on this regulatory course without having first thoroughly weighed the costs and consequences of regulation and exposed its conclusions to public scrutiny. It has not. Thus, as the nation proceeds further and further down the path of EPA GHG regulation, no overall analysis has been done as to whether such regulation represents wise public policy.

EPA GHG regulation, of course, did not spring to life on its own. It was a conscious decision the Agency made. EPA may have felt that, following the *Massachusetts* decision and given EPA's view of climate science, it was bound to make an endangerment finding and regulate. But the Court in *Massachusetts* explicitly stated that EPA had had "significant latitude as to the manner, timing, [and]content" of any GHG regulation it might undertake.¹³ EPA thus had time, as a matter of good government, to fully assess the costs and benefits of the regulation it was about to enter into.

Keep in mind that the GHG regulation that EPA has undertaken so far is only the first step in an increasing series of planned regulations. In keeping with the Agency's

¹³ 549 U.S. at 533.

view that climate change represents one of the most serious threats facing mankind, EPA's recently adopted FY 2011-2015 Strategic Plan listed as its first goal "Taking Action on Climate Change and Improving Air Quality." According to EPA, the purpose of adopting strategic plan goals is to identify "the measurable environmental and human health outcomes the public can expect over the next five years and describe[] how we intend to achieve those results."¹⁴ Thus, EPA presumably has a five-year plan of GHG regulation, and it has identified or intends to identify the outcomes of this plan and how those outcomes will be achieved. Nevertheless, it has chosen to proceed with regulation in what appears to be an ad hoc, rule-by-rule basis without any comprehensive assessment of the costs and benefits of the overall plan.

EPA's failure to perform this kind of comprehensive study and to expose the results to public scrutiny before regulation commenced would seem to contradict the President's recent Executive Order 13563. That Executive Order restated and reaffirmed the principles set forth in Executive Order 12866 of September 30, 1993, which was promulgated during the Clinton Administration. Included in these principles is the mandate for EPA to assess the cumulative impact of its regulations rather than to assess each regulation in isolation. Executive Order 13563 explicitly quotes the cumulative impact requirement from Executive Order 12866: "As stated in that Executive Order and to the extent permitted by law, each agency must, among other things... tailor its regulations to impose the least burden on society, consistent with obtaining regulatory objectives, taking into account, among other things, and to the extent practicable, *the costs of cumulative regulations....*" (Emphasis supplied.)

¹⁴ <http://www.epa.gov/planandbudget/>.

No doubt, EPA would say that, where required, the Agency will perform cost-benefit analyses in individual rulemakings. Thus, EPA studied the costs and impacts of motor vehicle regulation on the motor vehicle industry during the Light-Duty Vehicle Rule rulemaking proceeding, and it will undoubtedly study the costs and benefits of regulating GHGs from specific sectors of the economy under the NSPS program when it undertakes individual sector-specific NSPS rulemakings for those sectors. But these individual rulemaking studies do not substitute for the comprehensive study that EPA should have undertaken before taking the first steps in implementing its overall program of GHG regulation.

The detrimental consequences of EPA's decision to limit cost-benefit analysis to individual rulemaking proceedings is shown by EPA's continuing failure to assess the impacts of regulating stationary source GHG emissions under the PSD Title V programs even though this regulatory program began on January 2, 2011. During the rulemaking processes that led to the Endangerment Finding, the Light-Duty Vehicle Rule, the PSD Interpretive Rule and the Tailoring Rule, the Agency was asked to study the effect of these regulations on stationary sources. A large cross-section of business told EPA that since EPA took the position that regulating vehicle GHG emissions under the CAA would automatically trigger PSD and Title V regulation of stationary sources, then EPA should assess the costs and benefits of such stationary source regulation. Although EPA assessed the cost and benefits of regulating GHG emissions from vehicles, it refused to do so for GHG emissions from stationary sources.

EPA had two reasons for refusing to do the study. First, it said that it was not required to do the study because it was not directly regulating stationary source GHG

emissions. Instead, it characterized its actions as (a) regulating motor vehicle emissions and (b) relieving small stationary source GHG-emitters from regulatory burdens that they would have to bear under the PSD and Title V programs absent the Tailoring Rule.

Second, it said that the BACT controls that will be imposed in permitting are unknown at this point and thus EPA has no way of knowing in advance what those requirements will be.¹⁵

Putting aside EPA's position that it was not legally required to assess the costs and benefits of triggering GHG regulation of stationary sources, a position that is being challenged in the current litigation, EPA's response begs the question of why EPA did not think that good public policy demanded that a full and broad study be undertaken before GHG regulation commenced. Although EPA cannot anticipate exactly what form of BACT controls will be required under the PSD program, EPA could establish ranges of possible regulation and perform an assessment on that basis. EPA, moreover, has a good deal of control over how states implement GHG regulation under the PSD program. In any event, the result of EPA's decision not to do a study is that the industrial, manufacturing and electric generation sectors of the U.S. economy are now subject to GHG regulation as a result of decisions EPA made, yet EPA did not assess the costs and benefits of that decision.

In sum, the fact that we have regulated before studying the wisdom of regulation further highlights the weakness of the CAA as a vehicle for regulating GHGs. Undoubtedly, EPA believes it is fulfilling all of its statutory mandates and that no study is legally required. And, for the sake of argument, perhaps EPA will prevail in the pending

¹⁵ Prevention of Significant Deterioration and Title V GHG Tailoring Rule: EPA's Response to Public Comments at 6.3

litigation on this issue. But that does not take away from how surprising it is that the nation would proceed with GHG regulation under the CAA without any demonstration that the benefits exceed the costs. If EPA is right that it can proceed with GHG regulation without first having studied the cumulative cost of all of the regulations it has in mind now and in the future, then that is an additional reason why the CAA is not the right device for addressing GHGs.

V. EPA's Extraordinary Efforts to "Tailor" the PSD and Title V Programs to Fit GHGs

The difficulty of fitting GHG regulation within the structure of CAA programs is shown in EPA's first stationary source regulatory effort. EPA, in its own words, had to "tailor" the CAA to fit the regulation it imposed, and it relied on a series of highly creative legal interpretations to do so. Whether or not EPA's legal theories survive in court, the fact that the Agency had to resort to such creativity further suggests that the statute is a poor vehicle for regulating GHGs.

A. The Tailoring Rule Itself

As noted, EPA takes the view that by regulating GHG emissions from new motor vehicles, GHGs automatically became "subject to regulation" under the PSD preconstruction permit program and the Title V operating permit program. As a result, according to the Agency new and modified facilities that potentially emit GHGs above certain thresholds cannot begin construction without first obtaining a PSD permit setting forth BACT standards for the facility's GHG emissions, and such facilities cannot operate without a Title V permit.

The PSD and Title V programs, however, are unsuited for regulating GHG emissions for a number of reasons, not least of which is that the statutory thresholds for

regulation are far too low. Under the PSD program, a new facility must obtain a permit if it potentially emits above 100 or 250 tons per year (tpy) of a pollutant depending on the type of facility. Additionally, under PSD, a facility that potentially emits above those levels that undertakes a modification that potentially increases emissions of the pollutant by much lower amounts (for GHGs the level is any increase) must obtain a permit. Under the Title V program, a facility must have a permit if it potentially emits more than 100 tpy of a pollutant. These levels are set forth in the statute and are appropriate for traditional types of pollution because those levels represent a meaningful amount of pollution and are emitted by a relatively small number of facilities.

For GHGs, these levels are completely inappropriate, as EPA itself found. According to EPA, more than 6 million buildings or facilities emit at least 100 tpy of GHGs.¹⁶ This is because most buildings in the United States are heated with oil or natural gas and therefore emit CO₂. Thus, applying the PSD and Title V statutory thresholds to GHGs would result in regulation of a very large number and variety of buildings and facilities, including many office and apartment buildings; hotels; enclosed malls; large retail stores and warehouses; colleges, school buildings, hospitals and large assisted living facilities;¹⁷ large houses of worship; product pipelines; food processing facilities; large heated agricultural facilities; indoor sports arenas and other large public assembly buildings; breweries, wineries, and restaurants; a variety of mom and pop stores; and many others.

¹⁶ Tailoring Rule, 75 Fed Reg. at 31536.

¹⁷ States may exempt non-profit health or education institutions from the PSD program. Absent such exemption, even non-profit hospitals, nursing homes, assisted living facilities and school buildings would be subject to PSD regulation.

EPA itself called this potential regulatory result “absurd” and said it would lead to a grid-locking of the permit system as permitting authorities would be swamped with permit applications and permitting would come to a halt for both large and small sources. Without permits, facilities cannot construct or modify, with potentially devastating economic consequences. Moreover, all of this pain would be for very little benefit, as these small sources emit such low levels of GHGs.

As a result of this potentially catastrophic situation, EPA issued a remarkable rule called the Tailoring Rule. Under the Tailoring Rule, EPA essentially replaced the thresholds that Congress itself established with much higher thresholds. Step one of the Tailoring Rule began on January 1, 2011. In this first step, facilities that would be subject to the PSD program because of their non-GHG emissions are required to undertake BACT for their GHG emissions if those facilities potentially increase GHG emissions by at least 75,000 tpy. Step two begins on July 1, 2011. In this second step, new facilities whose GHG emissions potentially exceed 100,000 tpy, and existing facilities that undertake a modification that will increase GHG emissions by at least 75,000 tpy, must obtain a PSD permit setting forth BACT for GHGs.

EPA will initiate a rulemaking this year to be concluded by July 1, 2012 under which EPA will lower the emissions threshold in a step three. EPA says the step three threshold will not be below 50,000 tpy, although EPA says it will do a study of whether there will be a fourth step beginning no earlier than May 1, 2016 where the thresholds will be lowered even more.

There has been a great deal of discussion about whether EPA has legal authority to “tailor” numerical thresholds established by Congress in this fashion, and ultimately

the matter will be decided in court. One interesting facet of the debate is that although EPA's justification for tailoring the thresholds is that it needs time to phase in compliance with the thresholds given the huge number of affected facilities, EPA says it may never implement the statutory thresholds and may stop the phase-in at some higher number. Indeed, by April 30, 2016, more than five years after regulation began, EPA's phase in will only be at 50,000 tpy, which is very far from the statutory 100/250 tpy levels.

At the very least, EPA's attempt to "tailor" the statute to GHGs creates significant legal doubt, and this doubt creates negative consequences in at least two areas. First, if EPA's legal interpretation is wrong, EPA will have created a situation where potentially a very large number of small sources will be subject to immediate permitting requirements. Indeed, risk exists that sources could be found to have violated the CAA by having undertaken construction without having first obtained a permit. In a similar vein, risk exists that where proposed construction of a small GHG-emitting source, for instance a big-box store, has created public controversy, a "NIMBY" lawsuit could be brought to stop the project based on its failure to obtain a PSD permit. The Tailoring Rule would not necessarily prevent a state or federal trial court from enforcing the CAA statutory thresholds.

Second, there is great uncertainty in the regulated community about whether it can rely on the Tailoring Rule. Given EPA's creative interpretation of the statute, this uncertainty is far greater than the typical uncertainty that is created when a regulation is enacted and then challenged in court. Uncertainty is not conducive to the stable regulatory environment that business needs to make new capital investments.

B. State Implementation of the Tailoring Rule

Tailoring the statutory thresholds was not the only legal impediment to regulating GHGs under the PSD and Title V programs for which EPA needed a creative solution. Of equal concern was the fact that most PSD and Title V permits are issued by states. In 43 states, these permit programs are promulgated under both state and federal law. The state authorizes the programs under state law, the program is then submitted to EPA in a SIP, and EPA approves the SIP as being in compliance with federal law.

1. The Two State Law Problems

Regulating GHG emissions under the PSD and Title V programs created two state law problems. First, EPA found that the laws of 13 states did not authorize them to regulate GHG emissions. This means that, despite EPA having decided that GHGs must be regulated under the PSD and Title V programs, these 13 states were barred by their own state law from issuing permits for GHG emissions or issuing permits that required controls on GHG emissions. Given EPA's legal interpretation of the CAA (one that is not shared by many business groups), EPA concluded that states must change their laws to regulate GHG emissions or face a construction ban for facilities that potentially emit above the Tailoring Rule thresholds. In EPA's view, unless these states changed their laws, facilities potentially emitting GHGs above the Tailoring Rule thresholds could not undertake construction without a PSD permit setting forth GHG BACT controls, but the state would not have authority to issue such a permit.

The second state law problem EPA confronted is that those states that could regulate GHG emissions were required by their laws to do so at the CAA 100/250 tpy level. These states, which represented a majority of all states, have laws providing for

regulation of “air pollutants” or pollutants that are “subject to regulation” at the 100/250 tpy level. These states interpreted their laws as automatically providing for regulation of GHGs when EPA made GHGs subject to regulation under the CAA. However, under these state laws, GHGs would be regulated at the same thresholds as other pollutants. As a result, unless these thresholds were changed, numerous small sources would become subject to regulation, which was the “absurd result” that the Tailoring Rule was designed to prevent.

2. EPA’s Solution

EPA treated these two state law problems in similar but separate ways. EPA required the 13 states to change their laws to authorize GHG regulation by issuing a “SIP Call” (a mandate that the states change their laws and submit a new SIP to EPA with the changed laws).¹⁸ In contrast, EPA did not require states to increase their permitting thresholds to the Tailoring Rule levels, but it strongly encouraged them to do so given the large number of sources that would become regulated if they didn’t.

EPA, however, was late in deciding exactly how it wanted to proceed as to these two state law problems. It did not initiate regulatory procedures for implementation of these state law changes until its proposed SIP Call was published in the Federal Register in September 2010. As a result, the process of changing all of these state laws got compressed into a very short period of time. Although EPA had been asked from a number of quarters to delay the January 2, 2011 commencement of GHG regulation, EPA refused to do so.

¹⁸ *Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call*, 75 Fed. Reg. 77698 (Dec. 13, 2010)

Thus, beginning in the Fall of 2010, EPA set loose a regulatory stampede under which both EPA and states scrambled to complete the numerous necessary rulemakings necessary for GHG regulation to commence on January 2, 2011 under both state and federal law. EPA completed no less than seven GHG rulemakings in December of 2010, six of them totaling more than 500 pages, on the day before the Christmas Eve holiday which were published in the Federal Register on December 29 and December 30.¹⁹ States galloped through numerous rulemakings, some of them having to invoke emergency authority (yet no health emergency existed) to complete the necessary rulemakings—to change thresholds for the PSD and Title V programs and/or to authorize GHG regulation.

3. Creative Legal Interpretations

EPA could not have acted on this highly expedited timeline without further creative interpretation of its statutory obligations. Two areas stand out.

a. “Voluntary” Early SIP Submittals

First, for the 13 states whose laws did not authorize GHG regulation, EPA did not even propose the GHG SIP Call until early September 2011, and it did not finalize the SIP Call until December 1, 2011, and the rule was not published in the Federal Register

¹⁹ *Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Failure to Submit State Implementation Plan Revisions Required for Greenhouse Gases*, 75 Fed. Reg. 81874 (Dec. 29, 2010), *Action To Ensure Authority To Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Federal Implementation Plan*, 75 Fed. Reg. 82246 (Dec. 30, 2010), *Determinations Concerning Need for Error Correction, Partial Approval and Partial Disapproval, and Federal Implementation Plan Regarding Texas Prevention of Significant Deterioration Program: Proposed Rule*, 75 Fed. Reg. 82365 (Dec. 30, 2010), *Determinations Concerning Need for Error Correction, Partial Approval and Partial Disapproval, and Federal Implementation Plan Regarding Texas Prevention of Significant Deterioration Program, Interim Final Rule*, 75 Fed. Reg. 82430 (Dec. 30, 2010), *Limitation of Approval of Prevention of Significant Deterioration Provisions Concerning Greenhouse Gas Emitting-Sources in State Implementation Plans; Final Rule*, 75 Fed. Reg. 82536 (Dec. 30, 2010), *Action to Ensure Authority to Implement Title V Permitting Programs Under the Greenhouse Gas Tailoring Rule*, 75 Fed. Reg. 82254 (Dec. 30, 2010).

until December 14, 2010. The CAA requires that states be given up to three years (in the view of a number of business organizations) or at least up to 18 months (in EPA's view) to respond to the SIP Call. EPA gave the 13 states one year, but EPA also told these states that if they took the whole year there would be a construction ban in those states for facilities potentially emitting above the Tailoring Rule thresholds as of January 2, 2011. EPA further told the 13 states that, to avoid the construction ban, they could "voluntarily" tell EPA they wished to elect an "early" SIP submittal deadline of December 22 or sooner. This early deadline was a fiction; both the state and EPA would know that states could not meet that deadline. But the fiction allowed EPA to declare that states had "voluntarily" elected an early deadline, the state had then missed it, and therefore EPA was justified in imposing a Federal Implementation Plan (FIP) by January 2, 2011. Under the FIP, the states would retain control of their PSD permit programs for non-GHG emissions but EPA would take over permitting for GHG emissions. This creates the prospect that a facility that emits both GHG and non-GHGs will require two PSD permit approvals, one from the state on the non-GHG emissions and one from EPA for the GHG emissions. There are a host of unresolved issues as to how this permitting will work.

Given the compressed schedule, 7 states, some of them under protest, acquiesced in the "voluntary" early SIP submittal deadline and therefore became subject to FIPs on January 2, 2011. These states are Arizona, Arkansas, Florida, Idaho, Kansas, Oregon and Wyoming.²⁰ Five states did not elect early SIP submittal deadlines, but told EPA they expected to change their laws by the first part of 2011. These states are California

²⁰ *Action To Ensure Authority To Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Federal Implementation Plan*, 75 Fed. Reg. 82246 (Dec. 30, 2010).

(Sacramento and the AQMD), Connecticut, Kentucky (most of the state), Nebraska and Nevada (Clark County).²¹

Texas refused to elect an early SIP submittal deadline and protested EPA's authority to impose GHG regulation on such a compressed schedule or on any schedule at all. EPA, without notice-and-comment, published an "interim final rule" on December 30, 2011 imposing a FIP on Texas anyway.²² In the end, all 13 of these states were forced by EPA into quick action; none were given the benefit of the full time normally accorded in a SIP Call.

The validity of how EPA acted in this regard will undoubtedly be tested in court. But giving states the "option" of "voluntarily" waiving their right to adequate time to respond to the SIP Call under pressure of a construction ban is a remarkable interpretation of EPA's statutory responsibilities.

b. Retroactive, Pre-Approval of SIP Changes

The second creative EPA interpretation in this process derives pertains to the law changes states needed to make to increase their regulatory thresholds. Although EPA did not issue a SIP Call requiring states to change their state law thresholds, states changing their thresholds still had to submit those changes in the form of a revised SIP to EPA and the Agency had to approve those changes through notice-and-comment rulemaking. Unless EPA approved the changed thresholds, the pre-existing and much lower state

²¹ *Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Failure to Submit State Implementation Plan Revisions Required for Greenhouse Gases*, 75 Fed. Reg. 81874 (Dec. 29, 2010).

²² *Determinations Concerning Need for Error Correction, Partial Approval and Partial Disapproval, and Federal Implementation Plan Regarding Texas Prevention of Significant Deterioration Program: Interim Final Rule*, 75 Fed. Reg. 82430 (Dec. 30, 2010).

thresholds, which were set forth in each state's pre-existing EPA-approved SIP, would still be applicable in the states as a matter of federal law.

Not enough time remained in 2010, however, for all of the states to make the needed law changes, much less for the changes to be approved by EPA through notice-and-comment rulemaking.

To address this situation, EPA adopted two more extraordinary rules, one for the PSD program and one for the Title V program.²³ These rules, both issued on December 30, 2010, are intended to pre-approve the changes the states are making to their state law regulatory thresholds. They are both based on the fact that, before EPA ever regulated GHGs, and in some cases more than a decade ago, EPA approved state PSD and Title V SIPs. In the two new rules, EPA says it is retroactively "limiting" its prior approval of these pre-existing SIPs so that the approvals do not cover state PSD thresholds as applied to GHG emissions above the Tailoring Rule thresholds. In this way, EPA's pre-existing approval of the SIPs (a) will be deemed to apply regulation of non-GHG emissions at the statutory thresholds, but (b) will be deemed not to apply to the state regulation of GHGs below the Tailoring Rule levels. Hence, even before the states change their thresholds for GHGs and before EPA approves those changed thresholds, EPA will have withdrawn its approval for the lower thresholds and those lower thresholds would not be enforceable under federal law.

²³ *Limitation of Approval of Prevention of Significant Deterioration Provisions Concerning Greenhouse Gas Emitting-Sources in State Implementation Plans; Final Rule*, 75 Fed. Reg. 82536 (Dec. 30, 2010), *Action to Ensure Authority to Implement Title V Permitting Programs Under the Greenhouse Gas Tailoring Rule*, 75 Fed. Reg. 82254 (Dec. 30, 2010). For convenience, I am referring to state Title V operating permit programs as being contained in SIPs in the same way state PSD programs are. There are differences, but not for the subject matter here.

EPA's primary justification for these new regulations is "error correction." EPA postulates that it made an error years ago before it had even thought about GHG regulation in not anticipating that one day it would regulate GHGs where it would be required to "tailor" the statutory thresholds.

The validity of this rationale is questionable, to say the least, and will undoubtedly be litigated in Court. EPA's action is unquestionably a sharp departure from normal practice in which *first* states submit SIP revisions and *then* EPA approves the SIP revision through notice-and-comment rulemaking. But the main point I wish to make here is the fact that EPA had to go to such lengths to implement regulation by January 2, 2011 again shows how poorly suited the CAA is to regulate GHGs.

C. Did Any of This Cause Any Damage?

EPA apparently questions whether all of this furious regulatory activity and resulting regulatory uncertainty actually resulted in any harm to the economy at large. A number of factors appear to be missing from EPA's analysis in this regard.

First, EPA's view seems to be that so long as EPA and the states got all of the regulations in place by the end of the year, they had done their job. But this view evinces little understanding of the need for business for lead time to understand and prepare for regulation. Business by and large could only sit and watch while this extraordinary regulatory scramble unfolded to see where it all ended up. When the dust settles, business will assess the nature of the new regulatory landscape and proceed accordingly. But the events of 2010 were not conducive to creating the stable regulatory environment business needs for the future.

Second, the continuing reliance on, at best, creative legal interpretations in order to implement its program on a highly expedited time table deepens business uncertainty even more. From the “tailoring” of statutory deadlines, to the fiction of an “early SIP submittal” deadline for states under threat of a construction ban, to the promulgation of rules premised on the correction of the supposed error of having failed many years ago to anticipate that EPA would some day regulate GHGs at the Tailoring Rule levels, EPA has acted in a way that leaves business wondering what the end result will be once the courts have spoken.

Third, EPA has left a number of states unhappy at the pace of EPA regulation that they are expected to implement. Although EPA has tried to portray itself as cooperating with states, and although states have done their best to cooperate with EPA in order to prevent a construction ban and/or the absurd result of too many sources becoming regulated, many states—and not just Texas—have protested. I attach a paper entitled “What States are Saying About EPA GHG Regulation,” that shows some of the concerns that have been expressed.

Fourth, EPA was late in getting guidance issued for the substantive requirements business would be required to meet in order to obtain a PSD permit for GHG emissions. Early in the year, EPA stated that it would begin rolling out sectoral white papers and guidance for GHG emissions in the Summer.²⁴ These were not issued until November. The guidance were issued so late in the year that EPA did not have enough time to take any comment before the guidance was finalized, it provided for only an extremely short comment period, including the Thanksgiving weekend, and it limited comments to the

²⁴ Presentation to the Clean Air Act Advisory Committee, entitled “Update on Prevention of Significant Deterioration Guidance for Greenhouse Gases,” Anna Marie Wood, Acting Director Air Quality Policy Division, OAQPS, U.S. EPA, May 27, 2010.

essentially minor correction of technical errors. The late issuance of the guidance limited business' ability to understand and plan for the new requirements.

Finally, although EPA would place the burden on the public of showing how its rush to regulate in 2010 created harm, I think the burden should be on EPA to explain how the furious regulatory pace helped business recover from the recession and create jobs. Given that EPA has not provided any assessment of the benefit to the environment of beginning stationary source GHG regulation in 2011, and indeed specifically decided it would not study the costs and benefits of GHG regulation, EPA should explain why it was necessary to create all of this uncertainty.

VI. Can EPA Avoid a GHG NAAQS?

Regulation of GHGs under the NAAQS program would appear to be unthinkable. In the endangerment finding, EPA found that the current level of GHGs in the atmosphere are elevated as a result of anthropogenic emissions and that this elevated level poses a danger to human health at current atmospheric concentrations. This implies that if EPA were to establish a NAAQS for GHGs, EPA would have to establish a "primary" NAAQS to protect health as well as a secondary NAAQS to protect welfare and that both would have to be established at levels below current atmospheric concentrations. As a result, the entire country would become a nonattainment area for a primary and secondary GHG NAAQS.

Under the CAA, states that have nonattainment areas for a primary NAAQS must adopt SIPs that will bring the nonattainment area into attainment within five years, with the possibility of one five-year extension. The SIP must contain highly stringent control measures, including a requirement that any entity constructing a new or modified facility

that emits a regulated pollutant above the applicable threshold level must install stringent Lowest Achievable Emission Rate technology and obtain offsets. Severe sanctions result if the state does not comply with these requirements.

Because of the global nature of GHG emissions, however, states can do nothing to meaningfully affect ambient GHG concentrations within their borders. Thus, if EPA establishes a GHG NAAQS, severe consequences will result, yet states would be powerless to comply with the statutory mandate to bring their state into attainment.

Although GHG regulation under the NAAQS program plainly does not fit, such regulation may be required given EPA's Endangerment Finding. Indeed, the only legal precedent on point seems to favor the legal necessity of such regulation. EPA is required to promulgate a NAAQS for an air pollutant if three conditions are met: (1) the pollutant must, in the Administrator's judgment, "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare," which is a finding the Administrator has already essentially made; (2) the pollutant must be emitted "from numerous or diverse mobile or stationary sources," which would seem to be obvious, at least for CO₂; and (3) the pollutant must be one "for which air quality criteria had not been issued before December 31, 1970 but for which he plans to issue air quality criteria under this section."

In *NRDC v. Train*, 545 F.2d 320 (2nd Cir. 1978), the Court found that the last factor above did not give EPA discretion to avoid setting a NAAQS for a pollutant where the first two factors above are met. The decision thus seems to suggest that EPA might have difficulty avoiding a mandate that it establish a GHG NAAQS.

EPA has stated that *NRDC v. Train* may no longer be good law, although EPA's reasoning in this regard is open to interpretation.²⁵ Nevertheless, in 2009, two environmental groups petitioned EPA to establish a NAAQS for GHGs.²⁶ The petition is similar to the petition that ultimately led to *Massachusetts v. EPA* in that the agency was asked to undertake a rulemaking under which GHGs would be regulated under a specific CAA program. At some point, EPA will either deny the petition (presumably it won't grant it), in which case the environmental group will sue and try to force EPA to regulate, or, if EPA continues not to act on the petition, the environmental group will sue EPA to force it to take action. Either way the threat of NAAQS regulation hangs over EPA implementation of GHG regulation under the CAA.

VII. EPA's Consent Decree Agreeing to Undertake GHG Regulation under the NSPS Program

On December 30, 2011, EPA published notices in the Federal Register that it intends to regulate GHGs from petroleum refineries and fossil fuel powerplants under the NSPS program.²⁷ The NSPS rules will apply to new and modified facilities, and critically, EPA is also committing to invoke a little-used provision of the CAA – section 111(d) – to establish performance standards for existing facilities whether or not they modify. This is potentially a highly significant decision as fossil fuel powerplants and petroleum refineries obviously represent a large percentage of facilities that produce the energy the country uses.

²⁵ *Regulating Greenhouse Gas Emissions under the Clean Air Act, Advance Notice of Proposed Rulemaking*, 73 Fed. Reg. 44353, 44477 n. 229 (July 30, 2008).

²⁶ *Petition to Establish National Pollution Limits for Greenhouse Gases Pursuant to the Clean Air Act*, Center for Biological Diversity and 350.org (Dec. 2, 2009).

²⁷ *Notice of Proposed Settlement Agreement; Request for Public Comment*, 75 Fed. Reg. 82390 (Dec. 30, 2010), *Proposed Settlement Agreement, Clean Air Act Citizen Suit*, 75 Fed. Reg. 82392 (Dec. 30, 2010).

I would like to point out two issues regarding EPA's commitment to undertake this regulation in settlement agreements. I do this not only to comment on how EPA is proposing to proceed with GHG regulation, but to highlight the fundamental problems that result when the CAA becomes the chosen vehicle for addressing GHG emissions.

A. Timing of Regulation

The first issue is the short rulemaking timelines to which EPA is committing. This issue is particularly concerning in light of a recent experience EPA had with the consent decree it entered into governing its so-called "boiler MACT" regulations. In the boiler MACT consent decree, EPA had committed to promulgating final MACT standards for commercial and industrial boilers by January 21, 2011. However, based on what EPA said was "new data" received during the rulemaking process, the Agency decided to significantly revise its proposal. EPA decided that the changes were so significant that it should repropose the rule in order to give the public a chance to comment on what was essentially a different rule from the proposal on which EPA originally took comment. Accordingly, it asked the court to give it until April 13, 2012 to issue a final rule, an extension of 15 months.²⁸

The Court, however, only gave EPA a one-month extension. To meet this deadline, EPA was forced to send over a regulatory proposal to the Office of Management and Budget for review the day after the Court decision was issued. The Agency thus is in the position of having to issue a final rule which the Agency may not

²⁸ See EPA's Memorandum in Support of Motion to Amend Order of March 31, 2006 (Dec. 7, 2010) in *Sierra Club v. Jackson*, No. 1:01CV01537 (D.D.C).

have adopted if it had had more time and that, in any event, it doesn't think has been subject to sufficient public comment.²⁹

EPA may now be going down this same path with NSPS regulation. The settlement agreements that EPA is entering into for NSPS regulation requires the power plant standards to be proposed on July 26, 2011 and finalized on May 26, 2012, and the refinery standards to be proposed on December 15, 2011 and finalized on November 15, 2012. This does not leave enough time for EPA to finish these rulemakings in case, as occurred with the boiler MACT rule, EPA receives information that causes EPA to rethink the rule in fundamental respects.

Indeed, the need for EPA to have adequate time to finalize a rulemaking is greater in setting NSPS than in setting MACT standards, and this is particularly true because EPA is committing to promulgate NSPS for the virtually the entire fleet of existing fossil fuel powerplants and petroleum refineries as well as new units. The types of information EPA can consider in a MACT proceeding are relatively limited; economic impacts of regulation are not relevant except in certain situations. That is not the case, however, with NSPS standards.

According to the U.S. Court of Appeals for the D.C. Circuit , “[t]he language of section 111 [governing the NSPS program] . . . gives EPA authority . . . to weigh cost, energy, and environmental impacts in the broadest sense at the national and regional levels and over time as opposed to simply at the plant level in the immediate present.”³⁰

²⁹ See EPA January 21, 2011 news release entitled, EPA Announces Next Steps on Emissions Standards for Boilers, Certain Incinerators.

³⁰ *Sierra Club v. Costle*, 657 F.2d 298, 330 (D.C. Cir. 1981).

The Court stated that “section 111 of the Clean Air Act, properly construed, requires the functional equivalent of a NEPA impact statement.”³¹

Moreover, in 1980, in a case involving the limestone industry, the Court noted the “rigorous standard of review under section 111” applied by reviewing courts.³² The Court stated that the “sheer massiveness of impact of the urgent regulations,” considered in that and other cases had “prompted the courts to require the agencies to develop a more complete record and a more clearly articulated review for arbitrariness and caprice” than had been applied in previous cases.³³

If massiveness of regulatory impact was a concern in a limestone industry case, that concern would be magnified many times in promulgating GHG standards of performance for petroleum refineries and fossil fuel powerplants. A plethora of issues would be relevant in setting GHG standards for these facilities, with EPA weighing the cost, energy and, and environmental impacts of GHG regulation “in the broadest sense at the national and regional levels and over time” as if it were preparing an Environmental Impact Statement. A large number of parties would be interested given the overweening importance of the issues.

Thus, an EPA rulemaking to establish NSPS for petroleum refineries and powerplants would be highly complex, controversial and time-consuming. EPA may, therefore, have great difficulty finalizing a standard on the timetable that it is now committing to. But the teaching of the boiler MACT court decision is that it will be very difficult to modify the consent decree if needed.

³¹ *Id.* at 331, quoting *Portland Cement*, 486 F.2d at 384.

³² *National Lime*, 627 F.2d at 429.

³³ *Id.* at 451 n.126.

B. Commitment to Regulate GHG Emissions from Existing Units

EPA's undertaking in the consent decrees to regulate GHG emissions from existing sources commits EPA to regulate using authority under Section 110(d) of the CAA that it has rarely exercised in the past. Our research discloses only nine instances in the history of the NSPS program where EPA has elected to adopt standards under section 111(d). Given this sparse history, there is no reason why EPA should commit in a legally binding settlement agreement to adopt such standards at any particular time. EPA may or may not want to establish such standards in the future, but since it is not legally compelled to do so at this time it should not commit to such regulation in a settlement agreement.

Under section 111(d), EPA establishes guidelines requiring states to adopt standards which the states then submit to EPA for approval. These state standards do not necessarily become effective on approval by EPA. EPA has discretion to provide for a period of lead time to allow sources to prepare to comply. Although the settlement agreements do not specify when compliance will be required, Gina McCarthy, Assistant Administrator for Air and Radiation, in remarks made in announcing the settlement agreements, referred to the possibility that existing units would be required to comply by 2015-16. Thus, probably around that time period, EPA through the states will be requiring that a large percentage of the facilities in the United States that produce energy will be required in some currently unknown fashion to reduce GHG emissions.

EPA's commitment to NSPS regulation of GHG emissions from existing facilities is a further example of why a comprehensive study of the costs and benefits of GHG regulation under the CAA is so vital. By entering into the settlement agreements, EPA

will have committed to issue regulations for the facilities that produce most of the energy that America uses without knowing whether the benefits will exceed the costs. No doubt EPA would respond that it will assess the costs and benefits of GHG regulation under the NSPS program once it begins rulemaking, but such a response would miss the point. The study should be undertaken before EPA commits to regulate, not after. Otherwise, EPA does not know whether it should regulate at all, or whether it should regulate as quickly as the timeline to which it has committed. And certainly the public is deprived of the ability to convince EPA in comments either not to regulate or not to regulate at this time.

VIII. Excuse Not To Address GHGs At All?

As a final matter, the point is often made that many who oppose GHG regulation under the CAA also oppose GHG cap-and-trade legislation, and therefore must be against addressing GHG emissions at all. Speaking for myself, that is not the case. Although for purposes of my testimony, I am agnostic about whether the world can or should reduce GHG emissions, or whether some form of cap-and-trade legislation may or may not be a good idea, I can wholeheartedly say that using the CAA to regulate GHGs is a decidedly bad idea even if one believes that the world should reduce GHG emissions. The statute is antiquated, has not been materially amended in 20 years, is complicated beyond all reason, and by and large favors inefficient top-down, command-and-control regulation that is especially unsuited for GHGs. Most of EPA's struggles to apply CAA programs to GHG regulation that I have described above reflect – and indeed prove – the unsuitability of those programs for the intended purpose.

In the end, the world is going to develop, and the world is going to use a great deal of fossil fuels and produce a great deal of GHG emissions. It should not be a surprise therefore that the fastest growing fuel in the world is coal.

Recognizing that the world is going to use immense and increasing amounts of fossil fuels for the foreseeable future is the beginning of wisdom in attempting to address GHG emissions. Putting our economy at a competitive disadvantage through the imposition of command-and-control GHG regulations under the CAA will only diminish the nation's ability to create jobs and economic wealth while doing little to affect the overall upward trend in global GHG emissions. Instead, the focus must be on new technological development, with government and industry working together to supply the needed breakthroughs. Achieving the goal of continuing to steadily reduce over time all air emissions is possible, but that goal cannot be achieved for GHGs within the strictures of the CAA.

IX. Conclusion

For all of the reasons I have discussed, I believe that GHG regulation under the CAA creates significant legal and policy difficulties. Congress should address concerns as to GHGs in a different fashion.

I appreciate the opportunity to submit these comments.

**WHAT STATES ARE SAYING ABOUT EPA GREENHOUSE GAS
REGULATION**

- Arizona: “EPA has now put Arizona, and other permitting authorities, in a difficult position by giving us very little time to evaluate and incorporate the ‘tailoring’ regulations into state law.... Completing the rulemaking and SIP approval process in time to avoid EPA’s January 2011 construction ban deadline would be nearly impossible. Furthermore, the lawsuits that have been filed challenging the PSD and Title V GHG Rule make it difficult to justify expending any time on the rule.”
- Arkansas: “Arkansas does ‘not object’ to the earlier [SIP revision submittal] deadline, but only out of necessity, not out of reasonableness. Rationalizing reasonableness on the basis of a state ‘not objecting’ in this instance is hollow pretense. [Arkansas] disagrees with EPA’s rationale of ‘not objecting’ as conferring reasonableness on this deadline, and strongly urges against viewing stringent, shortened deadlines such as this as ‘reasonable’ in the future.”
- Georgia: “[W]e have major concerns with EPA’s strategy for regulating GHGs at stationary sources and with the EPA GHG guidance document. The timing that EPA has provided is not adequate and major disruptions to projects that have already been permitted, or have permit applications pending, are likely.”
- Illinois: “The cumulative efforts of Illinois EPA to address the Tailoring Rule is placing an enormous resource drain on our already stressed resources and involves the pulling of personnel from their normal day-to-day activities to assist in planning and implementation of the Tailoring Rule.”
- Kentucky: “The pretense of the need to complete the SIP Call by the implementation date of January 2, 2011 is necessitated solely by EPA’s circumvention of the normal SIP Call process, which would otherwise allow for a reasonable time frame to comply with the SIP Call process without adverse consequences ... the quick implementation of this rule will place a very heavy burden on our agency at a time when many critical issues face us and we are straining under unprecedented budgetary and staffing shortages.”
- Louisiana: “[G]lobal climate change is an issue that is best addressed through comprehensive federal legislation, rather than unilateral agency regulation, and [Louisiana] emphasizes that it does not support the manner through which EPA has chosen to regulate greenhouse gases under the Clean Air Act.”
- Missouri: “EPA’s timeline requiring Missouri to issue permits addressing GHGs beginning in January 2011 is aggressive. The controversial nature of regulating GHGs coupled with probable changes to permitting requirements make the task of informing and educating our stakeholders, legislators, and Department staff about the new requirements difficult in such a short period of time.”

- South Carolina: “The GHG Permitting Guidance needs to be modified to provide clarity to the permitting authorities, not add more confusion.... Given the timeframe for implementation (January 2011), it is imperative that the EPA provides straightforward, defensible and timely guidance on permitting GHG emissions.”
- Texas: “EPA actions magnify the inappropriateness of regulating GHG under the [Clean Air Act] and are a further attempt to alter the literal interpretation of the Act. The proposals by EPA are an attempt to write policy that should be contemplated by Congress. EPA’s actions exceed its administrative authority to execute the laws that Congress has written.”
- West Virginia: “EPA has adamantly pursued a course that places states, which are generally the primary permitting authority, in a completely untenable position. If states ignore GHG entirely, EPA will find the permitting programs deficient. If states acknowledge GHG but fail to adopt EPA’s ‘tailoring’ approach, the states would be completely overwhelmed by the number of needed permits, effectively stopping the permit process. If states adopt EPA’s approach through whatever mechanism they can, many will be compromising their own principles and ideals of good policy while the permit programs remain open to litigation.”
- Wyoming: “[We] have serious concerns about EPA’s implementation timelines. Given that there are dozens of petitions concerning not only the Tailoring Rule but also the foundation for that rule, there is a high likelihood that any permitting strategy imposed on the states at this juncture is premature.”

Summary of Testimony of Peter Glaser

The purpose of my testimony is to present a legal perspective on the issue of regulation by the Environmental Protection Agency (EPA) of greenhouse gases (GHGs) under the Clean Air Act (CAA). In my opinion, the CAA is a poor vehicle for regulating GHGs and may result in high costs for little environmental benefit.

The main problem with regulating GHG emissions under the CAA is that the statute was not designed for that purpose and, as a result, EPA's regulatory aims for GHGs do not comfortably fit within the programs set forth in the CAA. This is demonstrated by the "creative" ways in which EPA has gone about implementing GHG regulation, including, in EPA's phrase, "tailoring" numerical regulatory thresholds set forth in the statute.

Moreover, evidently relying on its view of what the statute does and doesn't require, EPA has not done an overall comprehensive assessment of the cumulative costs and benefits of all of the GHG regulation it has in mind. Thus, the nation is proceeding with GHG regulation under the CAA – and indeed EPA's five-year strategic plan identifies taking action on climate change and air quality as its number one goal – without any assessment of whether the benefits of regulation exceed the costs.

In finding that GHGs fit within the "capacious" definition of the CAA term "air pollutant," the Supreme Court relied on a provision that was included in the 1970 version of the CAA long before concern developed as to the effect of GHG emissions on climate change. Congress has thus never intentionally authorized EPA to regulate GHGs under the CAA. With EPA proceeding with GHG regulation, Congress must now decide whether such regulation represents wise public policy.

Mr. WHITFIELD. Thank you very much.
Dr. Thorning, we look forward to your testimony.

STATEMENT OF MARGO THORNING

Ms. THORNING. Thank you, Mr. Chairman, and thank you, Ranking Member Rush, and I apologize for misidentifying in you my written testimony. I would like to correct that for the record.

Thank you very much for the chance to appear before you. I just want to talk about five points in my testimony. First, the U.S. economy is recovering sluggishly. GDP grew only at 2.9 percent last year. The unemployment rate remains stubbornly high at 9 percent. And investment right now is about \$354 billion less than it was in the fourth quarter of 2007. Investment spending is responsible for most of the drop in gross domestic product over the last 2½ years or so. So clearly that is a key issue.

Looking at the historical data, each \$1 billion drop in investment spending is associated with a job loss of 15,500 jobs, and vice versa. Each \$1 billion increase is responsible for over 15,000 new jobs.

The second point, regulating greenhouse gases under the Clean Air Act is likely to have a negative impact on overall business spending. When a business is contemplating a new investment, they look at the risk of that new investment. They may add a risk premium to their cost of capital, anywhere from zero to as much as 50 percent or more, assuming that the risk premium associated with investments that are in industries regulated by EPA might be 30 to 40 percent. We looked at the impact of that on business investment in the quarter or so of investment that is accounted for by these regulated entities that are regulated by EPA. We conclude that there could be a fall in investment spending annually of between \$25 and \$75 billion. When you feed those numbers into IMPLAN, input-output model, you get—it is an input-output model that accounts for all the dollar flows across all sectors in the United States. When you feed those drops in investment which we assumed either \$25 billion annually or \$75 billion, you get a decrease in jobs of approximately 476,000 to, on the high side, 1.4 million fewer jobs annually and you get a loss of GDP of between 47 billion and 141 billion annually. Interestingly, the job numbers that we obtained by looking at the historical data were about 15,500 jobs tabulate very nicely with the IMPLAN results which suggest that for each \$1 billion drop in investment, we lost about 17,000 jobs. So using two completely different approaches, we get the same impact for this drop in investment spending that we expect will occur as a result of these regulations.

Fourth, mandating energy efficiency, as EPA seems to want to do under the BACT guidelines is unlikely to lead to job growth. First, as many companies testified in the panel just before us, they have already made energy efficiency investments. They do it when it makes economic sense, and when it is time to replace their capital stock if they can a more energy-efficient investment that makes sense, they do it. They don't need a government mandate to make them increase energy efficiency. And second, the argument that market failures and inefficiencies or technical barriers are responsible for companies not taking up energy-efficient investment is, I think, unfounded. Companies do make those investments. Overall,

the results suggest that mandating energy efficiency is not going to be a net job generator.

And fifth, the BACT guidelines issued in November are not likely to reduce uncertainty and they will not reduce the risk premium in the cost of capital that companies contemplating investment or expansion face because, for example, the specific standards for BACT are not established by the new guidelines. That means industries don't really know what will be required. And another example, the permitting agencies are required to retain discretion to determine BACT on a case-by-case basis subject to EPA or court review. Thus, regulated entities will encounter different requirements depending on the individual State regulator's approach.

So in conclusion, I think using economic analysis, it suggests that regulating GHGs under the Clean Air Act is likely to slow investment, slow job growth and not have any impact on global greenhouse gas concentrations. Consequently, it makes little sense for EPA to proceed down this path. Thank you.

[The prepared statement of Ms. Thorning follows:]

**The Impact of EPA Regulation of GHGs under the Clean Air Act
on U.S. Investment and Job Growth**

By

Margo Thorning, Ph.D.
Senior Vice President and Chief Economist
American Council for Capital Formation
Before the
Subcommittee on Energy and Power
Committee on Energy and Commerce
U.S. House of Representatives
February 9, 2011

Executive Summary

Overview of the U.S. Economy: While U.S. GDP grew at 2.9% rate in 2010, this rate of growth is too slow to have much of an impact on reducing the unemployment rate, currently at 9.0%. Although business confidence has improved in the last several months, the business community faces uncertainty on an unusually large number of fronts including the implementation of health care and financial reform legislation, the specter of an \$18 trillion dollar federal debt in 2021 as well as the unknown cost of complying with various EPA regulations.

Role of Investment Spending in U.S. Economic Recovery: One of the most adverse features of EPA's regulating GHG's under the CAA is the impact on business expenses, the cost of capital and on new U.S. investment. U.S. gross private domestic investment was down by \$385 billion in the fourth quarter of 2010 relative to the fourth quarter of 2007. Any substantial investment could well exceed EPA's threshold level of GHG emissions and be subject to yet unknown CAA requirements. The recent historical relationship between investment spending and employment shows that **each** \$1 billion dollar decrease in investment is associated with a loss of 15,500 jobs in the U.S. Conversely, each billion dollar increase in investment is associated with 15,500 additional jobs.

Impact of CAA Regulation on GDP and Employment: Analysis with IMPLAN, an input-output model, shows that if U.S. capital spending declines by \$25 to \$75 billion, in 2014 there would be an economy wide job loss of 476,000 to 1,400,000 when direct, indirect and induced effects are included. As a result, GDP would be \$47 billion to \$141 billion less in 2014.

Impact of EPA Regulation and Jobs and Economic Growth: While it is true that a certain number of jobs may be created in some industries that build the energy efficient equipment mandated by regulators, overall, however, the evidence suggests that the total impact on U.S. net job growth will be negative. The main effect of EPA mandating BACT for GHG reduction under the CAA will be to make energy more expensive, increase production costs and slow productivity and economic growth.

Impact of BACT Guidelines: The BACT guidelines are not likely to materially reduce the uncertainty facing regulated entities planning capital investments or improvements and thus the factors that impact the cost of capital and investment hurdle rates will continue to impede the U.S. economic recovery. All the guidelines are subject to potential litigation which may over-rule EPA's reassurances.

Conclusions: The use of economic analysis suggests that regulating GHGs under the CAA will slow investment and job growth and have no significant impact on reducing global GHG emission growth. Consequently, it makes little economic or environmental sense for EPA to regulate GHGs under the Clean Air Act.

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Introduction

Mr. Chairman and members of the Subcommittee on Energy and Power of the Committee on Energy and Commerce, my name is Margo Thorning, senior vice president and chief economist, American Council for Capital Formation (ACCF),* Washington, D.C. I am pleased to present this testimony on the “Energy Tax Prevention Act of 2011” to the Subcommittee.

The American Council for Capital Formation represents a broad cross-section of the American business community, including the manufacturing and financial sectors, Fortune 500 companies and smaller firms, investors, and associations from all sectors of the economy. Our distinguished board of directors includes cabinet members of prior Democratic and Republican administrations, former members of Congress, prominent business leaders, and public finance and environmental policy experts. The ACCF is celebrating over 30 years of leadership in advocating tax, regulatory, environmental, and trade policies to increase U.S. economic growth and environmental quality.

Chairman Upton, Ranking Member Markey, and the members of the Subcommittee of the Committee on Energy and Power are to be commended for their focus on how the U.S. Environmental Protection Agency’s regulation of emissions of greenhouse gases (GHGs) under the Clean Air Act may impact U.S. economic and job growth as well as environmental quality. Given the continuing weakness of the U.S. economy, stubbornly high unemployment rate and sluggish investment spending, a careful examination of how EPA’s actions may affect the U.S. investment climate and job growth is clearly warranted. The question we need to ask is: what are the likely impacts of EPA’s regulation of GHGs on the U.S. economy, job growth and competitiveness?

* *The mission of the American Council for Capital Formation is to promote economic growth through sound tax, environmental, and trade policies. For more information about the Council or for copies of this testimony, please contact the ACCF, 1750 K Street, N.W., Suite 400, Washington, D.C. 20006-2302, telephone: 202.293 5811, fax: 202 785 8165, e-mail info@accf.org; website: www.accf.org*

Background

On January 2, 2011 the U.S. Environmental Protection Agency began regulating U.S. greenhouse gas emissions under the Clean Air Act (CAA). In summary, EPA's new policy requires regulated stationary sources with emissions over a specified emissions threshold to obtain permits under the Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs. The PSD program requires that new and modified facilities from entities such as power plants, industrial and commercial boilers, iron and steel producers, refineries, cement and pulp and paper producers having the potential to emit greenhouse gases above a certain level must obtain a preconstruction air quality permit. The Title V program requires sources having the potential to emit air pollutants above a certain amount to obtain an operating permit. In order to obtain a PSD permit, regulated emitters will have to put in place "Best Available Control Technology" (BACT). On November 10, 2010, EPA released general guidelines for selecting BACT; the selection will be done on a case-by-case basis.

Overview of the U.S. Economy

While U.S. GDP grew at 2.9% rate in 2010, this rate of growth is too slow to have much of an impact on reducing the unemployment rate, currently at 9.0%. Residential real estate remains one of the biggest risks for the U.S. recovery, especially with little support from the job market. In the third quarter of 2010, 23 percent of homeowners were underwater, with homes worth less than the balance on their mortgage, according to CoreLogic. Many are simply walking away from their mortgages, adding to the stock of foreclosures and bank charge-offs, which put pressure on banks' capital and their capacity to lend.

Although business confidence has improved in the last several months, the business community faces uncertainty on an unusually large number of fronts. For example, the implementation of health care and financial reform legislation, the specter of an \$18 trillion dollar federal debt in 2021 as well as the unknown cost of complying with various EPA regulations under the CAA, National Ambient air Quality Standards, Clean Air Transport Rule, Mercury/Air Toxics and the Clean Water Act and coal ash regulation.

Economic Burden Caused by Regulation of GHGs under the Clean Air Act

- **Role of Investment Spending in U.S. Economic Recovery**

One of the most adverse features of EPA's regulating GHG's under the CAA is the impact on business expenses, the cost of capital and on new U.S. investment. The most directly impacted types of economic activity will be private sector investments to improve/expand existing facilities or build and equip new facilities. Investments in structures and equipment are what make up the national GDP category called "gross private domestic investment." Any substantial investment could well exceed EPA's threshold level of GHG emissions and be subject to yet unknown CAA requirements.

As illustrated in **Figure 1**, dramatic reductions in gross private domestic investment since the last quarter of 2007 are by far the largest contributor to the nation's slow GDP growth.

Gross private domestic investment was down by \$385 billion in the fourth quarter of 2010 relative to the fourth quarter of 2007. The recent historical relationship between investment spending and employment is shown in **Figure 2**; each \$1 billion dollar decrease in investment is associated with a loss of 15,500 jobs in the U.S. Conversely, each billion dollar increase in investment is associated with 15,500 additional jobs.

- **Impact of EPA's GHG Regulations on U.S. Investment**

The uncertainty regulated entities will face along with the additional costs of reducing GHGs will contribute to a significant rise in the hurdle rate required for new U.S. investment (see <http://www.accf.org/publications/140/dr-margo-thornings-response-to-epa> for more details). Factors driving this increase in uncertainty include permitting delays, lack of specific knowledge of how EPA and individual state regulators will apply BACT, permitting challenges from advocacy groups and whether EPA's Tailoring Rule will survive the myriad of legal challenges already in the courts. The Tailoring Rule phases in stationary source permitting requirements, initially covering the largest sources (those already subject to PSD for non-GHGs) and whose new investment would emit more than 75,000 tons per year (tpy) of greenhouse gases) started on January 2, 2011. On July 1, 2011 the second phase of permitting begins; new sources with projected GHG emissions of 100,000 tpy are required to obtain PSD permits even if they do not exceed the permitting thresholds for any other pollutant. Unregulated entities will also incur higher hurdle rates for investment due to the delays and uncertainty impacting the investment decisions of their customers in regulated sectors.

When evaluating a prospective investment, business analysts typically add a risk premium to the firm's cost of capital, ranging from 0 to 50% and higher. Assuming that the pending GHG regulations increase the risk premium added to the firm's cost of capital by 30% to 40% and using conservative estimates of the elasticity of investment in response to changes in the cost of capital, it seems likely that U.S. investment could decrease by 5% to 15% over 2011-2014 period compared to the baseline forecast. (See <http://www.accf.org/publications/138/the-economic-impact-of-regulating-us-greenhouse-gas-emissions-under-the-clean-air-act> for more details).

In the ACCF's initial calculations, submitted to the U.S. Court of Appeals for the District of Columbia Circuit, the 5 to 15% reduction was applied to all capital investment in the U.S. economy. These calculations suggested that gross private domestic investment could be reduced by \$100 to \$300 billion by 2014 (http://www.accf.org/media/dynamic/4/media_483.pdf). Subsequently, ACCF narrowed the focus of the analysis to target the industries included in EPA's guidelines to determine which specific industries would be impacted with the first wave of GHG regulations under the CAA. Using this methodology, it is estimated that the directly impacted industries, such as the electric power sector, mining, manufacturing and wholesale and retail trade were responsible of 25% of overall capital investment in U.S. economy in both 2008 and 2009. Therefore, a 5% to 15% decline in investment for only the directly affected industries would result in an approximately \$25 to \$75 billion reduction in investment outlays.

- **The IMPLAN Model**

The IMPLAN model is an input output model which accounts for all dollar flows between different sectors of the economy. Using this information, IMPLAN models the way a dollar injected into one sector is spent and re-spent in other sectors of the economy, generating waves of economic activity, or so-called “economic multiplier” effects. Using this information, “the model uses national production functions for nearly 500 industries to determine how an industry spends its operating receipts to produce its commodities. The model also uses a national matrix to determine the byproducts that each industry generates. To analyze the impacts household spending, the model treats households as an “industry” to determining their expenditure patterns.”¹

There are three types of effects measured with a multiplier: the direct, the indirect, and the induced effects. The direct effect is the known or predicted change in the local economy that is to be studied. The indirect effect is the business to business transactions required to satisfy the direct effect. Finally, the induced effect is derived from local spending on goods and services by people working to satisfy the direct and indirect effects. In other words, in the IMPLAN model, a decline in capital investment in selected industries will reduce economic activity in other sectors of the economy either through fewer purchases of inputs to produce capital goods or through income related effects.

- **Model Results**

Using IMPLAN model, two scenarios were modeled. In the first scenario, investment in the impacted industries was decreased by \$25 billion and in the second scenario by \$75 billion dollars. The results show that in 2014, a \$25 to \$75 billion decrease in capital investment would result into an economy wide job loss of 476,000 to 1,400,000 when direct, indirect and induced effects are included. As a result, GDP would be \$47 billion to \$141 billion less in 2014 (see Tables 1 and 2).

The employment impacts produced by the IMPLAN simulations yield results similar to the relationship between reduced investment and job loss shown in Figure 2. Using the historical data in Figure 2, each \$1 billion decline in investment is associated with a loss of 15,500 jobs. The IMPLAN model shows a loss of 17,000 jobs for each \$1 billion decline in investment spending. The consistency of the results from two entirely different methodologies is noteworthy.

Impact of EPA Regulation and Job Growth

EPA Administrator Lisa Jackson claims that “cost-effective strategies to reduce air pollution should spark clean energy innovation and help create green jobs” (see her September 14, 2010 speech at: <http://yosemite.epa.gov/opa/admpress.nsf/12a744ff56dbff8585257590004750b6/7769a6b1f0a5bc9a8525779e005ade13!OpenDocument>).

¹ <http://www.ci.richmond.ca.us/DocumentView.aspx?DID=6474>

While it is true that a certain number of jobs may be created in some industries that build the energy efficient equipment mandated by regulators, overall, however, the evidence suggests that the total impact on U.S. net job growth will be negative. The main effect of EPA mandating BACT for GHG reduction under the CAA will be to make energy more expensive and to increase production costs (relative to a baseline forecast). Substituting more expensive energy and higher production costs for cheaper energy and lower production costs causes a slow down in productivity growth and economic activity. Historically, each one percent increase in U.S. GDP growth is accompanied by a 0.2 percent increase in energy use; therefore, the higher the price of energy, the slower the rate of economic recovery. As costs rise in energy intensive industries, output tends to fall, there are fewer new jobs created because the total economic “pie” grows more slowly, relative to a baseline forecast.

The initial adverse impact on job growth may be due to delays in getting PSD and Title V permits (which means delays in starting construction). However, in the longer term, the reason that overall job growth is likely to be slower when EPA begins to mandate BACT for GHG reductions is that companies will have to try to pass on the higher costs of the new BACT requirements to their customers and also pass back the additional costs to workers and shareholders in the form of lower wages and smaller returns on equity investments.

The economic impact of EPA regulation of GHG emissions of stationary sources is likely to be more severe than if a market-based approach were employed. Therefore, analyses like the one performed on the Kerry/Lieberman bill can be used to benchmark the harm from EPA’s Clean Air Act GHG program. The results of the ACCF/SBEC macroeconomic analyses on the Kerry/Lieberman bill show that higher energy prices and more costly production methods will make it harder to keep the U.S. economic recovery going and to reduce the unemployment rate (see study at: <http://www.accf.org/publications/137/accf-sbe-council-study-on-kerry-lieberman-bill>).

Other results of rising costs driven by EPA’s GHG regulations are losses in investment in U.S. production and losses of domestic and export market share by U.S. firms. One of the factors that causes businesses to locate new investment abroad is policies or market-driven events that raise energy costs or other costs of production. This, in turn, leads to a shift in the share of global production from domestic producers to firms located overseas. As a result, “leakage” of both jobs and GHG emissions occurs. Where the “leakage” is to countries with lax environmental controls and more energy-intensive production methods, the result is a net increase in global GHG emissions. In addition, under EPA’s GHG permitting requirements, there will be no “border tax adjustments” as there are in recent U.S. cap and trade bills to help energy intensive industries adjust to higher production and energy costs.

Impact of Mandating Energy Efficiency on Economic Growth

EPA’s recent release of BACT guidelines for GHG emissions indicates that increased energy efficiency (defined as ratio of energy services provided to the amount of energy consumed) is likely to be an important tool, along with fuel switching, for regulators

implementing BACT for GHG reduction. Some organizations such as the World Resources Institute claim that mandated increases in energy efficiency “would spur energy efficiency upgrades, boosting competitiveness for many U.S. manufacturers” (see WRI report at <http://www.wri.org/stories/2010/11/epa-clean-air-act-and-us-manufacturing>).

Several factors cast doubt on the WRI claims. First, U.S. business officials are always looking for ways to reduce costs (including energy costs) in order to stay competitive. It is unlikely that government regulators will be able to provide business leaders with cost-effective energy efficiency strategies that company engineers and managers have somehow overlooked. When new energy efficiency technologies become available which lead to real reductions in production costs and/or help companies meet existing CAA regulations for pollutants such as mercury, sulfur dioxide and particulate matter, companies will purchase the technologies without being told to do so by regulators.

Second, the WRI conclusion that “market failures and technical barriers” are preventing U.S. companies from adopting energy efficiency technologies are based on “bottom up” engineering studies which fail to account for how the higher cost of putting more energy efficient in place can raise overall production costs and thus negatively impact rates of return on investment and industrial competitiveness. In addition, mandating efficiency can squeeze out other investments given limited capital.

Third, the U.S. has steadily become less energy and carbon intensive (meaning it takes less and less energy and carbon emissions to produce a dollar of output every year). Since the 1970’s, the decoupling of real GDP growth from energy consumption growth has led to a decline in U.S. energy intensity that averaged 2.8 percent per year from 1973 to 2008. Reduced energy intensity occurred gradually without government mandates as the U.S. capital stock was replaced when machines and equipment reached the end of their useful lives or became obsolete due to new technology. In addition, according to the 2010 DOE: EIA Annual Energy Outlook, there will continue to be substantial improvements in energy efficiency, and reductions in energy and carbon intensity over the 2008-2035 period without additional government regulations (see **Figure 3**) and link at http://www.eia.gov/oiaf/aco/intensity_trends.html .

Impact of EPA’s GHG Permitting Guidelines on Risk and Uncertainty Facing Companies and Regulated Entities

The BACT guidelines released on November 10th, 2010 are intended to provide guidance to state and local permitting authorities as they implement the PSD and Title V permit requests starting on January 2, 2011. The guidelines state that the process for considering BACT for GHGs will be no different than the process for considering BACT for other pollutants. State and federal permitting agencies will thus apply the traditional five step process: identify all available control technologies, eliminate technically infeasible options, rank remaining control technologies, evaluate most effective controls and document results, and then select BACT.

Unfortunately, the BACT guidelines are not likely to materially reduce the uncertainty facing regulated entities planning capital investments or improvements and thus the factors

that impact the cost of capital and investment hurdle rates will continue to impede the U.S. economic recovery. For example:

- Specific standards for BACT are not established by the new guidelines; this means industries do not know yet what will be required.
- Permitting agencies are required to retain discretion to determine BACT on a “case- by-case” basis, subject to EPA or court review. Thus, regulated entities will encounter different requirements depending on an individual state regulator’s approach.
- EPA maintains the power to overturn a state’s BACT determination and NGOs maintain the power to challenge any BACT determination in the appropriate court.
- Fuel Switching may be required: a permit applicant may be required to either change the type of project it is proposing or switch to a different fuel in order to lower emissions. EPA emphasizes that whether fuel-switching may be required as BACT, and the extent to which a facility can be required to change its basic design, is a matter of state discretion (see <http://www.troutmansanders.com/epa-finally-issues-guidance-on-greenhouse-gas-permitting-11-11-2010/> for more details).
- Life-Cycle analysis may be required: As noted in the Troutman Sanders analysis cited above, the EPA guidelines appear to suggest that “offsite” or “life-cycle” GHG emissions impacts of a project could be considered in a BACT analysis. For example, EPA notes that it may be appropriate to consider whether a switch to a different coal would not reduce “overall” emissions because the mine producing the more efficient coal itself emits more GHGs. Use of “life-cycle” analysis in determining BACT would add to the uncertainty of the PSD and Title V permitting process.
- Ultimately, carbon capture and sequestration may be required for some projects. EPA hints in the BACT guidance that such technology-which industry considers being unproven-may be “available” now.
- All BACT guidelines are subject to potential litigation which may over-rule EPA’s reassurances.

Impact for Business and Job Growth if the Tailoring Rule is Invalidated and the Emissions Thresholds in the Clean Air Act Apply to GHG Emissions

The impact on U.S. businesses, large and small, will be far-reaching and severe and will prolong the weakness we are witnessing in the economic recovery– as EPA itself has recognized if the Tailoring Rule is invalidated. The PSD emissions thresholds in the Clean Air Act are 100 or 250 tons per year (tpy), or less, depending upon the source category and whether at issue are a new source or a modification. A very large number of sources emit

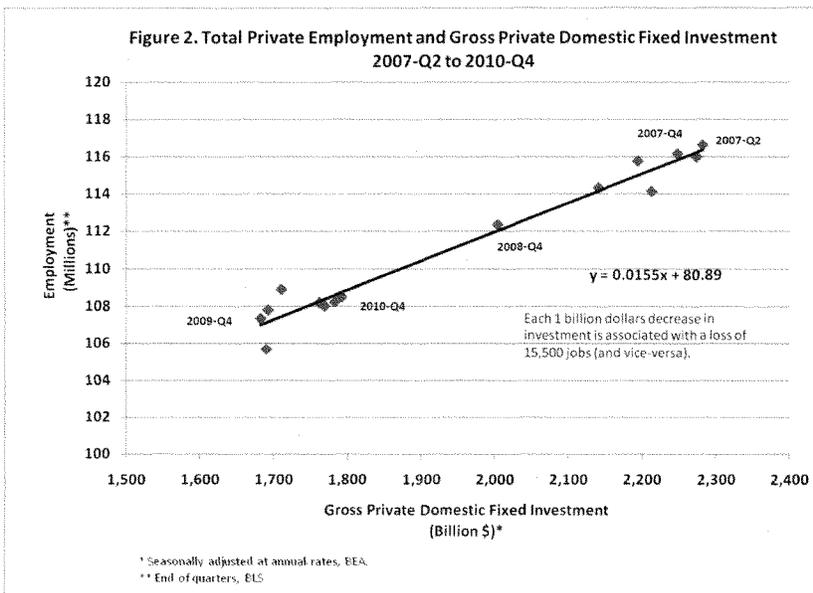
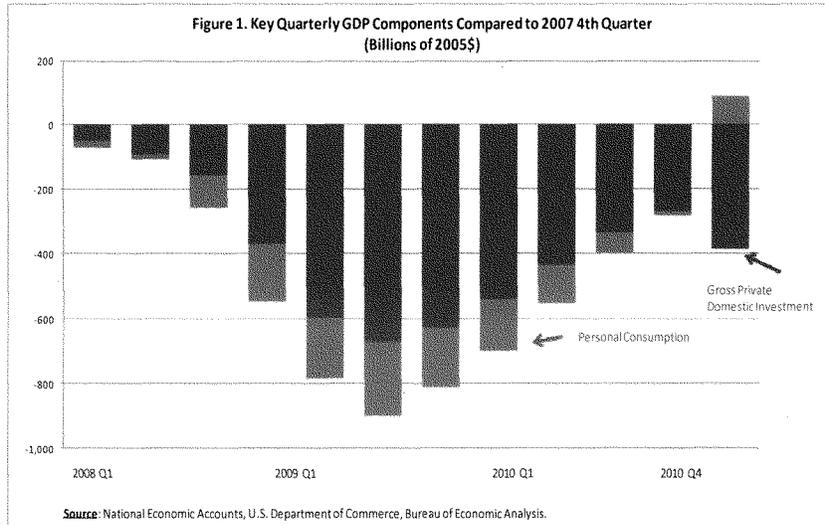
GHGs at or above those quantities. For example, EPA estimated that 4,535,500 existing single family homes and apartment buildings, 1,355,921 existing commercial and public facilities, 37,351 existing farms with diesel generators, and 4,131 existing landfills emit GHGs above 100 tons per year of carbon dioxide equivalent. (Of course, it should be noted that the Tailoring Rule itself is only a temporary provision so the adverse impacts of the GHG regulations will occur eventually.)

If the CAA thresholds were to apply to GHG emissions, EPA estimates that some 1,046 new and modified industrial, electric utility and other energy, agricultural, and waste treatment sources would be subject to PSD permitting annually on the basis of their GHG emissions, and 214,492 such sources subject to Title V permitting annually. In addition, some 18,956 new and modified commercial and residential sources would be subject to PSD permitting, and 5,891,421 such sources subject to Title V permitting. The estimated administrative costs associated with PSD and Title V expansion to cover GHGs would exceed \$78 billion annually, a figure that does not include the costs of actually acquiring and implementing the Best Available Control Technology, as required under the PSD program.

EPA also projected that, in such a scenario, the massive increase in permit applications would overwhelm state and local permitting authorities, leading to permit processing times of between three and nine years. As EPA has explained, “the extraordinarily large number of permit applications would overwhelm permitting authorities and slow their ability to process permit applications to a crawl.” (75 Fed.Reg. at 31, 5570). Because PSD a pre-construction permit, the failure of the courts to enforce the Tailoring Rule would effectively impose a construction freeze in each state. As a result, the chances of the U.S. economy falling back into recession would increase substantially.

Conclusions

As policymakers struggle to identify the best ways to strengthen the U.S. economic recovery and promote job growth they need to carefully consider the impact of new environmental regulations on the industry and state and local government budgets, economic recovery and unemployment rates. The use of economic analysis suggests that regulating GHGs under the CAA will slow investment and job growth and have no significant impact on reducing global GHG emission growth. Consequently, it makes little economic or environmental sense for EPA to regulate GHGs under the Clean Air Act.



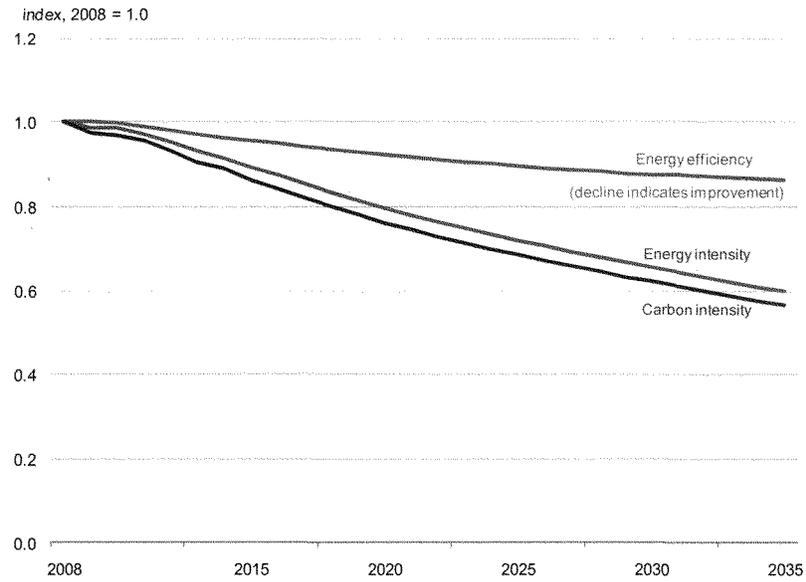
	\$25 Billion Reduction	\$75 Billion Reduction
Employment	-476,200	-1,428,700
Direct	-119,500	-358,600
Indirect	-141,400	-424,100
Induced	-215,300	-646,000
Value Added (\$ Billions)	-\$47	-\$141
Direct	-\$14	-\$42
Indirect	-\$15	-\$44
Induced	-\$18	-\$55

Source: Calculations by the American Petroleum Institute using IMPLAN model. February 2011.

	Reduction in Capital Investment by \$25 Billion			
	Direct	Indirect	Induced	Total
Value Added (\$Billions)	-\$14.0	-\$14.7	-\$18.3	-\$47.0
Capital Sectors	-\$14.0	-\$6.4	-\$4.7	-\$25.0
Non-Capital Sectors	\$0.0	-\$8.4	-\$13.6	-\$22.0
Employment (Thousands)	-119.5	-141.4	-215.3	-476.2
Agriculture	0.0	-0.9	-5.0	-5.9
Mining	-13.4	-1.2	-0.6	-15.1
Construction	0.0	-2.4	-2.1	-4.5
Manufacturing	-34.0	-24.5	-11.7	-70.1
Transport/Information/Utilities	-13.2	-10.1	-7.4	-30.7
Trade	0.0	-12.9	-43.0	-55.9
Service	-59.0	-87.0	-142.7	-288.7
Government	0.0	-2.3	-2.9	-5.3
	Reduction in Capital Investment by \$75 Billion			
	Direct	Indirect	Induced	Total
Value Added (\$Billions)	-\$41.9	-\$44.2	-\$54.9	-\$141.0
Capital Sectors	-\$41.9	-\$19.1	-\$14.1	-\$75.0
Non-Capital Sectors	\$0.0	-\$25.2	-\$40.8	-\$66.0
Employment (Thousands)	-358.6	-424.1	-646.0	-1,428.7
Agriculture	0.0	-2.8	-15.0	-17.8
Mining	-40.1	-3.6	-1.7	-45.4
Construction	0.0	-7.2	-6.3	-13.5
Manufacturing	-102.0	-73.5	-35.0	-210.4
Transport/Information/Utilities	-39.6	-30.4	-22.1	-92.1
Trade	0.0	-38.7	-129.0	-167.7
Service	176.9	-260.9	-428.2	-866.0
Government	0.0	-7.0	-8.7	-15.8

Source: Calculations by the American Petroleum Institute using IMPLAN model. February 2011.

Figure 3. Projected changes in indexes of energy efficiency, energy intensity, and carbon intensity in the AEO2010 Reference case, 2008-2035



Source: Annual Energy Outlook 2010 with Projections to 2035, Figure 18, Energy Information Administration, U.S. Department of Energy.

Mr. WHITFIELD. Thank you, Dr. Thorning.
Mr. Nelson, you are recognized for 5 minutes.

STATEMENT OF PHILIP NELSON

Mr. NELSON. Mr. Chairman, members of the subcommittee, good afternoon. I am Philip Nelson. I am a fourth-generation grain and livestock farmer from Seneca Illinois. I am also President of the Illinois Farm Bureau and a member of the Board of Directors of the American Farm Bureau Federation. I am appearing today on behalf of the American Farm Bureau Federation.

I am pleased to testify in support of the Energy Tax Prevention Act of 2011. It is one of several bills from both sides of the aisle in both the House and the Senate that are designed to allow our elected representatives in Congress to decide how and to what extent our Nation will address regulation of greenhouse gases. Farm Bureau opposes the regulation of greenhouse gases by the Environmental Protection Agency under the Clean Air Act and we commend the chairman for giving this matter a high priority.

Farmers and ranchers receive a double economic jolt from the regulation of greenhouse gases from stationary sources. First, any costs incurred by utilities, refiners, manufacturers, and other large emitters to comply with the greenhouse gas regulatory requirements will be passed on to consumers of those products, including farmers and ranchers. To a large degree, farmers and ranchers cannot pass along these increased costs of production. Farmers and ranchers will also incur direct results as a result of the regulation of greenhouse gases by EPA. For the first time, many farm and ranch operations will likely be subject to direct new source review/prevention of significant deterioration construction permits and Title V permit requirements under the Clean Air Act. For example, Title V of the Clean Air Act requires that any stationary source including farms and ranches that emits or has the potential to emit more than 100 tons of a regulated pollutant per year must obtain an operating permit. To meet this requirement, thousands of farms and ranches will be required to obtain the Title V operating permits. EPA itself estimates that just at the expense of obtaining Title V operating permits, it will cost production agriculture \$866 million. That does not include other associated permit costs.

Livestock producers would be especially impacted by these permit requirements. The USDA has stated that approximately 90 percent of the livestock produced in this country are above the permitting thresholds and will be required to obtain operating permits. Under the EPA tailoring scheme, farmers and ranchers would still incur costs passed down from utilities and larger emitters upon which they depend for energy and fuel. Farmers and ranchers that meet the low Clean Air Act thresholds will also eventually be required to obtain permits.

On the other hand, this costly and burdensome regulatory scheme will produce very little, if any, environmental benefit. Greenhouse gases are distributed evenly around the globe so that a ton of greenhouse gases emitted in Illinois is no different than a ton of greenhouse gases emitted in China. Regulation of greenhouse gases emitted in Illinois means little if emissions in China are not similarly regulated. Unless and until the countries of this

world agree on an international treaty on greenhouse gas emissions, unilateral regulation of greenhouse gases by EPA will have little environment effect, a fact publicly acknowledged by the EPA Administrator. Both the President and the Administrator of EPA have stated that the regulation of greenhouse gases by EPA under the Clean Air Act is not an effective way to address the issue. Most state that they prefer that the issue be addressed by Congress.

The Energy Tax Prevention Act recognizes this fact and applies the brakes to this process, thus restoring the jurisdiction of Congress to develop climate policy. Thank you.

[The prepared statement of Mr. Nelson follows:]

SUMMARY OF TESTIMONY OF PHILIP NELSON, AMERICAN FARM BUREAU FEDERATION

The American Farm Bureau Federation supports the *Energy Tax Prevention Act of 2011*. It is a targeted approach that only affects regulation of greenhouse gases from stationary sources like farms and ranches, and does not affect previously enacted or proposed rules regarding mobile sources.

Farmers and ranchers are adversely affected economically by EPA regulation of greenhouse gases in two major ways:

1. Costs incurred by utilities, refiners and manufacturers to comply with greenhouse gas regulations will be passed along to their customers, including farmers and ranchers, resulting in higher costs of production. Farmers and ranchers generally cannot pass those costs on to their consumers.
2. Many farmers and ranchers will be required to obtain Title V operating permits and New Source Review construction permits under thresholds required by the Clean Air Act. The Department of Agriculture estimates that approximately 90 percent of the livestock industry is above the Clean Air Act thresholds required to be permitted.

EPA efforts to “tailor” or phase in these regulatory requirements will not alleviate these costs. Large emitters will still pass their costs down to consumers. The rule does not exempt agriculture from the permitting requirements—it only delays permitting for farmers.

These costly rules result in little environmental benefit. Since greenhouse gases are distributed globally, unilateral regulations by one country will have little or no impact unless the other countries also reduce emissions.

The Energy Tax Prevention Act would prevent EPA from further regulating greenhouse gases, preferring that Congress determine climate policy—a point of view expressed by the president and the administrator of the EPA.



Statement of the American Farm Bureau Federation

**TO THE
SUBCOMMITTEE ON ENERGY AND POWER
HOUSE COMMITTEE ON ENERGY AND COMMERCE
REGARDING: REGULATION OF GREENHOUSE GASES**

February 9, 2011

Presented by Philip Nelson
President, Illinois Farm Bureau
Member, Board of Directors, American Farm Bureau Federation

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AMERICAN FARM BUREAU FEDERATION

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These costly rules result in little environmental benefit. Since greenhouse gases are distributed globally, unilateral regulations by one country will have little or no impact unless the other countries also reduce emissions.

The Energy Tax Prevention Act would prevent EPA from further regulating greenhouse gases, preferring that Congress determine climate policy—a point of view expressed by the president and the administrator of the EPA.

Good morning. My name is Philip Nelson, and I operate a family grain (corn/soybeans) and livestock (hogs/cattle) farm in LaSalle County, Illinois. I am President of the Illinois Farm Bureau and a member of the Board of Directors of the American Farm Bureau Federation. I am appearing today on behalf of the American Farm Bureau Federation.

I am pleased to testify in support of the *Energy Tax Prevention Act of 2011*. It is one of several bills from both sides of the aisle in both the House and Senate that are designed to allow our elected representatives in Congress to decide how and to what extent our nation will address regulation of greenhouse gases. Farm Bureau opposes the regulation of greenhouse gases by the Environmental Protection Agency (EPA) under the Clean Air Act and we commend the Chairman for giving this matter a high priority.

On January 2, 2011, EPA rules went into effect that regulate the emissions of greenhouse gases (GHG) from cars and light trucks. Now that those gases are regulated pollutants under the Clean Air Act, EPA authority extends to GHG emissions from stationary sources as well; these sources include not only power plants and refineries, but also farms and ranches.

The *Energy Tax Prevention Act* is a targeted bill that only affects the EPA regulation of greenhouse gases from stationary sources. The bill will have no effect on the mobile source emission standards that have already been promulgated for light duty motor vehicles, or standards that have been proposed for medium and heavy duty motor vehicles.

Farmers and ranchers receive a double economic jolt from the regulation of GHG from stationary sources. First, any costs incurred by utilities, refiners, manufacturers and other large emitters to comply with GHG regulatory requirements will be passed on to the consumers of those products, including farmers and ranchers. As a result, our nation's farmers and ranchers will have higher input costs, namely fuel and energy costs, to grow food, fiber and fuel for our nation and the world. To a large degree, farmers and ranchers cannot pass along these increased costs of production. Moreover, the

policies being pursued by EPA contemplate a much larger role for natural gas to replace coal and other fossil fuels. While many factors go into determining fertilizer prices, natural gas price is a principal component. Should EPA's policies have the effect of pushing natural gas prices higher, we anticipate those costs will combine with other factors into pushing fertilizer prices up and making it even tougher for domestic manufacturers in an increasingly competitive international market.

Unless Congress takes action, farmers and ranchers will also incur direct costs as a result of the regulation of GHGs by EPA. For the first time, many farm and ranch operations will likely be subject to direct New Source Review (NSR)/Prevention of Significant Deterioration (PSD) construction permit and Title V permit requirements under the Clean Air Act. For example, Title V of the Clean Air Act requires that any stationary source (including farms and ranches) that emits, or has the potential to emit, more than 100 tons of a regulated pollutant per year must obtain an operating permit. To meet this requirement, thousands of farms and ranches will be required to obtain Title V operating permits. EPA itself estimates there are more than 37,000 farms that emit between 100 and 25,000 tons of GHG per year, and would thus have to obtain these permits. (We believe the number of farms and ranches that would be required to get permits is considerably higher than that.) EPA estimates the average cost of obtaining a Title V permit is more than \$23,000. Using EPA's numbers, just the expense of obtaining Title V operating permits will cost agriculture more than \$866 million. That does not include the expense of yearly fees under Title V or any costs that might be incurred for NSR/PSD permits.

Livestock producers would be especially impacted by these permit requirements. The U.S. Department of Agriculture (USDA), in comments on EPA's advanced notice of proposed rulemaking in 2008 said, "Even very small agricultural operations would meet a 100-tons-per-year emissions threshold. 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 Title V permit." According to the USDA publication "Farms, Land in Farms, and Livestock Operations, 2007

Summary.” National Agricultural Statistics Survey, (Feb. 2008) this covers more than 98.8 percent of milk production, 89.4 percent of beef inventory, and 96.8 percent of hog inventory. At current Title V “suggested minimum fees” from the EPA, these yearly permit costs would amount to \$175 per dairy cow, \$87.50 per beef cow, and more than \$20 per hog.

EPA recognizes the economic impact that this regulation will cause, and has sought to phase-in, or “tailor”, permit requirements by starting with the largest emitters first. Unfortunately, the Clean Air Act is very specific in its requirements and fairly inflexible in its application. Courts have generally been reluctant to allow EPA to go beyond the letter of the law. Because this “tailoring” approach will not initially require permits for some entities that are required by the Clean Air Act to obtain permits, many legal experts seriously question whether this approach can withstand legal challenge. Were a court to strike down the “tailoring rule,” all of the farms, ranches and other small entities that meet the Clean Air Act thresholds presumably would be subject to permit requirements immediately.

But even if this “tailoring” approach were to survive, farmers and ranchers would still incur the higher costs of compliance passed down from utilities, refiners and fertilizer manufacturers that are directly regulated as of January 2, 2011. In addition, farms and ranches that meet the Clean Air Act thresholds are still eventually going to have to obtain Title V and PSD/NSR permits at some point in the future and will incur the direct costs described above.

On the other hand, this costly and burdensome regulatory scheme will produce very little, if any, environmental benefit. Greenhouse gases are distributed evenly around the globe, so that a ton of GHG emitted in Illinois is no different from a ton emitted in China. Regulation of GHGs emitted in Illinois means little if emissions in China are not similarly regulated. The only effective way to address the issue is by instituting a multi-lateral, global solution. Unless and until the countries of the world agree on an international treaty on GHG emissions, unilateral regulation of GHGs by EPA will have little environmental effect. EPA Administrator Lisa Jackson has publicly acknowledged this reality in

testimony before the Senate Environment and Public Works Committee in 2009 and in response to a question on a chart showing the climate impacts, she replied, "I believe that essential parts of the chart are that the U.S. action alone will not impact CO₂ levels."

This is also illustrated by the GHG regulations that EPA has already issued. For example, the EPA estimates that its regulation of GHGs from Light Duty Motor Vehicles (the linchpin of the EPA regulatory program for GHGs) will reduce global mean temperatures by a whopping 0.006-0.015° C by 2100, and reduce global mean sea level rise by approximately 0.06-0.14 cm by 2100.¹

We are concerned the only tangible results from unilateral regulation of greenhouse gases by the EPA could be the loss of jobs and industry in the United States as companies move operations overseas. Such an occurrence happened several years ago to the fertilizer industry when natural gas prices spiked. Another spike in natural gas prices caused by fuel switching from fossil fuels could drive the rest of the U.S. fertilizer industry overseas. That will result in higher fertilizer costs and uncertain supply for farmers and ranchers. That is only one example of the possible adverse impacts we fear from continued EPA regulation.

The bill does not have any effect on other actions that might be affected by a restriction on GHG regulation on stationary sources. For example, the bill will not affect actions to address stratospheric ozone or the implementation of the Montreal Protocol. The bill also does not prevent research on climate change, or the development of demonstration projects to advance understanding of climate change or possible impacts.

Both the president and the administrator of EPA have stated that regulation of greenhouse gases by EPA under the Clean Air Act is not an effective way to address the issue. Both state that they prefer that the issue be addressed by Congress. Climate policy is a national issue that should be addressed by

¹ EPA, *Federal Register*/Vol. 75, No. 88/Friday, May 7, 2010

elected officials. Unfortunately, once the Clean Air Act regulatory process has begun, it is very difficult to stop it administratively. The *Energy Tax Prevention Act* recognizes this fact, and applies the brakes to this process, thus restoring the jurisdiction of Congress to develop climate policy.

Farm Bureau pledges its support for the *Energy Tax Prevention Act*, and we look forward to working with the Committee on this issue.

Mr. WHITFIELD. Thank you, Mr. Nelson.
Mr. Harnack, you are recognized for 5 minutes.

STATEMENT OF FRED T. HARNACK

Mr. HARNACK. OK. Good afternoon. Mr. Chairman and members of the committee, thank you for this opportunity to testify. I will briefly summarize my remarks, and I am pleased to have supplied a detailed written statement for the record.

My name is Fred Harnack and I am General Manager of Environmental Affairs for United States Steel Corporation. My career spans over 30 years in steel technology and manufacturing facilities, some of which are located in Mr. Dingell's and Mr. Doyle's districts. I have witnessed environmental management practices developed in tandem with implementation of the Clean Air Act. On balance, the Clean Air Act has been a force for positive change across industrial America.

Today, I am especially proud to represent our company and over 21,000 domestic and 42,000 total employees at U.S. Steel. My company provides employees and their families good-paying jobs and benefits that make the American dream attainable. We also support pension and health benefits for more than 100,000 retirees and their dependants. Ours is an industry worth fighting to keep.

I assure you every one of us wants to work, live and raise our families in a clean and safe environment. We are committed to making steel with that in mind and install environmental stewardship through all our business processes. That said, we believe the time has come to reassess the complex framework of rules and regulations that hamstring responsible manufacturers and inhibit economic growth and job creation.

U.S. Steel is an integrated steel producer. Our process begins with iron ore, carbon in the form of coke, and limestone. We transform these materials through a highly efficient, high-temperature blast furnace to create iron which, with the addition of recycled steel scrap metal, is converted to cast steel. We produce flat roll sheet and tin products and seamless and welded pipe that is used in automotive, construction, container and energy industry applications.

As Congress looks for ways to reduce unemployment and attempt to recover more than 8 million manufacturing jobs lost since the year 2000, the regulatory burden will be a target-rich environment. The recent spate of new rules to regulate greenhouse gas emissions under the Clean Air Act is a good place to start because these rules have not yet had the chance to inflict their harm on jobs and the economy.

Greenhouse gas emissions are not like the pollutants targeted under the Clean Air Act. Regulating these emissions from stationary sources under the existing Clean Air Act will not yield the past successes achieved for other pollutants. In fact, the Clean Air Act makes no provision to address the anticompetitive regulatory costs imposed on domestic manufacturers of globally traded goods. This will likely lead to a perverse outcome that puts the most efficient American manufacturers at a disadvantage to unburden foreign producers while actually contributing to a net increase in glob-

al greenhouse gas emissions. I am convinced that jeopardizing American jobs for a worse environment is not in our best interest.

Our substantial experience complying with the Clean Air Act tells us that Title I and Title V programs were probably never intended to regulate global greenhouse gas emissions. In our world, this is the proverbial attempt to stick a square peg in a round hole. The committee's discussion draft dated February 2, 2011, would prevent substantial economic harm by removing greenhouse gas emission regulations under the Clean Air Act.

Over the coming months, we urge Congress to hold hearings on other aspects of the Clean Air Act. In this regard, we would suggest five areas worthy of your further study and investigation. These include first of all the cumulative impact of Clean Air Act regulations, and I just wanted to note that my written statement provides a detailed list of the many new and emerging air pollution rules applicable to and affecting the steel industry, and you have heard them many times referred to also today; secondly, the role and expectations including costs of technology in controlling various pollutants; third, the efficiency and effectiveness of U.S. EPA's guidance and testing methods; fourth, the best strategies for addressing multimedia and multipollutant impacts; and finally, staffing levels and competencies in the responsible State and federal regulatory agencies to ensure permitting can move with the pace of commerce.

As Americans, we all understand that government regulation is designed to impose certain responsibilities on targeted entities. Our collective challenge, however, is to achieve an optimal balance of cost and benefit. When companies like mine are required to spend the lion's share of our capital budgets on infrastructure and satisfying compliance obligations, it is no wonder that job creation and America's global competitiveness are handicapped. We believe, as President Obama recently stated in his State of the Union address, that we have to make America the best place on earth to do business, and we at U.S. Steel are eager to help you achieve this worthy and rewarding goal.

[The prepared statement of Mr. Harnack follows:]

February 9, 2011

Fred T. Harnack
United States Steel Corporation

Summary of Testimony to the Energy and Power Subcommittee

U. S. Steel utilizes the integrated method of manufacturing steel from iron ore and recycled scrap. The company employs 21,000 in the U.S. (42,000 globally) and competes daily in the global steel market by producing flat rolled steel, tin, and seamless and welded pipe that is used to serve customers in many sectors, including the automotive, construction, container, and energy sectors.

Greenhouse gases do not lend themselves to the same regulatory approach as pollutants covered by the Clean Air Act. Greenhouse gas emissions are a global issue and must be dealt with on a global, shared responsibility basis.

The U. S. steel industry is the most efficient in the world in terms of energy consumed and emissions generated per ton of steel output. Steelmaking is inherently greenhouse gas intensive. Regulatory or tax costs imposed on domestic producers, but not on imported steel products from unregulated countries, impairs the competitiveness of American made steel. Moreover, if unregulated imports are chosen over domestically produced steel, the net environmental result is often negative.

U. S. Steel Corporation is committed to environmental stewardship at all levels. As an industry leader, the company commits significant capital expenditures and operating expense to maintain and improve infrastructure and environmental performance. Our 2009 capital expenditures of \$472 million consisted largely of non-discretionary environmental and infrastructure projects. Environmental compliance expense in 2009 totaled \$431 million globally. Projects to improve competitiveness -- such as developing new products and markets and expanding factory capacity -- must compete for limited resources against these non-discretionary expenditures.

The company supports legislation and oversight to address the growing costs of compliance with the Clean Air Act.

We endorse the intent of the Committee's Discussion Draft dated 2 February 2011 to remove greenhouse gas regulations for stationary sources from under the Clean Air Act. We support slowing the speed with which federal agencies are attempting to finalize the next phase of the rule concerning Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards (model years 2017-2025). The latter will impose long-term direct influence on material selection for light-duty vehicles. If not properly addressed, lightweight materials regardless of their life-cycle carbon footprint could be promoted over more sustainable materials like advanced high strength steels.

**Testimony of Fred T. Harnack
General Manager – Environmental Affairs
United States Steel Corporation**

**“Endorsement to Eliminate Greenhouse Gas Regulation under the
Clean Air Act”**

**Before the Subcommittee on Energy and Power
House Energy and Commerce Committee
February 9, 2011**

A. Introduction

Mr. Chairman and members of the Committee, thank you for the opportunity to appear before you today. My name is Fred Harnack and I am General Manager of Environmental Affairs for United States Steel Corporation, (U. S. Steel). My background in the company is mainly in the operations field, but in my current position I am responsible for ensuring global compliance with all environmental requirements at the local, state, and federal level in the United States as well as the respective laws governing our foreign operations. I am proud to represent our corporation and the over 21,000 domestic and 42,000 total employees. I assure you every one of us wants to work, live, and raise our families in a clean environment. We are committed to making steel with that in mind, but believe the time has come to reassess the complex framework of rules and regulations that hamstring responsible manufacturers and inhibit economic growth and job creation in our country.

B. Company and Process Overview

Within the global steel market, U. S. Steel is one of the world's largest producers and our product offering includes flat rolled steel, tin, and seamless and welded pipe. We have sophisticated research and technology resources dedicated to pushing the boundaries of product and process capabilities. Everyday, we compete in a fiercely competitive global market. The American steel market is the most open steel market in the world and constant competitive pressures from imports mean we must be among the highest performing and most efficient global producers.

U. S. Steel is a fully integrated steel manufacturer which means we begin our process by mining virgin iron ore and converting the ore into "new steel" in combination with recycled scrap. Unlike the Electric Furnace method, we utilize our Blast Furnace iron making process to reduce the ore with coke in order to produce molten iron which is then added to recycle steel scrap required for our steelmaking process. This is a very carbon intensive process; however it remains the most efficient technology for producing the metal required for steel manufacturing by the integrated process.

At U. S. Steel, our strategic focus is concise and straightforward: Making Steel, World Competitive, and Building Value for our stakeholders. Our Core Values include Safety, Environmental Stewardship, Diversity and Inclusion, Focus on Cost, Quality, and Customer Service and we are all accountable for our results. This is the framework within which our business strategy is developed and executed. We are a forward looking

and responsible organization that takes its responsibility seriously to generate a competitive return on capital, and meet our financial and stakeholder obligations.

As an industry leader, we commit significant capital expenditures and operating expense to maintain and improve our infrastructure and environmental performance. Our 2009 capital expenditures of \$472 million consisted largely of non-discretionary environmental and infrastructure projects. Environmental compliance expense in 2009 totaled \$431 million globally. While environmental stewardship is a core value, it is obviously not without substantial cost. Our capacity to invest in new plant and equipment – a precondition for job creation in the sector – is constrained by our ability to generate a fair return on the capital we invest. When the lion's share of our capital budget must be dedicated to maintaining infrastructure and satisfying compliance requirements, it is no wonder that job creation and global competitiveness are handicapped. Our industry is not unique in this regard, as this is a fact of life for many in the manufacturing sector.

As Congress looks for ways to reduce unemployment and attempt to recover the more than 8 million American manufacturing jobs lost since 2000, it must evaluate whether our current framework and system of environmental regulation is really serving the nation's best interests. Recent and ongoing promulgation of new rules to regulate greenhouse gas emissions under the Clean Air Act is an appropriate starting point for such a review, because it is already clear that the environmental outcomes of such an

approach will be counterproductive and not worth the associated costs that would be imposed on American workers.

C. Implementation of Clean Air Act Requirements

Since implementation of the Clean Air Act and its subsequent amendments, significant improvements have been and continue to be achieved to improve ambient air quality as well as reduce source specific air pollution in the United States. U. S. Steel is proud to have been a leader among the many responsible corporations that worked with then-Chairman John Dingell and other members of this committee to craft the Clean Air Act amendments of 1990. We continue to be an industry leader in complying with standards set by the Clean Air Act. As USEPA develops more stringent standards pursuant to the Act, U. S. Steel has worked closely with USEPA, state and local environmental agencies to implement emission reduction projects to achieve the standard within the time frame set. The cost of compliance with the Clean Air Act is large. However, great success has been achieved in reducing avoidable air pollution.

In my career, spanning over thirty years in the steel industry, I have witnessed environmental management practices evolve in tandem with implementation of the Clean Air Act. Leading companies no longer just tolerate, balance, and translate a handful of environmental practices; instead they take a comprehensive and global approach to environmental management. Our company, for example, is committed to environmental stewardship at all levels and that includes performance assessment, target setting,

engagement with stakeholders, and best practices implementation. Through this comprehensive corporate environmental management process, U. S. Steel has made significant investment in technologies and controls to operate state of the art iron and steel manufacturing facilities.

D. Regulating GHGs under the Clean Air Act

Greenhouse gas emissions are not like the pollutants targeted under the Clean Air Act. Most greenhouse gases such as water vapor and CO₂ are naturally occurring. Also, man-made greenhouse gas emissions do not accumulate or impact the environment the same as traditional air pollutants. Accordingly, regulating greenhouse gas emissions from stationary sources under any of the existing Titles in the Clean Air Act will not yield the success that the Clean Air Act has achieved for traditional air pollutants.

Greenhouse gases do not lend themselves to the same regulatory approach as stationary source pollutants, such as particulate matter and sulfur dioxide. The complicated National Ambient Air Quality Standards (NAAQS) process was not intended, nor is it able, to regulate the complex group of greenhouse gas emissions on a global scale. The Clean Air Act makes no provision to address the anti-competitive regulatory costs imposed on domestic manufacturers of globally traded goods. A misapplication of the Clean Air Act will significantly impact the efficiency and effectiveness of regulating greenhouse gases by taking away resources that could otherwise be used to develop a more sound and appropriate approach. It is also

significant to note that the amount of reduction possible at the domestic level from stationary sources is a small fraction of the global amount of greenhouse gas emissions.

Since greenhouse gas emissions are a complex global issue, a simplistic regulatory approach may reduce greenhouse gas emissions locally (in United States) while increasing emissions outside the United States by encouraging companies to move or expand operations to another country. As demonstrated by the United Kingdom's example, energy-intensive manufacturing activity will decline, but consumer demand for energy-intensive goods will still grow. The net environmental effect of such is actually worse for the environment as goods are sourced from less efficient producers and additional long-distance transportation is required.

From our perspective, regulating greenhouse gases under Titles I and V of the Clean Air Act is like trying to put a square peg into a round hole. We believe the record and construction of the Clean Air Act clearly indicates that the Act was never intended to regulate greenhouse gases under Titles I and V. When reading the Clean Air Act as a whole, with particular attention to Title I, we believe that it was Congress' intent to address only local and regional air pollution issues in Title I. Addressing a global issue, such as climate change, through Title I of the Clean Air Act has no direct affect on local or regional air pollution; and worse yet, it could actually lead to increased emissions of greenhouse gases globally by way of encouraging industry to move to countries that do not regulate greenhouse gases.

During consideration of climate change legislation by this Committee in the 111th Congress, there were many hearings on the so-called carbon and job leakage issues. We sincerely appreciated the serious attention members of the Committee devoted to understanding and attempting to address these concerns. Congressman Doyle and Chairman Markey personally spent a great deal of time and effort crafting transition provisions in an attempt to buffer energy intensive manufacturers from the projected impacts of the bill. Nonetheless, the House legislation was never even considered by the Ways and Means Committee and provisions that might have addressed trade-related aspects of the bill (such as imposing comparable environmental costs on energy-intensive imported goods) were never incorporated.

Industry and Congress both learned a great deal during the development of that legislation. The experience forged our belief that meaningful action to reduce global greenhouse emissions must begin with international support and coordinated commitments that treat industries on even terms. We could never support an approach that knowingly puts American jobs and industry at severe economic disadvantage relative to our competitors in unregulated countries like China, India, Russia or Brazil.

Since greenhouse gas accumulation in the atmosphere is a global issue, it must be addressed in a substantially different manner than USEPA is currently pursuing. In fact, Congress has previously recognized the inappropriateness of regulating a global environmental issue through Titles I and V of the Clean Air Act. For example, Congress understood that stratospheric ozone protection was not a local or regional issue and

therefore specifically legislated that it should be regulated differently, thus creating Title VI of the Clean Air Act which required USEPA to address stratospheric ozone protection in a different manner than USEPA addresses pollution that has local and regional impacts. Simply put, it is not feasible nor is it appropriate to address global air issues under Titles I and V of the Clean Air Act.

U. S. Steel fully supports removing greenhouse gas regulations for stationary sources from under Titles I and V of the Clean Air Act. The Discussion Draft released by this Committee on February 2, 2011, would accomplish this objective. We believe simply delaying implementation of greenhouse gas regulations does not provide any real benefit to our company or the steel industry – and delaying implementation for one or two years simply leads to more uncertainty for the private sector. If greenhouse gases are to be regulated, Congress should develop an appropriate statute that balances real environmental improvement with international competitiveness concerns at a cost Americans are willing and able to pay.

On a related matter, we note that the Discussion Draft would not prohibit implementation of the rule concerning Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards. That is a rule of great interest to the steel industry because of its long-term, direct influence on material selection for light-duty vehicles. For many years, our industry has been a strategic partner with the automotive industry in developing Light Weight Advanced Strength steels and pioneering new vehicle designs to help lightweight vehicles and improve fuel

economy and safety performance of the vehicles we drive today. We are however, very concerned by the accelerated pace by which USEPA intends to develop the next phase of regulations this year to affect vehicles through model year 2025. In particular, we have encouraged USEPA to incorporate total environmental life-cycle considerations into the next rulemaking and not just focus on the driving phase vehicle performance. This focus on reducing only the driving phase greenhouse gas emissions will result in increasing the overall carbon footprint of the vehicle if OEMs employ carbon-intensive lightweighting materials to meet the driving phase regulations. We look forward to working with the Committee and the Agency to develop appropriate tools for such an approach because it offers the best environmental solution with the least unintended consequence.

E. Cumulative Impact of Clean Air Act Regulations

Inefficient or inappropriate local regulation of greenhouse gas emissions under the Clean Air Act is not the only problem we experience under the current framework of U.S. environmental regulation. As a result of periodic reviews, ever-tightening standards and requirements, and court-ordered actions, the regulatory burden on manufacturers has grown exponentially since 1990. The regulation of greenhouse gas emissions imposes a substantial new burden on industries already over-burdened by air pollution regulations. Many domestic manufacturers have been unable to keep pace and have simply closed factories or moved to other jurisdictions. We do not believe this trend is in the national interest and urge you to find a better way.

1. New Air Regulations Impacting U. S. Steel

In order to help you better understand the magnitude of our existing regulatory burden, the following is a list of new and emerging air regulations that are currently impacting U. S. Steel:

New National Ambient Air Quality Standards (NAAQS)

- New 1 hour SO₂ standard (promulgated in 2010)
- New 1 hour NO₂ standard (promulgated in 2010)
- Lead standard (EPA has revised the level of the primary (health-based) standard from 1.5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), to 0.15 $\mu\text{g}/\text{m}^3$. States are working on State Implementation Plans (SIPs) to address the NAAQS for Lead that was promulgated in late 2008. In addition, EPA is also revising the lead monitoring requirements.)
- Annual PM_{2.5} standard (court remand – EPA expected to promulgate in 2011.)
- Daily PM_{2.5} standard (States currently preparing SIPs)
- Ozone standard (USEPA indicated that it will issue a revised NAAQS in July 2011)
- Carbon monoxide standard. (under a judicial court order, USEPA must complete its review of the Carbon Monoxide NAAQS by August 12, 2011. (Note: USEPA is currently

proposing to keep the existing NAAQS for CO. (The existing primary standards are 9 parts per million (ppm) measured over 8 hours, and 35 ppm measured over one hour. While USEPA is currently proposing to keep the existing NAAQS for CO it is proposing additional CO monitoring. In any case, the proposal is subject to change based upon public comment so it would be premature at this time to assume that the standard will not change. USS is following this closely.)

Maximum Achievable Control Technology (MACT) and New and Emerging Federal Air Regulations

- Greenhouse Gas Mandatory Reporting Rule (and related Confidential Business Information concerns)
- Greenhouse Gas Tailoring Rule
- Boiler MACT (final rule to be promulgated by February 21, 2011)
- Pickling MACT (final rule to be promulgated in 2011)
- Chromium Electroplating MACT (final rule to be promulgated in 2011)
- Iron and Steel MACT remand
- Iron and Steel NSPS revision
- Coke MACTs Residual Risk Evaluation

- Marine Vessel Loading (Coke By-Products) (final rule to be promulgated in 2011)

This list includes only the “federal air regulations” that we must monitor. In addition, there is an equally long list of other regulatory developments covering other media including water, solid waste, and hazardous materials. Attached at the end of this statement is helpful chart outlining USEPA’s current rulemaking timeline. Finally, U. S. Steel and the regulated community must also keep abreast of all state and local emerging regulations.

A considerable amount of agency and company time and resources must be spent addressing development of emerging federal regulations and implementing the promulgated federal rules listed above.

Immediately upon promulgation of a new NAAQS, new standards must be considered for any permit for a new source or for a major modification to an existing source (Prevention of Significant Deterioration (PSD) permit). PSD permits require extensive modeling and the identification and installation of Best Available Control Technology (BACT). In addition, each area must evaluate ambient monitoring data to determine appropriate designation as attainment or non-attainment. As part of the NAAQS process, states and local jurisdictions must continuously update their State Implementation Plans (SIP) to address how non-attainment areas will achieve attainment and how the

respective state plans to maintain attainment once it is achieved. In addition, if the area in which a source is located is classified as nonattainment for certain pollutants, the source will be required to achieve the Lowest Achievable Emission Rate (LAER) for that pollutant and obtain offsets, or reductions, in the same or greater amounts than what would be emitted from the new source of modification (i.e., the project must result in a no net increase or a reduction in the nonattainment pollutant). It is important to note that USEPA is currently planning imposition of greenhouse gas BACT standards on a sector-by-sector (and process-by-process) basis which would create an entirely new host of practical environmental and business risks.

To develop a Maximum Achievable Control Technology (MACT) standard, information requests are completed and compiled, standards are set and regulations developed and promulgated. Affected facilities then need to implement the new requirements including but not limited to the installation of new control equipment, monitoring, testing and recordkeeping and reporting.

The number and rate of new federal regulations in recent times has been overwhelming. Significant time and resources have been committed to implementing these regulations. We have included the EPA Rulemaking Timeline at the end of this submittal for your information. Some of the practical issues that have arisen during implementation are discussed below.

2. Technology

As new environmental regulations are developed, there is a considerable amount of debate about the role and application of technology to control various pollutants. While most agree that there is a need to develop new technologies, there appears to be little consensus about how to accomplish this goal in the most efficient manner.

First, we need to be clear that there are two categories of technology that need to be developed.

1. Technology that reduces generation. Most will agree that the best way to reduce emissions of the various pollutants is not to generate them in the first place.
2. Technology that controls/reduces emissions. This type of equipment is traditionally referred to as “end of pipe control”.

(An example to demonstrate importance distinction – Low NO_x burners to reduce generation of NO_x is preferred over Selective Catalytic Reduction which uses urea to reduce NO_x emissions.)

Second, we need to be clear about what is considered to be innovative control technology and what is considered to be available control technology.

Innovative control technology is defined as technology that has not been adequately demonstrated in practice but would have a substantial likelihood of achieving significant reductions.

Best Available Control Technology or BACT is defined as the maximum degree of reduction in the discharge of air pollutants (emissions) achievable through the currently available methods, systems, and techniques while taking economic, energy, environmental and other costs into consideration.

Maximum Achievable Control Technology or MACT is the emission standard for sources of air pollution requiring the maximum reduction of hazardous emissions, taking cost and feasibility into account. Under the Clean Air Act Amendments of 1990, the MACT must not be less than the average emission level achieved by controls on the best performing 12 percent of existing sources, by category of industrial and utility sources

While it is important to pursue innovative control technology to determine if it is technically feasible, permits and standards should be set based on technology which clearly meets the definition of BACT and MACT.

Third, technological effectiveness should be proven for the specific application before any standard is set. An approach that has worked for U. S. Steel is to identify potentially feasible technologies, conduct pilot tests to verify technical feasibility and then pursue full scale installation.

Today, with significant information available, many steps intended to prove that technology actually works as advertised are being skipped. For example, my Department has periodically been asked by our executive management about installing technologies they have seen on the internet which promise very significant pollution or energy reductions. We have contacted the advertising vendors to investigate only to learn that many of them will not contractually guarantee the promises made on their websites. If this type of due diligence approach is not taken, a tremendous amount of resources could be spent on technology that simply does not work as designed. Unfortunately, many in the public and those serving in the regulatory agencies are too quick to believe the claims of overly optimistic and ambitious technology entrepreneurs.

If new regulations are to rely on the development of new technologies, the regulations must contain a mechanism for the methodical approach discussed above to assure that the equipment installed meets the requirements of the regulation.

3. Guidance and Test Methods

When new regulations are promulgated, they are most often followed by guidance and new test methods. The guidance documents are designed to provide practical information on how the regulations are to be implemented. While generally helpful, guidance often leads to significant issues with implementation because the current regulatory structure does not provide adequate time. New test methods are also being developed to better measure pollutants of concern.

The situation with PM_{2.5} is a good example. The first approach to quantifying PM_{2.5} was to assume PM₁₀ equals PM_{2.5} using existing PM₁₀ modeling guidance and test methods. Recently, this was refined with new PM_{2.5}-specific guidance and test methods. While the new methods are definitely more accurate for PM_{2.5}, the practical result has been a state of confusion and delays in permits already in progress. To comply with the new guidance, extensive testing using the new test methods needs to be conducted, emission inventory revised, and modeling updated with the new data.

If new regulations are going to be immediately followed by detailed guidance and new test methods, the new regulations must provide a better mechanism for testing under the new methods and allow sufficient time to

revise facility environmental modeling. Permits already in progress should not be subjected to new delays.

4. Multi Media and Multi Pollutant Impacts

There was a time in the early years of the environmental movement, when air, water and waste issues were dealt with independent of each other. During that same time, public policy strategies to reduce particulate matter were separated from those aimed at reducing NO_x and SO₂. However, those days are now behind us and multiple media pollutant impacts must be considered simultaneously.

Today control strategies must be developed that address all media and all regulated pollutants. As an example of a multi-media evaluation, reducing mercury from a stack to avoid air and water impacts results in a waste which needs to be disposed. The strategy developed and implemented must minimize the impact on all three media.

In the steel industry, when we are evaluating our options to reduce PM_{2.5}, consideration must also be given to SO₂ and NO_x, as they lead to formation of secondary PM_{2.5}. Another example would be that a fuel strategy in an area of the country impaired for visibility cannot rely solely upon natural gas, since NO_x is the pollutant of concern often affecting visibility. Taking into account

fuel availability, strategies must consider the air pollution effects of combusting natural gas, coal, and/or biomass. (There is not a one-size fits all approach, as site specific factors often determine what is the best or most appropriate approach.)

Control strategies need to be developed and implemented from a perspective of what is best to minimize the overall impact of the project. Strategies must evaluate multi-media and multi-pollutant impacts. Regulations must also have a mechanism that provides for such an evaluation and allows companies the ability to install the best project from an overall perspective.

5. Agency Staffing

Every new regulation promulgated puts an additional burden on federal, state and local agencies. Regulatory agency staffs must gain an understanding of the regulation and corresponding implementation guidance and then develop and implement a plan to integrate the new requirements into their permitting and enforcement programs. Too often, they must also acquire more detailed operational and technical knowledge of the industries they are charged with regulating.

The Federal Government is currently struggling to reduce an ever increasing deficit. The majority of the states and localities in which U. S. Steel operates are also facing significant fiscal deficits. In order to reduce these deficits, agency staffs have been furloughed and/or permanently reduced. Additional reductions are likely.

In addition, USEPA has difficulty itself in completing its existing nondiscretionary duties under the Clean Air Act. Special interest groups regularly sue USEPA for its alleged failure to complete nondiscretionary duties. USEPA continues to fall behind its obligations that Congress specifically and discretely intended under the Clean Air Act.

A company has a choice when determining whether to pursue a new project and the required permitting. The increased time and cost to obtain required permits and to install required control equipment has become a critical part of the decision process. If the time and cost becomes too high, the company can decide not to pursue the project. Permits must move at the speed of commerce to remain competitive.

In contrast, the agencies do not have a choice. When permit applications are received, they need to prepare permits. In many jurisdictions, they are required by law to have the permits issued within a specified time. With

reduced staffs and the significant number of existing and new regulations, permits are simply not getting issued in a timely manner resulting in delays in construction.

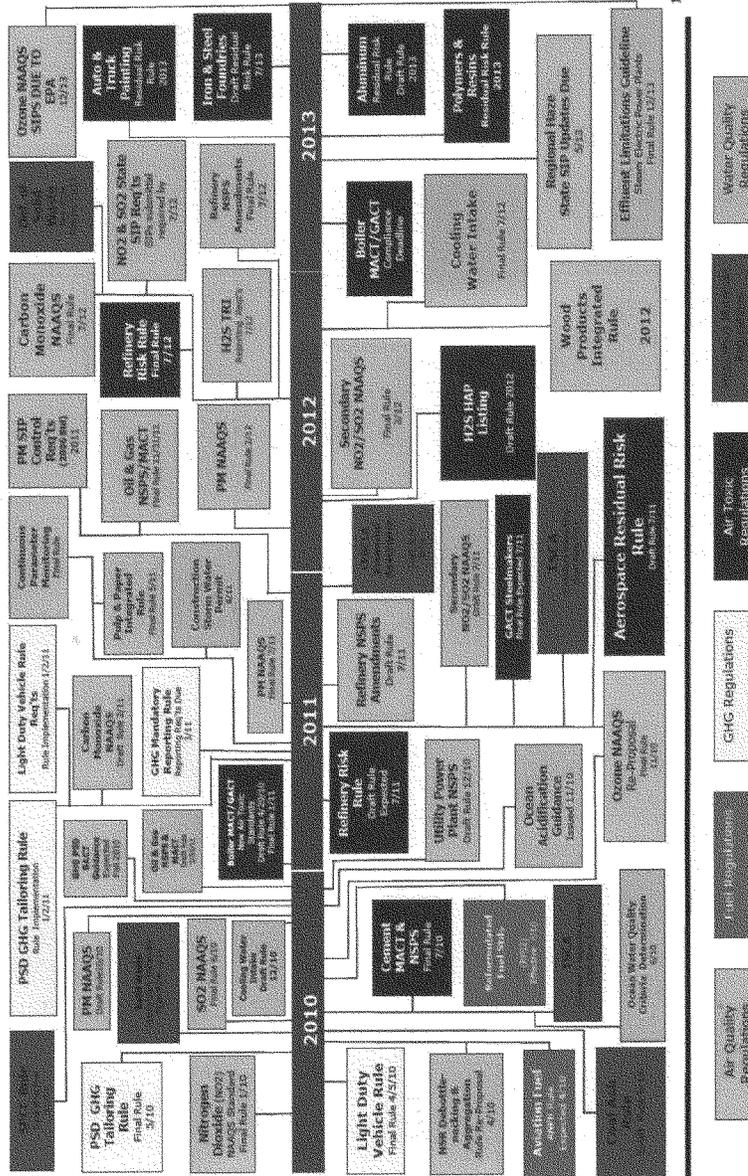
F. Conclusion

It is inconceivable to us that steel companies in the United States are to be further disadvantaged by substantial new costs and regulations not borne by steel producers in China, India or Russia. China alone accounts for almost half the world's steel production and accounts for more than half of global emissions from the steel sector, yet it bears only a small fraction of our regulatory responsibility. Clearly, from the perspective of an American steel producer, regulating greenhouse gas emissions as USEPA is attempting to do is not an acceptable solution to a global environmental issue. Greenhouse gas regulations imposed under the existing Clean Act place an unnecessary, if not insurmountable burden on the U. S. manufacturing industry.

We believe, as President Obama recently stated in his State of the Union address, "We have to make America the best place on Earth to do business." Continuing down USEPA's path of regulating greenhouse gas emissions under the existing Titles of the Clean Air Act, in the manner in which it is pursuing, is contrary to this worthy and rewarding goal. Accordingly, we urge Congress to continue to respect the environmental achievements brought about by the Clean Air Act, but begin

immediately to address the nation's competitive economic slide by reigning-in overreaching, poorly conceived, and counterproductive regulations.

EPA Rulemaking Timeline



Mr. WHITFIELD. Thank you very much.
Mr. Goldstene, you are recognized for 5 minutes.

STATEMENT OF JAMES N. GOLDSTENE

Mr. GOLDSTENE. Thank you. Good afternoon, Chairman Whitfield, Ranking Member Rush, members of the committee. I appreciate the invitation to speak today on the proposed Energy Tax Prevention Act of 2011.

My name is James Goldstene. I am the Executive Officer of the California Air Resources Board, the primary body charged with protecting the air quality and air-related public health in California, and charged with speaking for the State on air quality and climate change issues. I am also a member of the Board of Directors of the National Association of Clean Air Agencies, or NACA, an associate of State and local clean air agencies across the country.

Today I would like to share with my perspective as a State agency administrator and as an air quality regulator.

The issue before us today concerns the preemption of the Clean Air Act, one of the most successful environmental laws in the history of the United States. For 40 years, the sensible pollution limits established under the Clean Air Act have dramatically improved air quality and public health, saving hundreds of thousands of lives and generating over \$2 trillion in economic benefits for the American people. Let me start with vehicles. Passenger vehicles are not only responsible for 20 percent of carbon pollution but the majority of our oil dependence. Preempting the authority for EPA to regulate the greenhouse gas emissions of vehicles would rob this country of one of its most powerful tools, not just to reduce carbon pollution but also to reduce our dependence on foreign oil, and to save consumers money.

Simply maintaining the U.S. Department of Transportation's authority to regulate fuel efficiency is not adequate. While the fuel economy standards can complement long-term mobile source greenhouse gas reduction strategies, they are in no way a substitute for them. The combined fuel economy and vehicle greenhouse gas emission standards promulgated by EPA and DOT last year represent an important and unprecedented partnership. This approach leverages the strengths of both agencies and combines the related but different aspects of fuel economy and greenhouse gas emission standards. As a result, the combined standards achieve 35 percent less pollution and 25 percent less fuel consumption, compared to relying on CAFE standards alone.

California embraced these joint standards and the national program wholeheartedly, accepting the federal program as equivalent to our own program for model years 2009 to 2016. We have continued to carry on this unprecedented spirit of cooperation and collaboration following the historic May 2009 Rose Garden agreements, working with both federal agencies and automobile manufacturers to develop the next round of standards. California remains committed to the process of working closely with our partners to do everything we can to repeat that success for the 2017 to 2025 standards.

We are building on a firmly established precedent and foundation of national environmental policy. Since the early 1960s, California has established pollution standards for new vehicles sold in the State predating even the Federal Government's effort in this arena, and the pattern has continued. Since the 1980s, each successive California standard has gone on to become the national standard. In that time cars have become 99.7 percent cleaner, all while the auto industry has innovated to continue providing consumers with the amazing diversity and quality of affordable vehicles that we enjoy today. And of course, in this we are joined by our other States, the so-called section 177 States who have acted like California to address their own quality and public health concerns with our cost-effective standards. Preempting California's ability to set carbon pollution standards for vehicles would also increase costs to California consumers. These vehicle standards are one of the most cost-effective measures in California's clean energy plan, saving consumers an average of \$2,000 over the life of a vehicle.

With regard to pollution from electricity generators and factories, EPA is utilizing the tried-and-true framework for reducing pollution. Far from overreaching, EPA is responding to the clear mandate of the Clean Air Act, the dictates of the Supreme Court and fulfilling the clear intent of Congress that newly identified public health risks from air pollutants not listed in the Act be addressed. The obligation is clear and unambiguous.

Contrary to claims of a rush to regulation, EPA has been proceeding methodically. Clearly, EPA has moved forward in the past 2 years with a tailored, measured approach. This permitting process is business as usual for State and local air quality agencies across the country who are using a well-known process that has been used for decades. EPA has provided flexibility for State and local agencies in how to run the permitting program so that the local regulators can work with the permit applicants. The claim that permitting would grind to a halt is simply false. All we want is to provide certainty for industry to invest and create jobs.

This legislation, however, would forestall needed and available investment in the energy sector now and threaten the competitiveness of the American economy in the long run. We know that when government provides clear signals and a predictable regulatory environment, industry is quick to adapt, seize investment opportunity and create good jobs along with profits. For example, in the face of the current recession, clean technology has been the fastest-growing sector in California. Thank you, sir.

[The prepared statement Mr. Goldstene follows:]

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TESTIMONY OF
JAMES N. GOLDSTENE
EXECUTIVE OFFICER,
CALIFORNIA AIR RESOURCES BOARD

Submitted to the
Subcommittee on Energy and Power,
Committee on Energy and Commerce
U.S. House of Representatives

Hearing On
“Energy Tax Prevention Act of 2011.”

February 9, 2011

Good afternoon Chairman Whitfield, Ranking Member Rush, members of the committee. I appreciate the invitation to speak to you today on the proposed "Energy Tax Prevention Act of 2011."

My name is James Goldstene, and I am Executive Officer of the California Air Resources Board, the primary body charged with protecting the air quality and air-related public health in California, and charged with speaking for the state on air quality and climate change issues. I am also a member of the Board of Directors of the National Association of Clean Air Agencies (NACAA), an association of state and local clean air agencies across the country.

Today I would like to share with you my perspective as a state agency administrator and air quality regulator. I am extremely concerned by the attack on states' rights in this legislation.

The issue before us today concerns the preemption of the Clean Air Act, one of the most successful environmental laws in the history of the United States. For forty years, the sensible pollution limits established under the Clean Air Act have dramatically improved air quality and public health, saving hundreds of thousands of lives and generating over two trillion dollars in economic benefits for the American people. For just as long, opponents and their allies in Congress have claimed that environmental regulations will lead to "regulatory train wrecks" and economic devastation. Yet this has not happened. The rules have consistently been less burdensome, less costly, and more beneficial than even their supporters expected. As the Environmental Protection Agency (EPA) begins the process of issuing regulations to curb the serious threat of carbon pollution, I fully expect this pattern to be repeated.

We hear rhetoric that “EPA should not regulate what Congress has refused to legislate.” The fact is, EPA is responding to the clear mandate of the Clean Air Act, and is fulfilling the clear intent of Congress that newly-identified public health threats from air pollutants not listed in the Act be addressed. Again and again throughout the Act, Congress repeated the requirement that if EPA finds a pollutant endangers public health, it must regulate. This obligation is clear and unambiguous.

Contrary to claims of a rush to regulation, EPA has been proceeding methodically. EPA’s rules have been more than a decade in the making. EPA has moved forward in the past two years with a tailored, measured approach.

The only rule limiting emissions from power plants and factories is permitting requirement for emissions from new and modified sources, and the associated requirement that facilities use the Best Available Control Technology. EPA has used the flexibility of the Clean Air Act to tailor these requirements to the very largest sources of pollution in the country. Between now and 2016, no facility that emits less 50,000 tons of greenhouse gases, the equivalent of burning 100,000 barrels of oil, will need to seek a permit. The accusations of small businesses or residences being caught up in this program are simply wrong.

The claim that permitting would grind to a halt at the start of the program is also false. NACAA recently conducted a survey among its members, and has received responses from 36 states. As of January 2, 2011 – the start of the GHG permitting program – these 36 states together reported a total of 41 pending construction permits that trigger GHG controls. While further sources will be subject to the program later in the year, and more new sources will continue to be proposed, this is hardly the bottleneck that critics envisioned.

Further, this permitting process is business as usual for state and local air quality agencies across the country, which have implemented BACT determinations based on a well-known process for decades. EPA has provided considerable flexibility to state and local agencies in how to run the permitting program so that we can take into consideration the needs of the permit applicants. In my experience, state and local agencies do everything they can to issue permits in a timely manner. The agencies and the applicants are both intimately familiar with the process and will soon be able to accomplish it for carbon pollution as they do for other pollution.

One reason this is true is because the technologies available for reducing carbon pollution are also well-known and available. Until more advanced technologies are available – and I urge Congressional support for research, demonstration, and deployment of advanced low-carbon technologies like renewable energy and carbon capture and storage – until then, the focus is on the use of the most efficient, cost-effective technologies available. And besides reducing greenhouse gases, more efficiency also tends to reduce other harmful pollutants, and often save money in the long-run through less fuel use. For a facility that may measure its lifespan in decades if not generations, why would we not ask that it be built right the first time?

In California, we already have experience with how smoothly this process can work. The Russell City Energy Plant, being built by Calpine Corporation in partnership with GE Energy, was approved last year with the nation's first carbon pollution limits determined in the Best Available Control Technology (BACT) process – before it was required by EPA. The Russell City Energy Plant is a model energy development – sensible, predictable carbon regulation under the Clean Air Act provided Calpine the certainty it needed to invest and create jobs now.

The other major regulatory program that EPA has implemented is the greenhouse gas emission standards for passenger vehicles. These vehicles are not only responsible for 20% of carbon pollution, but also the majority of our oil dependence and trade imbalance. Preempting the authority for EPA to regulate the emissions of vehicles would rob this country of one of its most powerful tools not just to reduce carbon pollution, but also to reduce our dependence on foreign oil, and to save consumers money. And every dollar not spent on foreign oil is a dollar spent here.

Simply maintaining the U.S. Department of Transportation's (DOT's) authority to regulate fuel efficiency is wholly inadequate. For all of its expertise, DOT is prevented by law from promulgating fuel economy standards for more than five vehicle model years at a time – a restriction on lead time that makes long-term product planning, investment, and capital decisions more difficult. Moreover, as we saw in the 1990s and early 2000s, fuel economy standards stagnated year after year and the actual performance of the US fleet declined. While fuel economy standards can complement long-term mobile source greenhouse gas emission reduction strategies, they are in no way a substitute for them.

In contrast, the combined fuel economy and vehicle greenhouse gas emission standards promulgated by EPA and DOT last year represent an important partnership. This approach leverages the strengths of both agencies – EPA's ability to plan for longer product cycles and technology development, DOT's expertise in safety and fleet averaging – and harmonizes the related, but different, aspects of fuel economy and emission standards.

The benefits of this collaboration are huge, and it would be a major loss if EPA is preempted from playing its distinct and very necessary role in the future. To illustrate this point, if the EPA

were not a party to the joint standards for model years 2012 through 2016 promulgated last year, and the rules instead relied only on the authority of DOT, the rulemaking would have resulted in 35% more pollution, and 25% more oil consumption.

California is also a crucial partner in this effort. The “national program” of harmonized emissions and fuel economy standards for model years 2012-2016 is a remarkable, and all-too-rare, example of successful cooperation between government, industry, environmental groups, labor, and other stakeholders. California remains committed to the process of working closely with our partners to do everything we can to repeat the experience in the next round of standards for 2017-2025. And as with the first round of harmonized standards, technical differences may remain between our programs, yet we can accommodate these differences through coordinated measurement and compliance systems, achieving the *functional equivalent* of a single national standard.

We are building on a firmly established precedent and foundation of national environmental policy. Since the early 1960s, California has established pollution standards for new vehicles sold in the state, predating even the federal government’s efforts in this arena. And the pattern has continued – since the 1980s, each successive California standard has gone on to become the national standard. In that time, cars have become 99.7% cleaner – all while the auto industry has innovated to continue providing consumers with the amazing diversity and quality of affordable vehicle choices that we enjoy today.

In 1990, Congress recognized the value of this state authority, and the benefits of this cooperative federalism, and extended the ability of other states to adopt California’s standards in

Section 177 of the Clean Air Act. These “Section 177” states have acted, like California, to address their own extraordinary and compelling conditions with our cost-effective standards.

Section 177 states rely on California standards to help meet their air pollution and public health goals, and have done so for a long time. When Congress proposes to preempt California, it must also consider the impacts on the much broader array of states that have adopted California’s standards or may wish to do so in the future. One of the great myths underlying assaults on the Clean Air Act is that California’s statutory authority to adopt and enforce motor vehicle standards, and the statutory authority of other states to adopt these standards, will lead to a “patchwork” of regulations across the US. This is simply not true. There are at most two car standards – the federal and the state standards. And often times the two become aligned and there is only one.

Preempting California’s ability to set carbon pollution standards for vehicles would also increase costs to California consumers. California has an extensive and sophisticated program to reduce carbon pollution with the least cost and maximum benefits to our residents and industry. Our plan addresses every major category of emission sources, and the light duty vehicle standards are the primary tool for addressing transportation emissions. These vehicle standards are one of the most cost-effective measures in California’s plan, saving consumers for example an average of \$2000 over the life of a vehicle. If Congress strips us of this tool and handcuffs our ability to use the most effective and money-saving options to reduce emissions, it will increase the obligation and burden on other sectors of the economy. Congressional preemption of our state authority will unquestionably lead to increased costs for California consumers and industry.

The negative economic impacts of the proposed legislation are not limited to California, however – the legislation would forestall needed and available investment in the energy sector now, and threaten the competitiveness of the American economy in the long run. Investors in the energy sector are not sitting on the sidelines in blind fear of regulations and ideological opposition to reasonable pollution controls – we know that when government provides clear signals and a predictable regulatory environment, industry is quick to adapt, seize investment opportunity, and create good jobs along with profits. In California, where we worked hard to create a long-term plan for reducing carbon pollution, the investment in clean technology sectors like renewable energy, carbon capture and storage, and cleaner manufacturing has been tremendous. In the face of this recession, clean technology has been the fastest growing sector in California.

In a global investment context, the failure of the US to create a stable policy structure for addressing emissions is already undermining our competitiveness. For clean technology companies, but also for major traditional energy and industrial firms that accept the overwhelming scientific evidence of climate change and policy imperative for emission reductions, the failure of Congress to pass climate legislation is itself increasing the uncertainty for investors. By going further, and gutting the Clean Air Act to remove sensible EPA regulations, the proposed legislation would send the stark message that the US is not serious about creating a stable or predictable regulatory environment, not serious about attracting investment, and not serious about being a leader in the future economy.

Thank you for the opportunity to present this testimony today, and I would welcome the opportunity to answer any questions you may have.

Mr. WHITFIELD. Thank you, Mr. Goldstene.
Dr. Goldman, you are recognized for 5 minutes.

STATEMENT OF LYNN R. GOLDMAN

Dr. GOLDMAN. Mr. Chairman, thank you so much for the opportunity to testify about this Act. My name is Lynn Goldman. I am Dean of the George Washington University School of Public Health and Health Services, a pediatrician and a professor of environmental and occupational health. Today I represent the American Public Health Association, or APHA. APHA is the Nation's oldest and most diverse organization of public health professionals in the world dedicated to protecting all Americans and their communities from preventable serious health threats and assuring community-based health promotion and disease prevention activities that are universally accessible across the United States. With your consent, I will place my written statement in the record.

For 40 years, the Clean Air Act has safeguarded the health of all Americans including the most vulnerable. By EPA's estimate, the first 20 years of the Clean Air Act has prevented more than 200,000 premature deaths, 672,000 cases of chronic bronchitis, 843,000 asthma attacks and 189,000 cardiovascular hospitalizations, making it one of the most successful public health laws of our time.

As you know, in 2007 the U.S. Supreme Court directed EPA to assess the science in order to decide whether or not to move forward with efforts to protect the public's health from the impacts of greenhouse gases. They did so, and they developed an endangerment assessment. It is because of this endangerment assessment and our knowledge about the public health effects of climate change that APHA opposes this legislation, and we are not alone in this position. In a December 6, 2010, letter to all Members of Congress, APHA was joined by the American Lung Association, the American Academy of Pediatrics, the American College of Preventive Medicine and other leading national and State public health, medical and clean air advocates in urging Congress to support moving forward with protective clean air standards and to oppose any measure that would delay or block progress toward a healthier tomorrow for all Americans.

Climate change is a public health issue, and over time it is one of the greatest threats to human health. Scientists from across the globe have stated in the strongest possible terms that the climate is changing and that human activity is to blame. Scientists have unequivocally concluded that greenhouse gas is causing global warming and the United States is the leading contributor to these gases. The average increase in earth's temperature is causing extreme weather events and increases and decrease in temperature and rainfall. These regional weather changes may create environmental conditions like floods, heat waves, droughts and poor air quality that are not healthy. Some of the health effects we may be concerned about are strokes, injury, malnutrition, respiratory disease and asthma, and infections such as vector- and rodent-borne diseases. Huge costs and human suffering are associated with these outcomes. We are already beginning to see the health impacts

worldwide. Impacts will only worsen if we continue to ignore this problem.

I can recite more statistics, but let us take childhood asthma as an example. Already in the United States, asthma is the largest cause of hospitalizations and lost days of school for children but as a pediatrician, I also know the impacts of this disease on an individual child: a child who grows up unable to breathe without medication, unable to play outdoors like other children. Climate change is creating conditions that not only cause more asthma attacks but also can cause rates of asthma to rise in children. Moreover, the same activities that emit carbon dioxide also emit a wide variety of other pollutants that are harmful to health, pollutants like nitrogen oxides, air toxics and fine particulate matter. These pollutants also contribute to various diseases. Along with global warming, they contribute to formation of ground-level ozone. That is also unhealthy.

So we do need regulations that control greenhouse gas emissions but these need to be written and implemented intelligently in a manner that also reduces exposure to other pollutants that might come from coal-fired power plants, that might come from automobiles. Control of pollution from power plants also increases the healthfulness of air in communities that are near those plants. These facilities are often closer to low-income communities that suffer disproportionately from air pollution.

Measures to control air pollutants under the Clean Air Act need to work together as a whole to protect health. Cherry picking among these ignores the fact that health effects are associated with multiple classes and sources of pollution and is not consistent with science. Another way we can improve is by increasing energy efficiency. When we reduce our use of energy, we reduce emissions of the pollutants associated with energy and other harmful substances.

In closing, I should say that this bill would do nothing to reduce uncertainty. There is a problem, a clear and present public health threat from climate change. There are no answers to this problem in this legislation. Until Congress is putting forward solutions, there will be a to of uncertainty in this country about where we are heading with this problem. Thank you very much.

[The prepared statement of Dr. Goldman follows:]



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Protect. Prevent. Live Well

Testimony of Lynn Goldman, MD, MS, MPH
Representing the American Public Health Association
Subcommittee on Energy and Power Hearing on the "Energy Tax Prevention Act of 2011"
February 9, 2011

Chairman Whitfield, Ranking member Rush and members of the Subcommittee. My name is Dr. Lynn Goldman. I am Dean of the George Washington University School of Public Health and Health Services and professor of environmental and occupational health. I have been a member of the American Public Health Association (APHA) for almost 20 years and I am pleased to represent APHA at today's hearing regarding Chairman Upton's draft legislation that would block the U.S. Environmental Protection Agency's authority to regulate carbon dioxide and other greenhouse gas emissions under the Clean Air Act. APHA is the nation's oldest and most diverse organization of public health professionals in the world, dedicated to protecting all Americans and their communities from preventable, serious health threats and assuring community-based health promotion and disease prevention activities and preventive health services are universally accessible in the United States.

For 40 years, the Clean Air Act has safeguarded the health of all Americans, including our most vulnerable. By EPA's estimate, the first 20 years of the Clean Air Act has prevented more than 200,000 premature deaths, 672,000 cases of chronic bronchitis, 843,000 asthma attacks, and 189,000 cardiovascular hospitalizations, making it one of the most successful public health laws of our time. In addition, according to EPA, while the six most common air pollutants decreased by 41 percent between 1990 and 2008, the U.S. Gross Domestic Product increased by 64 percent. All of this does cost money. Most recently the EPA projected that direct costs of compliance with the 1990 Clean Air Act by the year 2020 of \$65 billion but the direct benefits -- \$2 trillion -- are much higher. Most of these are from prevention of premature death.

In 2007, the U.S. Supreme Court directed EPA to act on the science and to move forward with efforts to protect the public's health from the impacts of greenhouse gases which contribute to climate change. APHA opposes this legislation and is calling on members of Congress to reject any attempt to roll back Clean Air Act protections that would limit the agency's ability to protect public health by reducing greenhouse gas emissions that contribute to climate change. APHA is not alone in its position, and in a December 6, 2010 letter to all members of Congress, APHA was joined by the American Lung Association, the American Academy of Pediatrics, the American College of Preventive Medicine and other leading national and state public health, medical and clean air advocates in urging Congress to "support moving forward with protective clean air standards and to oppose any measure that would delay or block progress toward a healthier tomorrow for all Americans."

The Problem of Greenhouse Gases

The United States is the leader in contributing to greenhouse gas globally and should also be a leader in solving the problem by reducing our greenhouse gas emissions. Science tells us that to achieve that goal, we must focus on carbon dioxide which is the major component of greenhouse gases, and that the excess carbon dioxide emissions come primarily from coal-burning power plants and vehicle exhaust. Individuals can help to reduce their contribution to global warming by making healthier choices such as walking or biking rather than driving or by eating less meat, but individual action alone will not solve the problem. We must join together to:

- Create and implement environmental policies that will significantly reduce greenhouse gases, in particular reductions in carbon dioxide
- Develop and use new and existing technologies for producing cleaner cars, cleaner electrical generation, and more efficient use of energy in every way possible
- Research, develop and deploy renewable energy sources such as wind, solar, and geothermal.

Climate Change and Health

Climate change is a public health issue and is one of the greatest threats to human health. Scientists from across the globe have stated in the strongest possible terms that the climate is changing and that human activity is to blame. The Intergovernmental Panel on Climate Change (IPCC) has unequivocally concluded that greenhouse gas is causing global warming and the United States is a leading contributor of greenhouse gases globally. This average increase in the Earth's temperature (referred to as global warming) is causing regional weather changes such as more extreme weather events and increases and decreases in temperature and rainfall. These regional weather changes may create environmental conditions (floods, heat waves, drought, poor air quality) that lead to poor health outcomes such as heat stroke, injury, malnutrition, respiratory illness and asthma, and infectious (vector- and rodent- borne) diseases.

Climate change is already dramatically affecting the health of people around the world especially in the developing world. According to the World Health Organization, an estimated 166,000 deaths and about 5.5 million disability-adjusted life years (DALYs, a measure of overall disease burden) were attributable to climate change in 2000. These numbers are staggering, but they should not be surprising: climate change influences the living environment on the most fundamental level, which means it affects the basic biological functions critical to life. It impacts the quality of air breathed, availability of food and drinking water, and the potential for disease to spread.

These impacts are different in different parts of the world — and equally troubling, they are disproportionately burdensome for the world's more vulnerable populations. Children, the elderly, the poor and those with chronic and other health conditions are considered the most vulnerable to the negative health impacts of climate change because they are most susceptible to extreme weather events like heat waves, drought, intense storms and floods. They are also least likely to have the resources to prepare or respond. This unequal burden seems especially unjust

given that these populations are the least likely to contribute substantially to climate change. Any strategies for managing climate change impacts must take the unique challenges and needs of vulnerable populations into account.

A 2009 report by the U.S. Global Change Research Program predicts that climate change will cause adverse health outcomes due to regional changes in weather causing poor environmental conditions in communities around the country. For example:

- In the Midwest and Northeast, major cities such as New York and Chicago could see temperatures that would mean more heat stress and heatstroke. The poor and the elderly would be hit especially hard.
- In the Northwest, heavy rainfall may lead to flooding and overflow of sewage systems, causing an increase in the spread of disease.
- In the southwest, higher temperatures and decreased rain are likely to strain already limited water sources, increasing the likelihood of wildfires and air pollution.
- In the Great Plains, increased temperatures could mean scorching summers and more mild winters - which would significantly hurt food production.
- In the southeast Atlantic and Gulf Coast, hurricanes and other weather events are expected to last longer and be more intense. That would mean bigger storm surges, more damage to buildings and roads, and contaminated food and water.

Extreme weather events that have occurred in the U.S. such as the Chicago heat wave in 1995, Hurricane Katrina, and the recent wild fires in southern California offer good examples of how extreme weather have led to poor environmental conditions and death and disease. Several Alaskan communities are facing real consequences of climate change – mostly associated with increased temperatures - that is resulting in shorter winters and melting ice, which is negatively impacting many aspects of life. In addition as concluded by a recent study, climate change could detrimentally affect air quality (therefore respiratory health) in major urban cities in the U.S.

APHA Policy on Climate Change and Health

APHA first adopted policy about the potential effects of global climate change and in 1995. In 2007, APHA updated its policy to include new information from the fourth IPCC report, which concluded that the warming of the earth is unequivocal and that warming can be attributed to human behavior. APHA's current policy and position on addressing the health impacts of climate change is:

- Based on scientific evidence, the long- term threat of global climate change to health is serious and that greenhouse gas emissions are primarily responsible.

- Policies (such as policies that will reduce greenhouse gas emissions) and actions (choosing alternative modes of transportation) to mitigate and avoid further increases in climate change are critical and a priority.
- Adaptation strategies are necessary to protect health from poor environmental conditions caused by climate change.
- Research is needed to better understand the health impacts of climate change and to develop effective adaptation strategies.
- It is the right of all individuals to be free of serious adverse effects from global climate change - vulnerable populations including individuals living in extreme poverty must be protected.
- As a front line protector and communicator to communities, the public health community plays a key role in helping to mitigate and adapt to climate change. As such the public health community must have the tools, skills, training and education and resources to fulfill this role.

Conclusion

Growing scientific consensus shows us that the climate is changing in ways that increasingly affect the health of people around the world. Because climate influences how people live, breathe and eat as well as the availability of water, populations everywhere, including the United States, may already be experiencing the health impacts of these changes. This is especially true among our most vulnerable populations, children, the elderly and the poor.

We cannot afford to delay or ignore addressing the health impacts of climate change. We strongly urge Congress to oppose any efforts to block EPA from moving forward with regulations to reduce greenhouse gases that contribute to climate change. We appreciate the opportunity to comment on this important public health issue before the Subcommittee and I am happy to answer any questions regarding our position.

Mr. WHITFIELD. Thank you very much for your testimony. We appreciate once again your taking the time to be with us today.

I would say, Dr. Goldman, that all the testimony I heard today made it very emphatically clear that there would be great uncertainty by EPA continuing to try to regulate greenhouse gases, and I would also say that on the light-duty motor vehicle standards which EPA has promulgated, this legislation would not change and affects model years 2012 through 2016. Now, the testimony has shown that that regulation is going to cost \$52 billion to consumers in America and it is going to lower the temperature 90 years from now by maybe one one-hundredths of a degree. So what we are trying to do here is balance. We want to protect health, we want to protect environment, we want to protect jobs. We want to provide incentives for investment and we want to be competitive in the global marketplace.

And Mr. Nelson, when Administrator Jackson was sitting right there, she said that the greenhouse gas regulations would really not impact the farming community, but from your testimony, I think you made it pretty clear that you would not agree with her statement. Is that correct?

Mr. NELSON. That is correct. She made a couple comments that at this point in time it didn't impact it but our understanding, there are over 100 farm entities that do report to EPA at the present time, and—

Mr. WHITFIELD. Well, as you said, it will certainly affect our electricity costs. There is no question about that. It will affect your fertilizer costs. There is no question about that.

Now, the tailoring rule certainly would exempt many of you, but Mr. Glaser, that tailoring rule, Mr. Glaser, the tailoring rule is an explicit violation of the specific language of the Clean Air Act, isn't it?

Mr. GLASER. I don't see how you could be any more clear in the statute than by using a number.

Mr. WHITFIELD. Yes, and the number says 100 or 250 tons per year.

Mr. GLASER. One hundred or 250. It doesn't say 100,000.

Mr. WHITFIELD. And she says 100,000. Now, have lawsuits been filed against the tailoring rule?

Mr. GLASER. Yes, they have.

Mr. WHITFIELD. And have lawsuits been filed against EPA's allegation that the fact that they were required by the Supreme Court to look at this issue on mobile sources because they found an endangerment finding there that they are automatically required to regulate stationary sources. Has there been a lawsuit filed on that?

Mr. NELSON. Yes. I mean, I have to say that what has gone on is again, as one of the witnesses said, when you try to jam a square peg into a round hole, you end up with a great deal of legal uncertainty and you end up with a great number of lawsuits including EPA's contention that by finding that automobile emissions endanger public health and welfare and therefore regulating automobiles, you then automatically have to regulate stationary sources. That is also uncertain and doesn't seem to be a logical reading.

Mr. WHITFIELD. And I might say, we are certainly not trying to gut the Clean Air Act in any way. We are trying to break the log-

jam which was written by a former legal counsel for the National Resources Defense Council, and he says in this book that the Clean Air Act was never meant to regulate greenhouse gases and it does not work in doing so.

Now, Ms. Jackson also admitted today that there is no technology available to deal with greenhouse gases and that her rules would not in any way meaningfully reduce greenhouse gases. But she did say we are going to require efficiencies to be adopted by stationary sources, and then some people have said well, there is nothing wrong with that, that is reasonable, and that is reasonable. I am assuming, Mr. Harnack, that most businesses want to be as efficient as they can be and they don't need government bureaucrats telling them to do that. Is that correct or not?

Mr. HARNACK. I mean, in our case, that is correct. We have done a lot of energy efficiency projects. We have a corporate energy efficiency initiative that has been in place for many years now, and we think that we have captured a lot of the low-hanging fruit. Some of the challenges now is that some of the projects that we have just do not have suitable return for us to invest very limited capital in based on our situation and the business climate right now.

Mr. WHITFIELD. But they seem to be working on the premise that in order to be efficient, the government regulators have to tell you to be efficient and how to do it, and if the State regulators make a ruling that you should do it this way to meet these standards, EPA is not precluded from coming back later and disagreeing with that and making you even change that. Is that right, Mr. Glaser?

Mr. GLASER. Yes, I completely agree with that. Yes, sir.

Mr. WHITFIELD. Well, my time has already expired, so Mr. Rush, I recognize you for 5 minutes.

Mr. RUSH. Mr. Nelson, as a fellow Illinoisan and as a supporter of Illinois farms, I certainly want to welcome you here to this subcommittee, and I understand your concerns about potential impacts on small agricultural operators if EPA had not adopted the tailoring rule. Requiring permits for these sources makes no sense. That is why I was pleased to hear Administrator Jackson assure us earlier today that the tailoring rule avoids any energy and greenhouse gas requirements on small sources including farms. Did you hear her say that?

Mr. NELSON. She did allude to that, but I think the one thing to keep in mind when she was talking about agriculture, we are big consumers of energy and we rely on energy so if indeed you were to put undue regulations on some of the inputs that we utilize in agriculture, it has a tremendous impact on production agriculture.

Mr. RUSH. Well, and being consistent with her testimony, does any farm have to report under the greenhouse gases reporting rule?

Mr. NELSON. Well, it would depend on a number of things. If you were not reclassified, and we looked at stationary sources, livestock would fall under that category as it stands right now. We have asked that of the EPA of whether they are going to reclassify stationary sources as it relates to agriculture. They have not done it as of now. Being a livestock producer, it creates a huge burden

when you look at the dollars that we are talking of assessing livestock operations just to stay in business.

Mr. RUSH. But as of today, there is no farm that you are aware that has to report under the greenhouse gas reporting rule as of today, as it stands right now?

Mr. NELSON. As it stands right now, some of those that fall into a certain category, there are approximately 100 based on what we know that do report to the EPA.

Mr. RUSH. The regs went into effect on January 2nd of this year. You said there are at least 100 farms who are now subject to these rules. Is that what you are saying?

Mr. NELSON. Yes, and if you require a manure management system, they do report as of now.

Mr. RUSH. I want to switch my questioning to Dr. Goldman. Dr. Goldman, do you believe that it is appropriate for Congress to pass legislation that substitutes Congress's views that carbon pollution does not endanger public health for your and other scientists' interpretation that carbon pollution does endanger public health?

Dr. GOLDMAN. No, I don't believe that would be appropriate.

Mr. RUSH. Can you be more concise and tell the subcommittee why you support the Clean Air Act and the steps that the EPA is taking to put limits on carbon pollution?

Dr. GOLDMAN. I support it because at this point in time it is the only method that the EPA has for being able to deal with this very clear and present threat, and that is the Clean Air Act and the emissions that cause global warming are air emissions and they can be regulated under the Clean Air Act, and EPA has been able to make clear public health findings that indeed they are threatening the Nation's health.

Mr. RUSH. Thank you. Mr. Chairman, I yield back.

Mr. WHITFIELD. Yes, sir. Mr. Shimkus, you are recognized for 5 minutes.

Mr. SHIMKUS. Thank you, Mr. Chairman, and I am just going to go quick, but in response to Dr. Goldman's response to the question, the elected representatives have never passed any piece of legislation that has been signed into law to regulate greenhouse gas. I am not asking for a response, I am just telling you, the elected representatives, the people who send us here from our districts, we have never, we have never passed legislation that has gone into law to regulate greenhouse gas emissions.

If you would put up the picture on the slide there, this is for my colleague from Illinois, my friend, Mr. Nelson. This is kind of going off script on greenhouse gases. But Phil, tell me what is going on there.

Mr. NELSON. That is a harvest operation, I believe combining soybeans.

Mr. SHIMKUS. And that smoke in the back, what is that? Is that dirty petroleum product?

Mr. NELSON. No, that is dust.

Mr. SHIMKUS. Dust made up of?

Mr. NELSON. Basically material coming off the plant after it is—

Mr. SHIMKUS. Dried leaves, stems. They keep the beans and spread out the chaff, what we would call it.

Mr. NELSON. That is correct.

Mr. SHIMKUS. Is there not a fear from the agricultural community that the EPA is moving to regulate that activity?

Mr. NELSON. Yes, there is, and as a matter of fact, I made the comments many times if you look even at the Kyoto Protocol, we would have to equip our harvest machines with dust collectors if you were going to take it to the nth degree.

Mr. SHIMKUS. Which would be additional capital expense or maybe a water trailer and water it down to collect chaff, chaff. This is dust from leaves and stems in agriculture. That is pretty close to my home, and I took that as I was driving back from taking my kids. He was in the field. I pulled off on the side, took about five photos. I took that around in October, the election year, to the Farm Bureau meetings and held it up on my phone and said this is what—this is what we have in an EPA gone awry when they are going to spend time, effort, energy regulating chaff, and of course, in my congressional district, the people are just unbelievably astounded that we would do such a thing. So thank you for that.

Let me just ask, does uncertainty raise the cost of capital? This is just a traditional, just a business question. Dr. Goldman, does uncertainty raise—you may not know. Does uncertainty raise the cost of borrowing money?

Dr. GOLDMAN. Not in my area.

Mr. SHIMKUS. The answer is, it definitely does. It raises the interest, the rate on raising capital. So the reason why I ask this question is because certainty is what everybody is talking about. Mr. Goldstone says this produces more certainty. This greenhouse gas regulation is good for business. We have more certainty. That is correct, right? That is your testimony?

Mr. HARNACK, do you want to respond? Do you have more certainty today in U.S. steel production or less?

Mr. HARNACK. Definitely less, and the one thing—

Mr. SHIMKUS. So the cost of capital increases for expansion?

Mr. HARNACK. The cost of capital is something that we know that there is not an alternative to the integral steel process presently, and the fact that we require carbon to create new steel, and the integrated process is slightly different than the electric furnace process because the electric furnace process—

Mr. SHIMKUS. Go quickly.

Mr. HARNACK [continuing]. Requires recycled scrap. We mine ore that is required to make new steel, and there is not enough recycled scrap in the world to provide steel for all the applications.

Mr. SHIMKUS. So this creates more uncertainty for your business?

Mr. HARNACK. Yes.

Mr. SHIMKUS. And is there more uncertainty for the Chinese steel mill or less?

Mr. HARNACK. It doesn't apply to them.

Mr. SHIMKUS. So there is less uncertainty, lower cost of capital for Chinese steel which would make Chinese steel more competitive in this country, another aspect.

Mr. Nelson, in the agriculture community, more uncertainty or less?

Mr. NELSON. Absolutely more, and you look at our competitors in South America and Europe that we compete against, and you just—the fear of the unknown about how many more undue regulations are going to make us more uncompetitive in the environment that we are a part of.

Mr. SHIMKUS. Let me go to our economist. More uncertainty, less, Dr. Thorning, this premise on how we create jobs, how do we raise capital?

Ms. THORNING. Well, I think definitely more uncertainty, and the BACT rules released in November really don't help, so I think it is pretty clear that this regulation will have a negative impact on jobs and economic growth.

Mr. SHIMKUS. Thank you very much.

Mr. WHITFIELD. Thank you, Mr. Shimkus.

I recognize the gentleman from Michigan, Mr. Dingell, for 5 minutes.

Mr. DINGELL. Mr. Chairman, I thank you for your courtesy.

This question is to Mr. Goldstene. Does CARB plan on finalizing California GHG emissions standards before the federal standards are finalized? Yes or no.

Mr. GOLDSTENE. Yes.

Mr. DINGELL. Thank you. Now, would you tell me and explain for the record how you and your staff have already stated fuel economy goals of 50 to 62 miles per gallon before the information and analysis that is available to complete that process has been made available to the commission?

Mr. GOLDSTENE. Congressman, we have made a public commitment just recently that we are going to wait to propose our rule until the beginning of September, which is the same time that DOT and EPA will propose their rules. We have not made any public announcements that we have chosen or predecided what the standard should be. We have been discussing a range of standards in public workshops, and I think that is maybe where you are hearing that.

Mr. DINGELL. So what you are telling me is, you have stated the fuel economy goals are going to be 50 to 62 miles per gallon before you have gotten the information and the analysis necessary to complete the process. Is that right?

Mr. GOLDSTENE. No, sir, that is not what I am saying. I am saying that—

Mr. DINGELL. Well, what are you telling me then, please?

Mr. GOLDSTENE. What I am saying that is that we are working with DOT and EPA on a series of studies. We are waiting to complete those studies, which are going through peer review, and we will use all the information—

Mr. DINGELL. I only have 34 seconds here.

Mr. GOLDSTENE. Sorry.

Mr. DINGELL. Have you gotten the information and the scientific work done to support those numbers? Yes or no.

Mr. GOLDSTENE. We have a lot of information that is being peer reviewed.

Mr. DINGELL. Do you have the information that would support that statement in proper form to stand a judicial review?

Mr. GOLDSTENE. We may. It depends on what the final peer-reviewed studies say and what we—

Mr. DINGELL. Thank you very much.

Mr. GOLDSTENE [continuing]. Propose as a regulation with DOT and EPA.

Mr. DINGELL. We had a little trouble getting the answer but I do thank you for your kindness. Now, does CARB conduct analysis on job impact and economic consequences of the standards that it is considering?

Mr. GOLDSTENE. Yes.

Mr. DINGELL. Would you please submit that analysis on the fuel efficiency standards that you are suggesting for purposes of the record, please?

Mr. GOLDSTENE. We would be happy to. We haven't completed them for the new set of standards. We have them for the prior standards.

Mr. DINGELL. Now, would you tell us about the extent of CARB's safety expertise? What safety expertise do you have? Do you have any responsibility under the California statutes to deal with the question of safety or not?

Mr. GOLDSTENE. No, but that is why we are working with DOT.

Mr. DINGELL. Thank you.

Mr. GOLDSTENE. And we have jointly funded a study on this issue.

Mr. DINGELL. Thank you very much. Now, 2 days ago, CARB sent letters to the CEOs of all the automobile alliance asking them to distance themselves from the alliance's complaint in a letter to Chairman Darrell Issa that the CARB was moving unilaterally forward in regulatory process. CARB disputes that claim by saying, "We recently issued a joint statement with EPA and NHTSA promising that we would release proposals for the next set of GHG standards and NHTSA's on the same date September 1, 2011." Now, yes or no, isn't it true that CARB made a joint statement on timing with EPA and NHTSA only after the alliance sent the aforementioned letter to Chairman Issa and only after CARB received a letter and only after the Obama Administration in response to the letter asked CARB to stop getting out in front of the federal process? Yes or no.

Mr. GOLDSTENE. There are a lot of questions there. We have been working with EPA, DOT and the White House on the next round of standards, and all along we have been making public statements and commitments that we would not get out ahead of our partners at EPA and NHTSA.

Mr. DINGELL. Let me read this again. Two days ago, CARB sent letters to CEO members of the auto alliance asking them to distance themselves from the alliance's complaint in a letter to Chairman Darrell Issa that the CARB was moving unilaterally forward in the regulatory process. Is that true or false?

Mr. GOLDSTENE. We sent a letter to the CEOs—

Mr. DINGELL. Good.

Mr. GOLDSTENE [continuing]. Saying—being critical of the alliance letter to Congressman Issa. Yes.

Mr. DINGELL. The answer to that is yes. Please, I have limited time. Now, CARB disputes that claim by saying, "We recently issued a joint statement with EPA and NHTSA promising that we

would release proposals for the next set of GHG standards and NHTSA's on the same date September 1, 2011." Is that true?

Mr. GOLDSTENE. That is true.

Mr. DINGELL. OK. Now—

Mr. GOLDSTENE. But that is not new. That was just putting in writing what we have been saying all along.

Mr. DINGELL. Please. May I continue?

Mr. GOLDSTENE. Yes, sir.

Mr. DINGELL. Isn't it true that CARB made the joint statement on timing with EPA and NHTSA only after the alliance sent the aforementioned letter to Chairman Issa and only after CARB received the letter and only after the Obama Administration in response to the letter asked CARB to stop getting in front of the federal process?

Mr. GOLDSTENE. It is true that we sent the letter after the alliance sent their letter.

Mr. DINGELL. Thank you. Now, would you tell us if it is your view that global warming problems should be dealt with under the Clean Air Act or is there a better way of dealing with it?

Mr. GOLDSTENE. The Clean Air Act is the tool we have, the tool that EPA has.

Mr. DINGELL. But is it going to be simple and easy to do? Is it going to be relatively free from litigation and questions or is it going to be a very complex grind where you will have a number of different options and might wind up with quite different standards for different things in different States?

Mr. GOLDSTENE. I think that the EPA is hoping to avoid that by using their power under the Clean Air Act.

Mr. DINGELL. I know, but are they going to be able to, in your opinion?

Thank you, Mr. Chairman.

Mr. GOLDSTENE. I think there is a way to make sure that you make the rules as easy to understand nationally as possible, and we have proven that over and over again through the adoption of our clean car standards in California that get adopted then by other states and ultimately the Federal Government.

Mr. WHITFIELD. I recognize the gentleman from Michigan for 5 minutes.

Mr. DINGELL. You have been very kind, Mr. Chairman. Thank you.

Mr. UPTON. Thank you, Mr. Chairman. I will confess that several years ago I voted against cloning, and days like today, I wonder why as I have been in a number of different events and I was sad to miss the testimony by all of you during this panel, but I have a couple of questions.

Dr. Thorning, you indicated—and I talked to the earlier panels, in Michigan these regulations have been predicted to reduce our GDP by \$18 billion, destroy 96,000 jobs, reduce household incomes by nearly \$1,600. In your testimony, I believe, or in response to a question, you talked about a model that showed by 2014 that \$25 to \$75 billion decrease in capital investment would in fact result in an economy-wide job loss of somewhere between 476,000 and 1.4 million when direct and indirect and induced effects are included, and as a result, GDP would be \$47 billion to \$141 billion less in

2014. Can you expound a little bit about how you came up with those numbers?

Ms. THORNING. Yes. Looking at the regulated industries that are initially going to come under EPA's regulations, we concluded that those represented about—that the investment in those industries normally represents about 25 percent of all U.S. investment on an annual basis, and then we did some research on how the risk premium for investment in those industries might be impacted by the uncertainty surrounding EPA regulations, the tailoring rule, whether it will stand, so forth, and we concluded that the risk premium probably would increase between 30 and 40 percent for those industries. Therefore, if those industries represent approximately 25 percent of all investment, we concluded that that would represent looking at historical data a decrease in investment of between \$25 billion a year and \$75 billion a year.

Now, remember that overall gross private domestic investment is like \$1.7 trillion, so we thought that was a pretty conservative estimate and we used a conservative estimate of the elasticity of response to investment to changes in the cost of capital, and we ran through that the IMPLAN model, which is a near-term model good for short-term predictions, not good for long-term predictions, it produced results with the direct, the induced and the ancillary impacts of nationwide job reduction compared to the baseline forecast of between 476,000 fewer jobs to as many as 1.4 million fewer jobs in the year 2014, and of course, some industries are more impacted than others, and GDP of approximately \$47 billion smaller to \$141 billion smaller, and this is just targeting these industries right now that are impacted and the large ones that are included in EPA's current regulatory regime.

Mr. UPTON. Thank you.

Mr. Goldstene, in announcing his new Executive Order on regulations, President Obama cited one national program as a good example of eliminating a tangle of regulations. The tangle was the result of three different agencies—NHTSA, EPA and CARB—trying to regulate basically the same thing. One national program eliminated the tangle for 2012 through 2016 by getting EPA and NHTSA to coordinate with each other and by California agreeing to defer to the federal regulations. It now appears that for 2017 and beyond, we are in the process of re-creating the tangle that the one national program eliminated since California is planning to promulgate a new set of GHG regs. Why shouldn't it be that California agree that from now on there will be a national program consisting of NHTSA and EPA regulations only? Why does California need to duplicate or move forward with a different plan?

Mr. GOLDSTENE. Mr. Upton, as you know, California has a special mention in the Clean Air Act because our air quality problems have been so severe over the years and they are still severe in certain areas of the State like in Los Angeles and the central valley. So from the perspective of a State that still has significant air quality problems, we have to fight to keep our authority to promulgate the rules that are needed to protect the public health, and these vehicle standards are one of the ways that we do that. We are sometimes or often joined by other States under section 177 that can use our rules if they choose to and that sometimes creates

what the auto industry had called a patchwork quilt, but the fact is, at most you would only have two standards, and over the past 40 years what we have seen over and over again is that if the two standards become one relatively quickly, and that is what just happened with the 2012-2016 standards, and this time unlike before, we are working very closely with EPA and DOT, using the same information, relying on the same peer-reviewed studies, and working hand in hand on developing and designing our rules. They may come out slightly differently. Our process is slightly shorter, so we may complete our process before EPA and NHTSA finish their processes but we are fully committed to harmonizing them as soon as they are done.

Mr. WHITFIELD. Ms. Capps, you are recognized for 5 minutes.

Ms. CAPPS. Thank you, Mr. Chairman, and I want to start out, I have questions for you, Mr. Goldstene, and also one for Dr. Goldman, and as someone who represents a district in California where we can look out to see whether the brown haze is coming up from the L.A. basin on certain days and have lived there long enough to notice the rise as a former school nurse of school-age asthma and being aware that there were certain days in the L.A. basin when frail adults were told to stay inside and kids couldn't go out on the playground. That is one of the special things about living in our State and why I am so appreciative of the work that you as Executive Officer of the California Air Resources Board, or CARB, and I want to tell you, I appreciate the regulation of the marine vessels, which have added a great deal to their air quality in my part of the State and all along the coastal areas.

You have some—we have been hearing today about the fact that addressing climate change will destroy the economy. You have some practical experience because California is well underway in implementation of a State law to conduct carbon pollution. Can we cut carbon pollution, Mr. Goldstene, without harming the economy? In a few words.

Mr. GOLDSTENE. Yes, we can. We have also run economic analysis like the kind that Dr. Thorning described using macroeconomic models, and we have used a model called EDRAM and BEAR. I am sure Dr. Thorning knows those models. And what we have shown overall in the California economy is there is a very slight net positive with climate regulations under our plan economically.

Ms. CAPPS. Thank you. And a very brief assessment of how workable EPA's approach is.

Mr. GOLDSTENE. I think it is very workable. I have been here all day, and I have seen the complaints, but the fact is, I think most of the claims and worry while the worry is real, I think when you look at the specific details, for instance, the cost of capital, the cost of capital is influenced by many, many factors, not just by the possibility of a regulation.

Ms. CAPPS. And you are also a member of the board of directors for the National Association of Clean Air Agencies.

Mr. GOLDSTENE. Yes.

Ms. CAPPS. Just a couple words on your understanding of whether other States are finding EPA's approach to be workable as you talk with people from other States.

Mr. GOLDSTENE. Yes. There are many States that are embracing EPA's process and effort. Of course, there are States that are also concerned about it but I think on the whole—

Ms. CAPPS. Overall, are we moving in the right direction?

Mr. GOLDSTENE. Overall, it is moving in the right direction, but I do think people in other States, my colleagues and the governors in many other States see the potential for the great economic innovation that can come from this and job creation that can come from this kind of rulemaking.

Ms. CAPPS. Thank you, Mr. Goldstene.

Dr. Goldman, I recently heard a story about back when the Clean Air Act was first being debated on the House floor. One Congressman quoted a mayor, and this is the quote: "If you want to make this town grow, it has got to stink." I think that has been proven wrong. Our economy has not shriveled over these past years of trying to improve the air quality. Instead, the GDP has grown 207 percent. My question to you representing, as you do, the American Public Health Association, can you please share with us the health benefits and really the economic benefits as a result of responsible limits to greenhouse gases, the approach the EPA is taking?

Dr. GOLDMAN. The benefits are potentially quite enormous, and what we are looking at in terms of threats from climate change have to do with health impacts from adverse weather events like flooding and drought, adverse health impacts from dirty air, and also adverse health impacts from changing the distribution of disease-bearing vectors like insects and rodents, and these are all enormous threats. I think the most immediate ones that we are seeing have to do with the increasing frequently of severe weather events which have a major impact on people's health.

Ms. CAPPS. And with that, I am going to yield back the balance of my time.

Mr. WHITFIELD. Thank you, Ms. Capps.

Mr. Scalise, you are recognized for 5 minutes.

Mr. SCALISE. Thank you, Mr. Chairman. First a question for Mr. Nelson with Farm Bureau. I appreciate you being here to discuss the importance of the impact of greenhouse gas regulations and how they would impact specifically the agriculture industry. I know you know the essential role that the agriculture industry plays in America's way of life but also especially as it relates to our economy and the small businesses that are such the heart of the agriculture industry. I represent a part of southeast Louisiana. We have a larger presence of dairy farmers, in my district, and really concerned about the impact that EPA regulations would have on these small businesses, you know, especially as Administrator Jackson has talked about potentially down the road doing some things there. The dairy industry in Louisiana contributes about \$115 million to Louisiana's economy, and those proposed EPA regulations would devastate many of these small businesses who literally are operating on the margins. I think you were here when the Administrator was giving her statements, but since the EPA Administrator has left the door open to regulation of the agriculture industry, can you speak specifically to how it would poten-

tially affect especially those small dairy farms in districts like mine and yours in Illinois and throughout the country?

Mr. NELSON. Well, really I would address it two different ways. You have to look at the livestock industry and what is being proposed or thrown out there in regards to a Title V permit if isn't reclassified. It will have a tremendous impact on the dairy industry. I think the numbers that we are looking at, you know, are \$175 for a dairy cow, which you just cannot make any money—

Mr. SCALISE. But it would cost an additional \$175 per dairy cow if those EPA restrictions were put in place?

Mr. NELSON. That is correct.

Mr. SCALISE. Gee, whiz.

Mr. NELSON. And not only that, then you look at the production side of things as Congressman Shimkus alluded to, the threats are out there as far as dust permits. We have got a couple States right now that can't even deal with the dust standards as it is proposed today, let alone try to make those twice as stringent as what we are hearing coming out of the Administration. So it really impacts a number of facets of agriculture if these regulations proceed forward and are put in place.

Mr. SCALISE. And that seems to actually go in sync with some of the statements that were made on the previous panel. Mr. Alford, who is the President and CEO of the National Black Chamber of Commerce, had given some testimony and he talked about a number of impacts, and they had done a study, and one thing he looked at, on the poorest 20 percent of our population, he said this kind of scheme by EPA would increase the cost of home energy by 45 percent, motor fuel by 25 percent, and he said it would also increase groceries by 35 percent on our Nation's poorest families. So can you talk about, especially from the agriculture industry, what would the impact of a 35 percent increase in food prices on our poorest families in this country have?

Mr. NELSON. Right now, consumers have probably the best bargain in the entire world where we spend about 10 cents out of every disposable dollar for food. You look at Japan and some of the other developed countries that do have regulatory frameworks that could parallel some of the things that are being proposed by this Administration, so you could easily make the case of doubling what we pay for food.

Under Waxman-Markey, we had a lot of sensitivity with that bill as it related to what it would do to food prices, what it would do to energy prices if you didn't sight the nuclear power plants, if you took almost 59 million acres out of production, row crop agriculture, what that would do to the consumer and the grocery store. So, you know, it is going to have a dramatic impact if indeed we don't use some common sense to try to look at a regulatory framework that is workable without really impacting our industry to the degree that—

Mr. SCALISE. Thank you. And I know we are trying to get EPA to look at the job loss impact of all of the things that they are doing in these regulations but I would be curious to see if EPA is going to do an impact on the lives that would be lost if you had a 35 percent increase in the food that our poorest families by where you lit-

erally would be taking food off the table of American families because of these regulations on the agriculture industry.

Ms. THORNING, I know I am running low on time but Ms. Thorning, I am not sure if you had seen the study that we have seen on the Spain experiment with this kind of, you know, this cap-and-trade scheme where they regulate and they talked about all the green jobs that I would create, and of course it turned out in Spain after they looked at it, all of the promises of those new jobs turned out to be a mirage and they ended up losing two jobs for every job they created and in fact for each new job they created, only 10 percent were actually permanent jobs, so in essence, you lost 20 full-time jobs for every real job that you created in this industry. Have you looked at any of those studies?

Ms. THORNING. Yes, I have seen that study. There is also one done by a German think tank that looks at the cost of solar energy and electricity prices in Germany. There is one in Denmark that shows the same thing. The issue is, when you substitute more expensive energy for cheaper energy, you might gain some jobs in that sector, you know, the green energy sector but you are going to lose them overall because you are making other products, other producers pay a lot more for energy, and that finding is mirrored in the work that groups like ours have done with the Department of Energy's own NIMS model analyzing Waxman-Markey, Kerry-Lieberman. We always get some more green jobs because, you know, we are forcing quicker uptake of energy efficiency but overall the macro models show job loss, and that is a similar conclusion that you have got—

Mr. SCALISE. Thank you, and I yield back, Mr. Chairman.

Mr. WHITFIELD. Mr. Doyle, you are recognized for 5 minutes.

Mr. DOYLE. Thank you, Mr. Chairman. First, let me commend you and the ranking member for your stamina and the panel for your patience, and welcome to all of you. I want to especially welcome Fred Harnack from U.S. Steel. Just by way of full disclosure, Fred and I go back quite a bit. He started out at Edgar Thompson, where my father worked for 30 years. Then over to the Homestead Works plant, an urban plant in West Mifflin and Mon Valley Works, and Fred probably has an incredible knowledge of my congressional district and the steel industry, which are two things that I hold near and dear to my heart, and I suspect that we were both crying in our Iron City beers a little bit on Sunday after that game was over, but Fred, it is good to have you here.

You know, I follow the steel industry's performance closely, and I am certainly aware of the current difficulties that integrated steel mills face. We know the cost of raw materials has gone up greatly and that continues to affect the performance of manufacturers, and also it is an industry that is uniquely affected by it has international trade pressures too. This is why as we were trying to develop a comprehensive energy bill, that we were particularly sensitive about those things and tried to put language in the bill that would address some of the pressures that industries like steel had that were carbon intensive but had trade pressures too.

On the earlier panel, I talked to Administrator Jackson and I asked her how this new greenhouse gas permitting process would

affect facilities like steel mills, and Fred, I wonder if you can tell me right now what capacity U.S. Steel is currently operating at?

Mr. HARNACK. Presently we are probably somewhere between 75 and 80 percent. We do have one plant idled and a number of other facilities are not as full as we would like them to be.

Mr. DOYLE. So, you know, all of us are hoping that the industry reaches a point where you are able to ramp up to 100 percent of our operating capacity but assuming you were able to ramp up to 100 percent of your operating capacity, would U.S. Steel be required to apply for a greenhouse gas permit to cover the increased activity?

Mr. HARNACK. Presently, we are doing the greenhouse gas report that is required. We only need to file for the permits that are above the threshold, and right now that exists only in our expansion plans in our Minnesota ore operations. The balance of the facilities are permitted for the capacity that we publish, and there would not be any additional needs to permit for that at this time.

Mr. DOYLE. Right. So in other words, any existing facility right up to your full capacity, you wouldn't be affected by this, only if you had an addition, if you put up a new plant or if you expanded a current facility and got over that limit that would require a permit?

Mr. HARNACK. That is right, based on the present regulatory requirements.

Mr. DOYLE. So your plants that are currently operating in the United States, are any of them going to have to apply for renewals under their Title V permits for non-greenhouse gas air pollutants under the Clean Air Act?

Mr. HARNACK. There is—yes, we do have periodic permit renewals. Actually we are working on two in Allegheny County right now as well as have just recently obtained them in our Alabama operation.

Mr. DOYLE. Now, when you apply for these renewals, will your new permit have to include any pollution controls for greenhouse gases?

Mr. HARNACK. We will be required to provide all the regulatory information and regulatory requirements as it develops, you know, by the EPA and the government.

Mr. DOYLE. So you have to report your emissions but you are not required to implement any new control technologies as long as you are not expanding your current capacity?

Mr. HARNACK. Only on the newly permitted facilities that are above the threshold.

Mr. DOYLE. So as we speak today, even though you are going through Title V permit renewals, this would not require you in your existing facilities other than to report to EPA wouldn't require you to implement any new control technologies?

Mr. HARNACK. That is right.

Mr. DOYLE. So it seems to me as we look at these rules and, you know, today we are focusing—I mean, this rule focuses primarily under the tailoring provision coal-fired and fossil-fired utility plants and oil refineries. Right now this has no direct impact on the steel industry unless you would put up a new plant or expand an existing plan. Is that correct?

Mr. HARNACK. Based on the present language on the greenhouse gas requirements but there are other requirements coming out from EPA that are going to require substantial modifications.

Mr. DOYLE. Right, but we are focused today and this bill focuses on the GHG emissions, not other things. That is what this focus is.

Mr. HARNACK. Right.

Mr. DOYLE. OK. Thank you very much, Mr. Chairman. I see I have 8 seconds, and I will yield it back.

Thanks, Fred.

Mr. WHITFIELD. Thank you. Mr. Gardner, you are recognized for 5 minutes.

Mr. GARDNER. Thank you, Mr. Chairman, and again, thank you to the witnesses for being here today.

And Mr. Nelson, I would like to direct this question to you. In my conversation with Administrator Jackson on agriculture and agriculture's exemption so what she phrased it as from this going until 2013, what happens after 2013?

Mr. NELSON. Well, that is the good question that probably needs to be asked because the rules have not been put into place so there is a lot of speculation as to where we will be as it gets to that time frame.

Mr. GARDNER. And so as of 2013 and beyond, this very well may be a situation where EPA comes in and starts requiring more permits in agriculture.

Mr. NELSON. We believe that that probably will be the case, I can tell you, and we are not talking about the Clean Water Act today but just as a for instance, the amount of regulations that are coming out with nutrient management plans, MPDES permits, numeric standards, there is a whole tidal wave of regulatory challenges staring us in the face, so I think we would expect more of that.

Mr. GARDNER. And particularly too the greenhouse gas emissions regulation, and it goes a little bit to the question directed to Mr. Harnack as well. Costs of direct regulations, the indirect costs versus direct costs. When we say that agriculture—when Administrator Jackson says that agriculture is exempt, your energy costs will increase as a result of GHG, correct?

Mr. NELSON. Yes.

Mr. GARDNER. The cost of fertilizer will increase as a result of regulation, correct?

Mr. NELSON. Yes.

Mr. GARDNER. The cost of farm equipment will increase as a result of the regulation?

Mr. NELSON. Yes.

Mr. GARDNER. Mr. Harnack, will you see costs increase as a result of the GHG regulation?

Mr. HARNACK. Yes, we will.

Mr. GARDNER. And so there are costs that you are facing whether direct or indirect which goes directly to your ability to create new jobs in the steel industry or to expand farms to future generations. Is that correct?

Mr. NELSON. That is right.

Mr. GARDNER. And to Dr. Thorning, I don't know how familiar you are with the economy of California, but based on your experience as an economist, what you have seen in the State of California, the fact that 650 CEOs have said that it is the least desirable place to do Business, some of the regulations that we have seen, is California the kind of business model job creation market that we would like to export to the rest of the country?

Ms. THORNING. I think one would have to look very carefully at what the impact of AB32 may have had on companies' desires to stay and manufacture in California. I think you have to look at the size of their budget deficit, their very high unemployment rate, their, you know, low relatively difficulty in the housing market. I don't think California is a poster child for how we want to go forward.

Mr. GARDNER. Mr. Goldstene, do you think California is a jobs creation model for the rest of the United States?

Mr. GOLDSTENE. I think there are many aspects of what is going on in California that should be copied by other States. We are the technology leader in the country. We are seeing a huge spike in investment since the passage of AB-32. People are coming here looking to have us move forward on our rules, provide the certainty that businesses want and also provide the certainty that creative, inventive Americans have proven over and over again to come up with the great ideas that are adopted here and other places.

Mr. GARDNER. Dr. Thorning, will the investments that are required to comply with these kind of regulations, greenhouse gas regulations, to produce these kinds of jobs, will they produce enough jobs in the green industry to offset the jobs lost elsewhere?

Ms. THORNING. Well, I think it is highly unlikely because you are making investments that don't really add anything to the bottom line. They are being made, you know, to reduce greenhouse gases. So that is money that can't go into productivity enhancement investments.

Mr. GARDNER. So the bottom line is, does this regulation that we have been dealing with, what this bill deals with, does it affect our ability to be competitive globally?

Ms. THORNING. I think it does in a negative fashion.

Mr. WHITFIELD. Mr. Griffith, you are recognized for 5 minutes.

Mr. GRIFFITH. Mr. Chairman, I just want to thank all the folks here for going through the day with us. I was not up here the whole time. At 4 o'clock I finally decided that I had to break down and eat something, so I went out in the other room and I was listening to your testimony, and I appreciate you all being here. I think all the questions have been asked, Mr. Chairman, so I yield my time back to the Chair.

Mr. WHITFIELD. Thank you, Mr. Griffith. I want to thank all of you once again for your valuable testimony and your time, and we all have a lot of challenges before us. We don't agree on everything but that is what America is all about, so hopefully from hearings like this we can craft the best policies to move forward. So thank you very much.

Mr. RUSH. Mr. Chairman, before we adjourn, first of all, I want to thank all the witnesses on this panel and all the witnesses that preceded this panel, and I certainly want to let them know that

they have really enlightened us. I haven't agreed on most of the testimony but at least I feel as though I am better informed, so I really appreciate the investment of your time. Thank you so very much.

And before we adjourn, I do have an unanimous consent request but I guess you can dismiss the panel first. They don't want to hear a unanimous consent request.

Mr. WHITFIELD. Well, without objection, we will—

Mr. RUSH. I have—

Mr. WHITFIELD. I hate for them to leave before we leave.

Mr. RUSH. Well, I just have an unanimous consent request that statements and letters from the following organizations be placed in the record: the American Sustainable Business Council, the Calpine Corporation, the National Council of Churches, 68 faith communities throughout this Nation, the Natural Resources Defense Council, the Northeast States for Coordinated Air Use Management, the Truman National Security Project, the Union of Concerned Scientists, who also sent a letter that was also signed by 2,505 scientists and economists, and lastly, yesterday's letter from Mr. Waxman to Mr. Upton.

Mr. WHITFIELD. And then we would like to enter this record from the National Association of Realtors, so without any objection, so ordered.

[The information appears at the conclusion of the hearing.]

Mr. WHITFIELD. The members will have 10 days to submit any questions for the record, and the record will be open for 30 days. Thank you.

[Whereupon, at 5:26 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

PREPARED STATEMENT OF HON. JOHN SULLIVAN

Chairman Whitfield: thank you for holding this legislative hearing today on the Energy Tax Prevention Act of 2011. This important legislation will help protect American jobs and businesses of all kinds from the regulatory onslaught of EPA's job destroying greenhouse gas regulations (GHGs) by prohibiting EPA from regulating GHG's under the Clean Air Act (CAA) and repeal the steps the agency has already taken to do so.

I have several companies in my district ranging from chemical, manufacturing and energy companies that are scared to death of EPA's pending rules on GHGs. The energy industry employs over 320,000 workers in my state, and I intend to see that number grow by vigorously supporting this legislation.

Today, I want to make special mention of the concerns of the agriculture interests in Oklahoma, since it is the second largest industry in my state. The Oklahoma Farm Bureau is deeply concerned that the costs imposed by EPA's GHG rules on utilities, refiners and manufactures to comply with these new regulations will trickle down the farming and ranching community, resulting in higher costs of production and food costs for American families, exactly what we don't need in a struggling economy!

Additionally, many farmers and ranchers will have to obtain Title V operating permits that will cost agriculture interests close to \$900 million. All told, 17,000 farms nationwide are impacted by EPA's GHG regulations. The point here is that even with EPA's so-called "tailoring rule," which unilaterally raised CAA statutory thresholds to require GHG permitting for only the largest industrial sources of GHG emissions, industries of all stripes and consumers from every economic back grounds will suffer under the weight of EPA's excessive regulatory scheme.

The Energy Tax Prevention Act is about protecting American jobs by preventing the EPA from unilaterally imposing a costly cap and trade style regulatory tax on the American people. Simply put, what the EPA and the Obama Administration has been unable to legislate through a cap and trade system, they are seeking to do it

through backdoor regulation. This has to stop and I believe this legislation is the right approach. It is narrowly written to focus only on greenhouse gases related to climate change, and EPA's authority to monitor and regulate pollutants remains intact.

Mr. Chairman, the Energy Tax Prevention Act of 2011 is important legislation to protect jobs, keep our nation competitive in foreign markets and provide economic certainty to the millions of American workers employed by industries that will be impacted by this backdoor national energy tax. This hearing marks our opening salvo to show the American people we mean business when it comes to growing our economy and identifying and removing job destroying regulations.

I look forward to the testimony of our witnesses and I yield back the balance of my time.

PREPARED STATEMENT OF HON. DAVID B. MCKINLEY

Good morning. Chairman Whitefield and Ranking Member Rush, thank you for holding this hearing today to discuss the draft discussion of the Energy Tax Prevention Act of 2011.

I look forward to hearing from our witnesses today, particularly the testimony and discussion of Environmental Protection Agency Administrator Lisa Jackson. Representing West Virginia's First Congressional District, it is my duty to ensure the citizens of West Virginia are protected not only for their health and safety, but to ensure that the current Administration's Agencies do not eradicate the industries they work in, and that they will be able to put food on the table for their families.

With that being said, many of the EPA's regulations, whether in effect or proposed, will be detrimental to not only the State of West Virginia but to our entire Nation. We continue to see an EPA which circumvents the Congressional process by allowing bureaucrats to make decisions that should be left up to federal and state lawmakers.

On January 13th of this year, the EPA took an unprecedented step to retroactively revoke a lawfully issued, four-year old, Section 404 permit for the Spruce No. 1 surface mine in Logan County, West Virginia. The implications of this action prompted me to file legislation to combat this blatant overreach by a federal agency, which is detrimental to the local businesses and hundreds of workers.

This was not a regulation issued by the EPA, but rather was a permit issued under the Clean Water Act and approved by the Army Corps of Engineers in January 2007. For nearly a decade prior to 2007, the Army Corps of Engineers worked with the EPA to rigorously review the Spruce Mine project before it was approved. The permit was issued after an extensive 10-year environmental review, including a 1600 page Environmental Impact Statement (EIS) in which the EPA full participated and agreed to all terms and conditions included in the authorized permit. The EPA had every opportunity to address any concerns prior to when the permit was issued. Because of the EPA's chilling actions in revoking the permit, they prohibited the creation of 253 mining jobs and 298 indirect jobs, in addition to an investment of \$250 million into the local community.

I firmly believe that our states need a consistent and predictable regulatory program that will protect the jobs we have and create the jobs we need in an environmentally responsible manner. It is impossible for companies to take the necessary steps to move forward and create jobs if they have to live with the threat of unilateral retroactive revocation of the very permits that allow them to do business. The EPA cannot continue to punish the coal, manufacturing and natural gas industries. These are the industries vital to the survival of West Virginia and families will continue to suffer and be impoverished under this Administration.

Any decisions from any agency or government entity should stem from the congressional review process, extensive studies, public input, review by other federal agencies, and peer review by experts.

I look forward to hearing from the today's witnesses, and look forward to working with Subcommittee Chairman Whitfield and Chairman Upton in the full committee to ensure that lives, jobs, industries, families and our economy are protected.

Thank you and I yield back.

PREPARED STATEMENT OF HON. CORY GARDNER

Just the other day, my staff asked a fairly large electric corporation in my district how exactly these greenhouse gas regulations would affect Colorado. Their response

was something to the effect of, "With all the regulations coming down on our heads from EPA, we stopped doing a full-blown analysis of what each regulation would do to our customers." It is simply impossible to gauge exactly the job losses, exactly the rate increases, and exactly the effect on service to cities in my district. However, they know with all these regulations put together, it will be large.

They, along with so many other businesses all over the country, cannot keep track of all the regulations they are going to have to abide by - but they are bracing themselves nonetheless, especially with regard to GHG regulation. They are anticipating having to absorb higher costs which will lead to job losses and less innovation among many other things. What's worse, these rules have the potential to affect even more businesses in the future if we don't stop it now.

The Energy Tax Prevention Act does a couple key things. It prevents the EPA from regulating GHGs under the Clean Air Act (CAA), which it does not have the authority to do anyway. It also repeals steps that EPA has taken over the last two years to achieve the goal of GHG regulation. The bill does not, however, prevent the EPA from continuing its other obligations to protect the environment.

The CAA was never meant to be a means to regulate GHGs. In fact, EPA was forced to change the CAA in order to make it work for the GHG regulations. The CAA as it existed before the infamous "tailoring rule" allowed for regulation of various "conventional pollutants." This includes things like lead and nitrogen dioxide. However, the threshold laid out in the CAA was far too low for greenhouse gases. If the CAA was interpreted to regulate GHGs under its original thresholds, virtually no businesses that emitted any sort of GHG would be able to avoid serious federal regulation. This change has proven that the CAA was never meant for regulating GHGs.

Despite these facts, here we are. The EPA has done no thorough analysis of how this will affect industry, jobs, and energy prices but that has not stopped them from moving right along with their agenda. And they are continuing this regulatory scheme despite failed attempts to pass a similar cap and tax bill in both houses of Congress. This is nothing but a runaround attempt at a national energy tax - forcing consumers to pick up the bill for an agenda that hurts jobs and businesses, and not allowing for a thorough vetting process. Further, states simply are not prepared for the new permitting requirements laid out in the regulation, which are likely to delay new energy projects from being built.

Mr. Chairman, this is just the beginning of what EPA will do if we continue to let them. If we do not change our course now, businesses will do what they do best - they'll find another market, and it's likely that market will have little or no regulation on GHGs. This will cost us jobs and lead us down a path that does not end at energy independence. I support this bill as a solution to the future job losses and energy price increases that our nation will experience if we allow these regulations to move forward. I yield back my time.

STATEMENT OF HON. LOIS CAPPAS

Mr. Chairman, I'm troubled we're here this morning. Americans still are facing staggering unemployment rates, and our economy has not yet fully recovered.

But instead of holding hearings on ways to generate more clean energy jobs and improve the health of American families, we're reviewing an extreme proposal that would block EPA from doing its job: protecting our health from air pollution.

Mr. Chairman, not allowing the EPA to address carbon pollution under the Clean Air Act is flat-out dangerous.

Climate change is a serious problem. The scientific evidence is clear. The debate is over. Climate change is real. It's happening. And, human beings are largely to blame.

2010 was the hottest year on record. And in the last decade the Earth experienced 9 of the 10 hottest years since data has been recorded.

We're also starting to see the irreversible damage to our economy and our environment.

Sea levels are rising. The world is witnessing increased rainfall, floods, droughts, and wildfires. And, our fresh water supplies and capacity to grow enough food will be severely challenged in the years ahead.

Mr. Chairman, the longer we delay taking action to address climate change, the more difficult and expensive the solutions will be.

That's why the EPA is taking a cautious, flexible and balanced approach to addressing carbon pollution. And each of the steps they've taken so far has followed the letter of the law.

For four decades, the Clean Air Act has protected the health of millions of Americans - including our children, our seniors and the most vulnerable among us - from all kinds of dangerous air pollutants.

The law also has a tremendous track record in providing certainty to business and delivering economic benefits.

For example, since the Clean Air Act was enacted overall air pollution has dropped while U.S. GDP has risen 207 percent. And we've also seen major health benefits, including asthma reduction, lower lung cancer rates, and much greater productivity.

In fact, by 2020 the benefits of the Clean Air Act are expected to reach \$2 trillion, exceeding any costs by more than 30 to 1.

All of these benefits, Mr. Chairman, are jeopardized by this proposed rollback to the Clean Air Act.

And that's why groups ranging from the American Lung Association to the American Sustainable Business Council have decried the harm of this proposal to people's health and economy. And it's why I stand with them today in opposing this extreme proposal.

Here's what this proposed bill would do.

First, it would declare that carbon pollution is not an air pollutant and repeal the EPA's science based endangerment finding, throwing the findings of the National Academy of Sciences, federal government agencies and countless other scientific experts out the window.

Second, it would also repeal every action the EPA has already taken and block every action EPA is developing to limit carbon pollution from power plants and oil refineries, giving the nation's biggest polluters a free pass for unlimited carbon pollution.

Third, it would tear up the historic agreement reached by the Obama administration, the nation's automakers and states to cut carbon pollution and fuel consumption in new cars and trucks. This means more air pollution and higher fuel bills for all Americans in the future.

Mr. Chairman, this is an unprecedented, extreme proposal and it should not go forward.

Last month, President Obama stood on the House floor and talked about "winning the future" through innovation. And he used clean energy as his central example.

We know that clean energy will help our economy grow. It will help America compete in the global marketplace. And it will help protect Americans' health and quality of life.

Let's not obstruct the EPA from doing its job of protecting the public's health and environment.

This is a crucial issue, Mr. Chairman, for the public and our planet.

It's our duty here to ensure both are protected from harmful carbon pollution. And unfortunately, this extreme proposal just doesn't meet this crucial test.

[auto-date code removed] **Draft**

**Comments on Draft Technical Support Document for
Endangerment Analysis for Greenhouse Gas Emissions
under the Clean Air Act**

By Alan Carlin
NCEE/OPEI

Based on TSD Draft of March 9, 2009

March 16, 2009

PREFACE

We have become increasingly concerned that EPA has itself paid too little attention to the science of global warming. EPA and others have tended to accept the findings reached by outside groups, particularly the IPCC and the CCSP, as being correct without a careful and critical examination of their conclusions and documentation. If they should be found to be incorrect at a later date, however, and EPA is found not to have made a really careful independent review of them before reaching its decisions on endangerment, it appears likely that it is EPA rather than these other groups that may be blamed for any errors. Restricting the source of inputs into the process to these two sources may make EPA's current task easier but it may come with enormous costs later if they should result in policies that may not be scientifically supportable.

We do not maintain that we or anyone else have all the answers needed to take action now. Some of the conclusions reached in these comments may well be shown to be incorrect by future research. Our conclusions do represent the best science in the sense of most closely corresponding to available observations that we currently know of, however, and are sufficiently at variance with those of the IPCC, CCSP, and the Draft TSD that we believe they support our increasing concern that EPA has not critically reviewed the findings by these other groups.

As discussed in these comments, we believe our concerns and reservations are sufficiently important to warrant a serious review of the science by EPA before any attempt is made to reach conclusions on the subject of endangerment from GHGs. We believe that this review should start immediately and be a continuing effort as long as there is a serious possibility that EPA may be called upon to implement regulations designed to reduce global warming. The science has and undoubtedly will continue to change and EPA must have the capability to keep abreast of these changes if it is to successfully discharge its responsibilities. The Draft TSD suggests to us that we do not yet have that capability or that we have not used what we have.

Comments on Draft TED for Endangerment Analysis for GHG Emissions under CAA

We would be happy to work with and assist anyone who might want to undertake such a serious review of the science and hope that these comments will at least illustrate the scope of what we believe is needed.

We hope that the reader will excuse the many unintentional errors that are undoubtedly in these comments. Our only excuse is that we had less than four days to draft these very lengthy and complex comments. It has not been possible to fully adhere to our usual very high standards of accuracy as a result. If there should be questions, we will be happy to try to correct any errors that anyone may find, however.

It is of great importance that the Agency recognize the difference between an effort that has consumed tens of billions of dollars by the IPCC, the CCSP, and some additional European, particularly British, funding over a period of at least 15 years with what two EPA staff members have been able to pull together in less than a week. Obviously the number of peer reviewed papers that exist and the polish of the summary reports cannot be compared. What is actually noteworthy about this effort is not the relative apparent scientific shine of the two sides but rather the relative ease with which major holes have been found in the GHG/CO₂/AGW argument. In many cases the most important arguments are based not on multi-million dollar research efforts but by simple observation of available data which has surprisingly received so little scrutiny. The best example of this is the MSU satellite data on global temperatures. Simple scrutiny of this data yields what to us are stunning observations. Yet this has received surprisingly little study or at least publicity. In the end it must be emphasized that the issue is not which side has spent the most money or published the most peer-reviewed papers, or been supported by more scientific organizations. The issue is rather whether the GHG/CO₂/AGW hypothesis meets the ultimate scientific test—conformance with real world data. What these comments show is that it is this ultimate test that the hypothesis fails; this is why EPA needs to carefully reexamine the science behind global warming before proposing an endangerment finding. This will take more than four days but is the most important thing we can do right now and in the coming weeks and months and possibly even years.

EXECUTIVE SUMMARY

These comments are based on the draft Technical Support Document for Endangerment Analysis for Greenhouse Gas Emissions under the Clean Air Act (hereafter draft TSD) issued by the Climate Change Division of the Office of Atmospheric Programs on March 9, 2009. Unfortunately, because we were only given a few days to review this lengthy document these comments are of necessity much less comprehensive and polished than they would have been if more time had been allowed. We are prepared, however, to provide added information, more detailed comments on specific points raised, and any assistance in making changes if requested by OAR.

The principal comments are as follows:

As of the best information we currently have, the GHG/CO₂ hypothesis as to the cause of global warming, which this Draft TSD supports, is currently an invalid hypothesis from a scientific viewpoint because it fails a number of critical comparisons with available observable data. Any one of these failings should be enough to invalidate the hypothesis; the breadth of these failings leaves no other possible conclusion based on current data. As Feynman (1975) has said failure to conform to real world data makes it necessary from a scientific viewpoint to revise the hypothesis or abandon it (see Section 2.1 for the exact quote). Unfortunately this has not happened in the global warming debate, but needs to if an accurate finding concerning endangerment is to be made. The failings are listed below in decreasing order of importance in our view:

1. Lack of observed upper tropospheric heating in the tropics (see Section 2.9 for a detailed discussion).
2. Lack of observed constant humidity levels, a very important assumption of all the IPCC models, as CO₂ levels have risen (see Section 1.7).
3. The most reliable sets of global temperature data we have, using satellite microwave sounding units, show no appreciable temperature increases during the critical period 1978-1997, just when the surface station data show a pronounced rise (see Section 2.4). Satellite data after 1998 is also inconsistent with the GHG/CO₂/AGW hypothesis

4. The models used by the IPCC do not take into account or show the most important ocean oscillations which clearly do affect global temperatures, namely, the Pacific Decadal Oscillation, the Atlantic Multidecadal Oscillation, and the ENSO (Section 2.4). Leaving out any major potential causes for global warming from the analysis results in the likely misattribution of the effects of these oscillations to the GHGs/CO₂ and hence is likely to overstate their importance as a cause for climate change.
5. The models and the IPCC ignored the possibility of indirect solar variability (Section 2.5), which if important would again be likely to have the effect of overstating the importance of GHGs/CO₂.
6. The models and the IPCC ignored the possibility that there may be other significant natural effects on global temperatures that we do not yet understand (Section 2.4). This possibility invalidates their statements that one must assume anthropogenic sources in order to duplicate the temperature record. The 1998 spike in global temperatures is very difficult to explain in any other way (see Section 2.4).
7. Surface global temperature data may have been hopelessly corrupted by the urban heat island effect and other problems which may explain some portion of the warming that would otherwise be attributed to GHGs/CO₂. In fact, the Draft TSD refers almost exclusively in Section 5 to surface rather than satellite data.

The current Draft TSD is based largely on the IPCC *AR4* report, which is at best three years out of date in a rapidly changing field. There have been important developments in areas that deserve careful attention in this draft. The list includes the following six which are discussed in Section 1:

- Global temperatures have declined—extending the current downtrend to 11 years with a particularly rapid decline in 1907-8; in addition, the PDO went negative in September, 2007 and the AMO in January, 2009, respectively. At the same time atmospheric CO₂ levels have continued to increase and CO₂ emissions have accelerated.
- The consensus on past, present and future Atlantic hurricane behavior has changed. Initially, it tilted towards the idea that anthropogenic global warming is leading to (and will lead to) to more frequent and intense storms. Now the consensus is much more neutral, arguing that future Atlantic tropical cyclones will be little different than those of the past.

Comments on Draft TED for Endangerment Analysis for GHG Emissions under CAA

- The idea that warming temperatures will cause Greenland to rapidly shed its ice has been greatly diminished by new results indicating little evidence for the operation of such processes.
- One of the worst economic recessions since World War II has greatly decreased GHG emissions compared to the assumptions made by the IPCC. To the extent that ambient GHG levels are relevant for future global temperatures, these emissions reductions should greatly influence the adverse effects of these emissions on public health and welfare. The current draft TSP does not reflect the changes that have already occurred nor those that are likely to occur in the future as a result of the recession. In fact, the topic is not even discussed to our knowledge.
- A new 2009 paper finds that the crucial assumption in the GCM models used by the IPCC concerning strongly positive feedback from water vapor is not supported by empirical evidence and that the feedback is actually negative.
- A new 2009 paper by Scafetta and Wilson suggests that the IPCC used faulty solar data in dismissing the direct effect of solar variability on global temperatures. Other research by Scafetta and others suggests that solar variability could account for up to 68% of the increase in Earth's global temperatures.

These six developments alone should greatly influence any assessment of “vulnerability, risk, and impacts” of climate change within the U.S., but are not discussed in the Draft TSD to our knowledge. But these are just a few of the new developments since 2006. Therefore, the extensive portions of the EPA's Endangerment TSD which are based upon science from the IPCC *AR4* report are no longer appropriate and need to be revised before a TSD is issued for comments.

Not only is some of the science of the TSD out-of-date but there needs to be an explicit, in-depth analysis of the likely causes of global warming in our view. Despite the complexity of the climate system the following conclusions in this regard appear to be well supported by the available data (see Section 2 below):

- A. By far the best single explanation for global temperature fluctuations appears to be variations in the PDO/AMO/ENSO. ENSO appears to operate in a 3-5 year cycle. PDO/AMO appear to operate in about a 60-year cycle. This is not really explained in the draft TSD but needs to be, or, at the very least, there needs to be an explanation as

to why OAR believes that these evident cycles do not exist or why they are so unimportant as not to receive in-depth analysis.

- B. There appears to be a strong association between solar sunspots/irradiance and global temperature fluctuations. It is unclear exactly how this operates, but it may be through indirect solar variability on cloud formation. This topic is not really explored in the Draft TSD but needs to be since otherwise the effects of solar variations may be misattributed to the effects of changes in GHG levels.
- C. Changes in GHG concentrations appear to have so little effect that it is difficult to find any effect in the satellite temperature record, which started in 1978.
- D. The surface measurements (such as HADCRUT) are more ambiguous than the satellite measurements in that the increasing temperatures shown since the mid-1970s could either be due to the rapid growth of urbanization and the heat island effect or by the increase in GHG levels. However, since no such increase is shown in the satellite record it appears more likely that urbanization and the UHI effect and/or other measurement problems are the most likely cause. If so, the increases may have little to do with GHGs and everything to do with the rapid urbanization during the period. Given the discrepancy between surface temperature records in the 1940-75 and 1998-2008 and the increases in GHG levels during these periods it appears even more unlikely that GHGs have as much of an effect on measured surface temperatures as claimed. These points need to be very carefully and fully discussed in the draft TSD if it is to be scientifically credible.
- E. Hence it is not reasonable to conclude that there is any endangerment from changes in GHG levels based on the satellite record, since almost all the fluctuations appear to be due to natural causes and not human-caused pollution as defined by the Clean Air Act. The surface record is more equivocal but needs to be carefully discussed, which would require substantial revision of the Draft TSD.
- F. There is a significant possibility that there are some other natural causes of global temperature fluctuations that we do not yet really understand and which may account for the very noticeable 1998 temperature peak which appears on both the satellite and surface temperature records. This possibility needs to be fully explained and

Comments on Draft TED for Endangerment Analysis for GHG Emissions under CAA

discussed in the Draft TSD. Until and unless these and many other inconsistencies referenced in these comments are adequately explained it would appear premature to attribute all or even most of what warming has occurred to changes in GHG/CO₂ atmospheric levels.

These inconsistencies between the TSD analysis and scientific observations are so important and sufficiently abstruse that in our view EPA needs to make an independent analysis of the science of global warming rather than adopting the conclusions of the IPCC and CCSP without much more careful and independent EPA staff review than is evidenced by the Draft TSP. Adopting the scientific conclusions of an outside group such as the IPCC or CCSP without thorough review by EPA is not in the EPA tradition anyway, and there seems to be little reason to change the tradition in this case. If their conclusions should be incorrect and EPA acts on them, it is EPA that will be blamed for inadequate research and understanding and reaching a possibly inaccurate determination of endangerment. Given the downward trend in temperatures since 1998 (which some think will continue until about 2030 given the 60 year cycle described in Section 2) there is no particular reason to rush into decisions based on a scientific hypothesis that does not appear to explain much of the available data.

Finally, there is an obvious logical problem posed by steadily increasing US health and welfare measures and the alleged endangerment of health and welfare discussed in this draft TSD during a period of rapid rise in at least CO₂ ambient levels. This discontinuity either needs to be carefully explained in the draft TSD or the conclusions changed.

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List of Acronyms

AR4	Fourth Assessment Report of the IPCC (2007)
AMO	Atlantic Multidecadal Oscillation
°C	Degrees Centigrade
CCSP	Climate Change Science Program
CERN	European Organization for Nuclear Research
CFC	Chlorofluorocarbon
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
Draft TSD	March 9, 2009 version of the TSD
ENSO	El Nino-Southern Oscillation
EPA	Environmental Protection Agency
GCM	General Circulation Model
GHG	Greenhouse Gas
IPCC	UN Intergovernmental Panel on Climate Change
NOAA	National Oceanic and Atmospheric Administration
NO _x	Nitrogen Oxides
OAR	USEPA Office of Air and Radiation
PDO	Pacific Decadal Oscillation
SO ₂	Sulfur Dioxide
TSD	Technical Support Document
TSI	Total Solar Irradiance
US	United States
US\$	United States dollar
UHI	Urban Heat Island
UNCED	United Nations Conference on Environment and Development
USEPA	United States Environmental Protection Agency

1. Draft TSD Is Seriously Dated and the Updates Made Are Inadequate

Although a real effort has been made to introduce references to more recent CCSP reports, the draft endangerment TSD is largely a dated document which relies primarily on the *Fourth Assessment Report* (AR4) of the U.N.'s Intergovernmental Panel on Climate Change (IPCC). A lot has happened in those intervening three years since the input deadline for AR4. The IPCC's AR4 was published in the spring of 2007, but to meet the deadline for inclusion in the AR4, scientific papers had to be accepted for publication by early 2006. Given the lag between submission and acceptance the real cut-off for new research was even earlier. So, in the rapidly evolving field of climate change, by grounding its TSD in the IPCC AR4 the EPA is largely relying on scientific findings that are, by early 2009, largely 3 years or more out of date. The six developments described here, which to our knowledge are not described in the Draft TSD should in our view significantly influence any assessment of "vulnerability, risk, and impacts" of climate change within the U.S. Therefore, the extensive portions of the EPA's Endangerment TSD which are based upon the old science are no longer appropriate and need to be further revised.

1.1 Where to Find a Discussion of Various Topics in These Comments

Section 1 summarizes six of the many important new developments since the cut-off date for the IPCC AR4 report that need to be reflected in the Draft TSD but to our knowledge have not been. These developments primarily affect Section 5 of the Draft TSD as well as the Executive Summary. Section 2 of these comments summarizes some of the critical inconsistencies between the Draft TSD (primarily again Section 5) and data concerning the causes of global warming. Section 3 summarizes data showing continuing increases in US health and welfare during a period of continuing increases in GHG levels. Finally, Section 4 presents detailed comments on specific sections of the Draft TSD, which are related back to the earlier sections so as to avoid repeated presentation of the same material.

1.2 Global Temperatures Have Declined Significantly

Global temperatures have declined (Figure 1a)—extending the current run of time with a statistically robust lack of global temperature rise to eight years (Figure 1b), with some people arguing that it can be traced back for 12 years (Figure 1c).

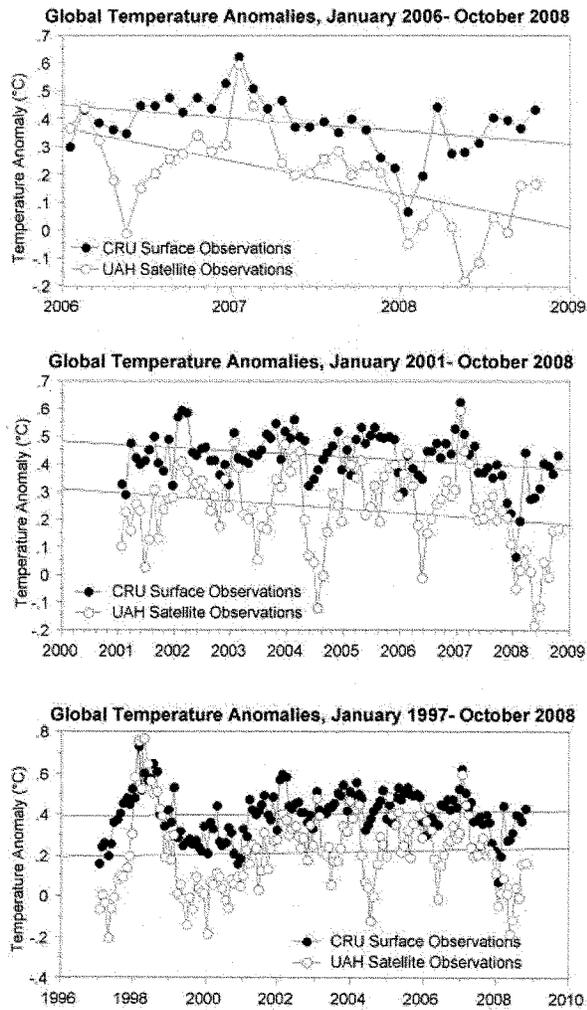


Figure 1-1(a), (b), and (c): Monthly Global Temperature Anomalies (°C) as Measured At The Surface (Filled Circles) and in the Lower Atmosphere by Satellites (Open Circles)

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Top (a), Last three years, January 2006-October 2008; Middle (b) Last eight years, January 2001-October 2008; Bottom (c), last 12 years, January 1997-October 2008.
Sources: Hadley Center; University of Alabama-Huntsville.

In addition, both the PDO and AMO have turned negative in September, 2007 and January, 2009, respectively (see section 2.4 below for a discussion of the crucial role played by PDO/AMO in global temperature changes). The last time that this happened, in the 1960s and 1970s, the climate in at least North America experienced record cold temperatures and generally lower temperatures and global temperatures declined). At the same time atmospheric CO₂ levels have continued to increase and CO₂ emissions have accelerated.

1.3 IPCC Global Temperature Projections Look Increasingly Doubtful

Because of recent substantial decreases in global temperatures, the IPCC projections for large increases are looking increasingly doubtful. This is illustrated by this graph comparing the two:

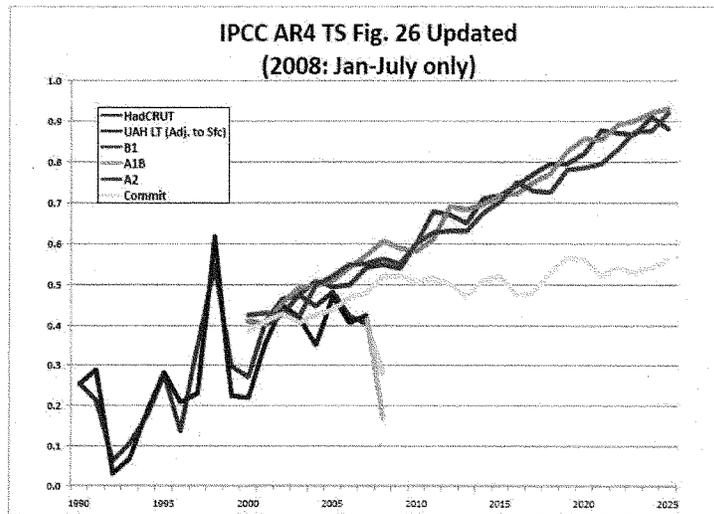


Figure 1-2: IPCC AR4 Figure 26 Updated

Draft TSD Is Seriously Dated and Updates Made Are Inadequate

Source: <http://icecap.us/images/uploads/ipccchart.jpg>; part of article by Marlo Lewis on Planet Gore at <http://planetgore.nationalreview.com/post/?q=MTYwMjRiZjJhMmUxYWE2MmQ0NDZhOGM0M2Q3ZWUzMmE>; as reproduced on icecap.us on August 14, 2008.

Figure 1-2 shows how climate models and reality diverge. The red, purple, and orange lines are model forecasts of global temperatures under different emission scenarios. The yellow line shows how much warming we are supposedly “committed to” even if CO₂ concentrations don’t change according to the IPCC. The blue and green lines are actual temperatures as measured by ground-based (HadCrut) and satellite (UAH LT) monitoring systems. It is fairly evident that the IPCC projections are quite divergent from the actual experience in recent years. Yet if the GHG/CO₂ only hypothesis is correct, there would be likely to be a greater correspondence.

If global temperatures are viewed as suggested in Figure 2-8 below the large downward drop in 2007-8 appears to be simply a return to the 1978-97 range and might not be particularly noteworthy. If, on the other hand, global temperatures are viewed as an increasing trend, which the Draft TSD appears to do, then the 2007-8 drop would appear to bring temperatures well outside the likely range suggested by the IPCC projections. So if the former viewpoint is taken, then the Draft TSD needs to explain how it could be that there has been such a great divergence from the IPCC projections.

What’s really rather remarkable, is that since 2000, the rates at which CO₂ emissions and concentrations are increasing have accelerated. According to Canadell et al. (2008), fossil fuel and cement emissions increased by 3.3 percent per year during 2000-2006, compared to 1.3 percent per year in the 1990s. Similarly, atmospheric CO₂ concentrations increased by 1.93 parts per million per year during 2000-2006, compared to 1.58 ppm in the 1990s. And yet, despite accelerating emission rates and concentrations, there’s been no net warming in the 21st century, and more accurately, a decline.

1.4 Consensus On Past, Present, and Future Atlantic Hurricane Behavior Has Changed

The consensus on past, present and future Atlantic hurricane behavior has changed in our view. Initially, it tilted towards the idea that anthropogenic global warming is leading to (and will lead to) to more frequent and intense storms. Now the consensus is much more neutral,

arguing that future Atlantic tropical cyclones will be little different than those of the past (e.g. Knutson et al., 2008; Vecchi et al., 2008).

Trying to identify a statistically significant and robust human signal in the observed history of Atlantic basin tropical cyclones, whether over the past 100+ years, or in recent decades, is probably untenable. This conclusion is based on increases in hurricane activity in recent decades far exceeds that generally projected by climate models run with observed changes in anthropogenic emissions, and there is ample (and growing) evidence that the Atlantic hurricane record is characterized by multi-decadal oscillations that are tied to multi-decadal oscillations in ocean circulation, atmospheric circulations, and patterns of sea surface temperature variability. That these multi-decadal oscillations can be traced backward in time for at least several centuries, is strong indication that they are a natural part of the earth's climate system, rather than being primarily driven by human alterations of the earth's atmosphere. This conclusion has important implications for the future, as it suggests that as the sign and strength of the natural cycles controlling hurricane behavior wax and wane, so to will the future activity of Atlantic tropical cyclones, both in frequency and intensity. The contrary conclusion—that anthropogenic “global warming” is largely controlling the activity of Atlantic tropical cyclone activity—portends, conversely, an ever-stormier future.

While we have tried to present clear evidence that the scientific tide seems to be turning in the direction of a predominately “natural” origin of past, present, and future, Atlantic tropical cyclone variability, the draft TSD appears to rely on more-dated findings to support its claims of a significant anthropogenic impact on current and future Atlantic hurricane activity in their current draft versions of climate change summary documents. We hope that the revised draft TSD will be revised in this regard.

Hurricane researchers Gabriel Vecchi, Kyle Swanson, and Brian Soden published a paper in *Science* magazine which summarizes their view of the subject. They lay out the arguments for each case:

Anthropogenic case:

There is a strong correlation between sea surface temperatures (SSTs) in the tropical Atlantic Ocean and Atlantic tropical cyclone activity. And, in recent decades, as the global temperatures have risen (presumably from human activities) so too have the SSTs in the tropical Atlantic which has promoted an increase in the frequency and intensity of Atlantic hurricanes. As climate

Draft TSD Is Seriously Dated and Updates Made Are Inadequate

models run with increasing levels of atmospheric greenhouse gases indicate Atlantic SSTs will increase in the future, so too will Atlantic tropical cyclone activity.

Natural case:

There is a strong correlation between the SST changes in the tropical Atlantic Ocean *relative to tropical SSTs in other ocean basins* and Atlantic tropical cyclone activity. In recent decades, the tropical Atlantic Ocean has warmed faster than other tropical oceans and thus, Atlantic tropical hurricane activity has picked up, both in frequency and intensity. As climate models run with increasing atmospheric concentrations of greenhouse gases *do not* project that the tropical Atlantic will warm faster than other tropical oceans, future tropical cyclone in the Atlantic will be driven by natural fluctuations in the patterns of tropical SST increases rather than simply an overall SST increase.

Vecchi et al. (2008) suggest that empirical evidence is insufficient at the current time to draw a distinction between the two scenarios. However, if one were to turn to purely physical arguments or to the latest state-of-the-science dynamical calculations from high temporal and spatial resolution modeling efforts, one would begin to gather enough weight to start to tip the scale in the direction of natural cycles. Vecchi et al. (2008) lay out these lines of evidence and summarize their conclusions in Figure 1-3:

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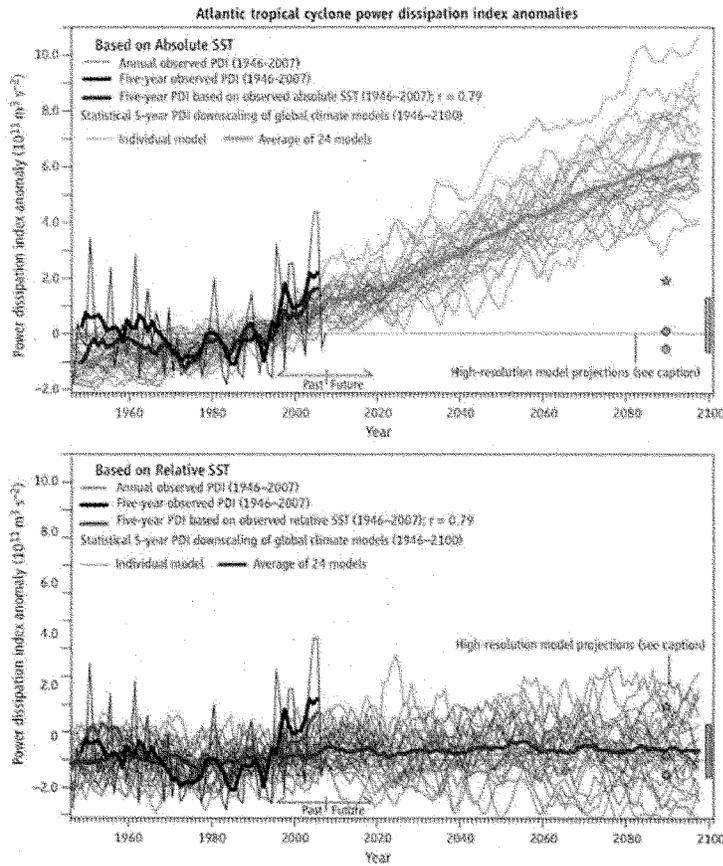


Figure 1-3. Observed Tropical Cyclone Activity in Atlantic Basin, 1946-2007 (Black Lines) and Fit to Absolute Tropical Atlantic SST (Thick Brown Line, Top) and Relative Tropical Atlantic SST (Thick Light Blue Line, Bottom)

Climate model projections to the year 2100 based upon the observed tropical cyclone/absolute SST relationship (orange lines, top) and observed tropical cyclone/relative SST relationship (blue lines, bottom). The projections made by high resolution dynamic hurricane models are indicated by the green symbols on the right of each chart (see Vecchi et al., 2008 for additional details).

The top chart in Figure 1-3 shows a cumulative measure of annual Atlantic tropical cyclone activity (thick black line), a statistical fit to the observed activity using absolute tropical Atlantic SSTs (thick brown line) and the climate model projections of the future Atlantic tropical cyclone activity based upon that statistical fit (thin orange line are individual model projections, the thick orange line is the model average). Clearly, under this scenario, Atlantic hurricane activity is projected to increase dramatically in the future driven by anthropogenic global warming. The bottom chart of Figure 1-3 shows the results of the scenario in which Atlantic tropical cyclone activity (thick black line) is driven by relative changes in the tropical Atlantic SSTs (thick light blue line). Climate model projections of this relationship are indicated by the thin dark blue lines and the thick blue line model average. In this scenario, global warming has little impact on Atlantic tropical cyclone activity.

The current “best thinking” as to the impact of global warming on Atlantic tropical cyclone activity from high resolution dynamical hurricane models is indicated by the elements in green (stars, squares, triangles, bars) at the far right-hand side of each chart. In each case, the high-resolution model results fall within the spaghetti of the model projections depicted in the bottom chart and not within the spaghetti of the top chart. This implies that our best hurricane models are lending their support to side maintaining that there is little impact from global warming, and instead, tropical cyclones are largely modulated by natural variability.

Obviously, there is still a lot of work that needs to be done in the arena of hurricane modeling before this issue can be cleared up, which is the primary message that Vecchi et al (2008) want you to take home with you, but, along the way, Vecchi et al. (2008) strongly demonstrate that based upon what we now know, it seems that natural multi-decadal oscillations in the climate of the Atlantic Ocean trump anthropogenic global warming, when it comes to being the dominant driver of 20th and 21st century Atlantic hurricane activity.

1.5 Changes in Outlook for Greenland Ice Sheet

The idea that warming temperatures will cause Greenland to rapidly shed its ice has been cast into doubt by new results indicating little evidence for the operation of such processes (e.g., van de Wal et al., 2008; Joughin et al., 2008). Even more recently, the *Guardian* reports on another study,¹ not yet available to us and obviously not citable in the TSD, which concludes that global

¹ <http://www.guardian.co.uk/environment/2009/mar/10/greenland-ice-sheet-climate-change>

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temperatures would have to rise even further than other studies have concluded before serious melting of the Greenland ice cap would occur.

A recent but earlier article in *Science* has an alarming title: "Large and Rapid Melt-Induced Velocity Changes in the Ablation Zone of the Greenland Ice Sheet." However, once one examines this paper, there appears to be an amazing twist given the threatening title. To begin, the research was conducted by a large team with the Institute for Marine and Atmospheric Research at Utrecht University, Netherlands; the authors state that "This work was supported by several grants from the Netherlands Organization of Scientific Research and the Netherlands Polar Programme."

Van de Wal et al. focused their attention on measurements that are being made on the ice along the west coast of Greenland just north of the Arctic Circle (Figure 1-4). For the past 17 years, annual measurements have been made along the "K-transect" to measure movements of the ice sheet. However, they state "we started more detailed position measurements in 2005 by taking advantage of technological developments of GPS equipment and data processing. The new instruments record hourly position of stakes, which are drilled into the ice. The GPS (single-frequency) units need to be serviced only once in a year and deliver an ice velocity record with a temporal resolution of 1 day or better." To say the least, geospatial technologies are showing up everywhere in our lives from the family car to the golf course and now to our favorite transects in Greenland.

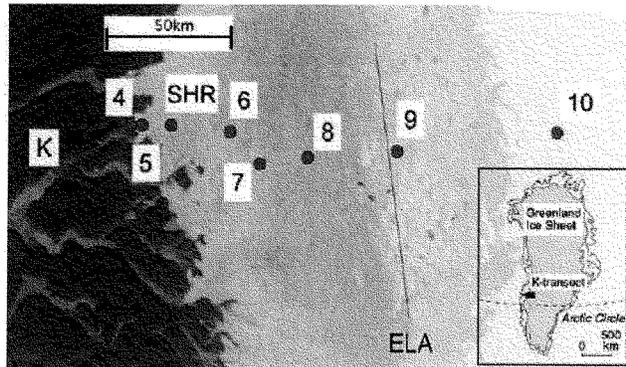


Figure 1-4. The K-transect in West Greenland at 67°N

The background NASA–Modis/Terra image is dated 26 August 2003. K is Kangerlussuaq, whereas 4, 5, SHR, 6, 7, 8, and 9 are surface mass balance sites. ELA, Equilibrium Line Altitude. The equilibrium line (indicated by the black line) is at about 1500 m above sea level. The image clearly shows zones, from right to left, of snow (Site 10), wet snow (Site 9), dark ice (Site 8), and clear ice (Sites 4, 5, and SHR) (from van de Wal et al., 2008).

Probably the largest surprise in the article can be seen in the Figure 1-5 in which we can see the velocity changes at many sites over the 17-year period. The authors note that “The overall picture obtained by averaging all stake measurements at all sites for individual years indicates a small but significant ($r=0.79$, $P < 0.05$) decrease of 10% in the annual average velocity over 17 years”. Despite all the talk about moulins, melting, rapid acceleration of ice, van der Wal et al. reveal that the ice movement in western Greenland over the past 17 years has ... slowed significantly!

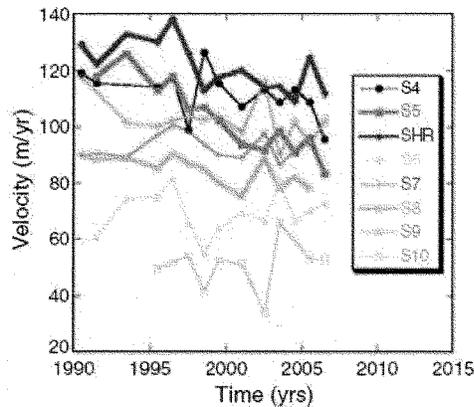


Figure 1-5. Variations in annual velocity along the K-transect over 17 years

Sites with a significant decrease over time are depicted as thick lines.

Source: Van de Wal et al. (2008).

In discussing their results we find some very interesting language, to say the least. At one place they write “it has been suggested that the interaction between meltwater production and ice velocity provides a positive feedback, leading to a more rapid and stronger response of the ice sheet to climate warming than hitherto assumed. Our results are not quite in line with this view.” Van der Wal et al. further write “Longer observational records with high temporal resolution in

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other ablation areas of the ice sheet are necessary to test the importance of the positive-feedback mechanism between melt rates and ice velocities. At present, we cannot conclude that this feedback is important.” Again, we tend to say this moulin link to drowning the World Trade Center Memorial is nonsense, and the empirical evidence is overwhelmingly in our favor.

So how did this article ever get titled “Large and Rapid Melt-Induced Velocity Changes in the Ablation Zone of the Greenland Ice Sheet”? Well, as seen in Figure 1-6, the Garmin’s (or some other product line) showed an unusually large increase in velocity from one site a week in August in 2006. No one says Mother Nature is not capable of surprises, and the research team was a bit taken back by the sudden movement. But when we examine this article, we are most impressed with the results over the 17-year period and the lack of support for the notion that somehow the velocity of ice is increasing during a time of greenhouse gas build-up!

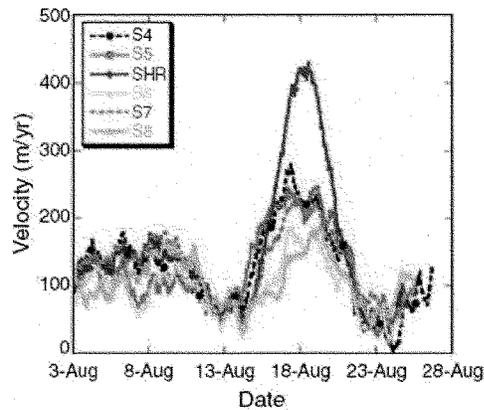


Figure 1-6. Variations in Velocity at Various Sites in August 2006

Source: Van de Wal et al. (2008)

1.6 Serious Recession Has Greatly Decreased GHG Emissions Compared to the Assumptions Made by the IPCC

One of the worst economic recessions since World War II has greatly decreased output and undoubtedly GHG emissions compared to the assumptions made by the IPCC several years ago. To the extent that ambient GHG levels are relevant for future global temperatures and to the

extent that this may be much more than a minor, short recession, these emissions reductions should greatly influence any adverse effects of these emissions on public health and welfare. The current draft TSP does not reflect the changes that have already occurred nor those that are likely to occur in the future as a result of the recession, but it needs to. To our knowledge the topic is not discussed in the Draft TSD.

1.7 Long-term Water Vapor Feedback Reported to Be Negative

A newly published paper in a peer-reviewed journal (Paltridge, 2009) reaches the potentially highly significant conclusion that

The upper-level negative trends in q are inconsistent with climate-model calculations and are largely (but not completely) inconsistent with satellite data. Water vapor feedback in climate models is positive mainly because of their roughly constant relative humidity (i.e., increasing q) in the mid-to-upper troposphere as the planet warms. Negative trends in q as found in the NCEP data would imply that long-term water vapor feedback is negative—that it would reduce rather than amplify the response of the climate system to external forcing such as that from increasing atmospheric CO₂.

This paper is of particular significance because it concludes with a number of important qualifications that a key assumption in the GCM models concerning a strong positive water feedback is incorrect since it is found to be negative rather than positive. The following long excerpt (from Gray, 2009) explains why this assumption is so crucial and why a change in it is not only expected but of great significance:

1. Introduction

There are about 20 different General Circulation Model (GCM) groups around the world that have been conducting extensive numerical modeling simulations of the likely changes in global mean temperature that should be expected to occur from a doubling of atmospheric carbon dioxide (CO₂). Carbon dioxide has so far risen about 33 percent (to 385 ppm) over its pre-industrial values and about 15 percent during the last 30 years. It is expected that there will be a doubling of atmospheric CO₂ by the latter part of the 21st century. Most of these GCM simulations indicate that there will be a 2-5°C (4-9°F) increase in global mean temperature by the time this doubling takes place. Such large warming as obtained by the GCMs would cause great changes to human society. These large warming scenarios are highly unlikely, however. The GCMs greatly exaggerate the potential warming that will occur. These exaggerations are due to:

1. GCMs assume that an increase in atmospheric CO₂ will cause weak global warming and an increase in global precipitation that will lead to a large increase in upper-level water vapor and cloudiness. They simulate that this increase in water vapor and cloudiness will block large amounts of infrared radiation emitted to space. New observations by satellite and reanalysis data, however, do not support these GCM assumptions. The global warming that has occurred since the mid-1970s has

been associated with a modest decrease of global upper tropospheric water vapor and an increase of Outgoing Longwave Radiation (OLR). These measurements contradict model predictions.

2. GCMs do not currently accurately model the globe's deep-water ocean circulation. Accurately modeling the global ocean's deep circulation is fundamental to any realistic understanding of global temperature change, as this circulation appears to be the primary control of global surface temperature. The global warming we have seen since the mid-1970s and over the last 100 years is likely largely due to reductions in the rate of global ocean deep water circulation (or the MOC) which is viewed as being driven by global ocean salinity variations. CO2 changes play no role in these ocean changes.

The most basic AGW question appears to be how we would expect upper level water vapor changes to respond to increases of CO2. The GCMs program a very large (and in my view, quite unrealistic) upper level water vapor increase as a response to CO2 doubling. This is a consequence of the GCM's faulty sub-grid convective parameterization schemes and the strict interpretation of the Clausius-Clapeyron (CC) equation to upper level temperature changes which dictate that water vapor increase with temperature increase. Observations indicate that this is not occurring. The cumulus convective schemes employed by the GCMs develop unrealistic high amounts of water vapor which block too much OLR and cause artificial warming which is 2-4 times greater than the warming that would result from the CO2 blockage of OLR by itself.

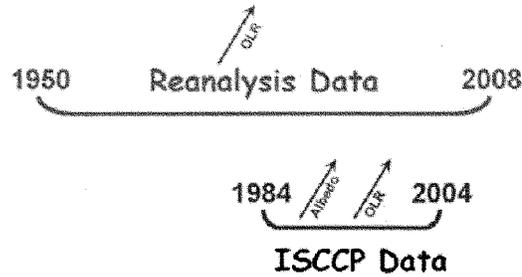
Observations and other theoretical analysis indicate that little or no upper level water vapor increase will occur with a doubling of CO2. If this is true then the CO2 induced global temperature increases will be only a quarter or a third as much as the GCMs currently indicate.

All the various data sets (Figure 1) that I and some of my colleagues have been working with indicate that upper level water vapor (near the radiation emission level) should not necessarily rise with increases of CO2 and global temperatures. Rather than rise, there appears to be a tendency for a slight upper tropospheric decrease in water vapor as upper level temperature and CO2 have increased. This would allow about as much water vapor induced OLR to space after CO2 amounts have increased as they had before. Little water vapor induced warming should result. There are good theoretical arguments for this being the case. [This does not mean that lower tropospheric water vapor and net precipitable water content will not slightly rise as CO2 amounts double.]

Thunderstorms and cumulonimbus (Cb) activity are the primary mechanisms to bring mass into the global upper troposphere. Such deep convective activity is highly concentrated at any one time to only about 2-3 percent of the global area. The mass that goes up in the deep convective clouds is then advected outward from the convective areas to the environment and sinks in response to the upper tropospheric radiational cooling, cirrus evaporation cooling, and the need for mass balance (Fig 2).

The vertical gradient of saturation vapor pressure in the upper troposphere is very large. Upper level subsidence requires that upper level water vapor and RH values remain low. There appears to be no way a few percent increase in deep convection with CO2 doubling could raise upper level water vapor amounts enough to significantly reduce OLR beyond the reduction of OLR by the increased CO2 by itself.

NEW GLOBAL DATA SETS



Schwartz
2006-2008

Figure 1. Data sources utilized in this study. NCEP/NCAR Reanalysis data (1950-2008) of wind, thermodynamics and OLR derived radiation, and data from the International Satellite Cloud Climatology Project (ISCCP) for the period of 1984-2004 which contain a variety of radiation components are examined.

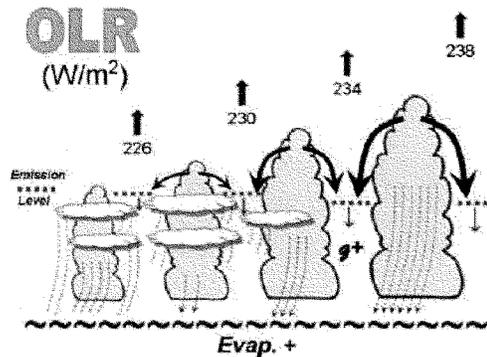


Figure 2. Idealized portrayal of how deeper and more intense cumulonimbus (Cb) convection can lead to progressively more return flow dry subsidence. Enhanced upper level subsidence acts to reduce upper layer water vapor, and enhanced OLR.

2. GCM MODELING PROBLEMS

Skillful initial-value numerical GCM climate prediction will likely never be possible. This is due to the overly complex nature of the global atmosphere/ocean/land system and the inability of numerical models to realistically represent and forecast the full range of this physical complexity.

Small-Scale Problems. In order to integrate over the entire globe and many years into the future it is necessary that the GCMs have rather large grid spacing. This requires that

the GCMs employ sub-grid scale cumulus parameterization schemes which can often be poor approximations of the complex real-world, non-linear, small-scale cumulus convective processes. An important deficiency in the global models is the large amount of compensating up-and-down motion occurring between grid spaces that cannot be explicitly resolved by the models (Figure 3). These poorly-resolved approximations of sub-grid scale processes are integrated by the models for hundreds of thousands of time steps into the future. This guarantees large errors. Realistic sub-grid scale parameterization schemes have yet to be developed. Most GCM modelers are unfamiliar with the detailed functioning of the hydrologic cycle. Their models assume that changes in lower and upper tropospheric water vapor occur simultaneously which the observations do not verify (Figure 4). Observations show, in fact, that as global warming has occurred since the mid-1970s that lower tropospheric water vapor has increased while upper tropospheric water vapor has decreased. This appears to be a result of there being somewhat more deep Cb convection and a higher rainfall efficiency when the globe is warmer than when it is colder. There are slightly more deep convective updrafts and compensating mass subsidence drying at upper levels during times when the globe is warmer.

Much research on the small scale parameterization of cumulus convection in terms of the large scale circulation patterns was done in the 1970s and 1980s without satisfactory resolution. The topic was too complex to be resolved during this period. To move forward the GCMs primarily ignored this difficult task. They chose not to get 'down-in-the-trenches' on such a complex topic. They accepted a few simple compromised schemes (with known problems) and went forward with their broader-scale modeling integrations assuming that their sub-grid schemes were 'good enough' or that the errors would average out in the end. This assumption is not valid.

There are many large and complicated variations as to how sub-grid scale cumulus parameterization should be accomplished with respect to differences in latitude, surface characteristics, season, and other conditions. There are no general sub-grid parameterization schemes that can perform this function within various regions and on long climate time-scales.

The net effect of the GCM's sub-grid scale parameterization schemes is to underestimate sub-grid subsidence drying, and to unrealistically suppress OLR to space. It is thus not surprising that the GCMs produce so much global warming (~2 to 5oC) for only a relatively small increase (3.7 W/m²) of suppressed radiation to space for a doubling of CO₂.

It is expected that global rainfall will increase somewhat as human-induced greenhouse gases increase. This increased rainfall is expected to primarily manifest itself in increased and concentrated deep cumulus convection and increased rainfall efficiency in the normal areas where deep convection and rainfall are already occurring. This somewhat greater and more concentrated rainfall will not bring about global upper-level water vapor and cloud increase anywhere near as much as the GCM modelers have assumed. The diagram of Figure 5 gives the author's concept of how the globe will handle a doubling of CO₂ by the end of the 21st century. We will not see a global warming of 2-5oC as the GCM models indicate but rather a much more modest warming of about 0.3-0.5oC.

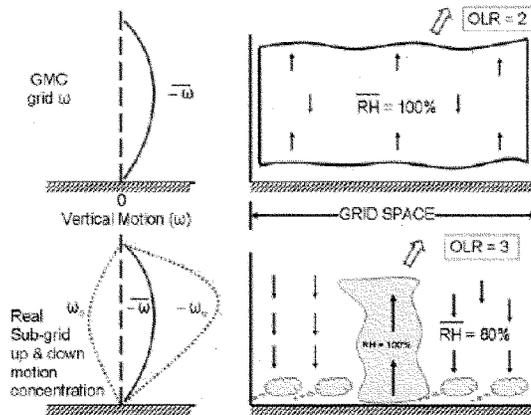


Figure 3. Idealized portrayal of how the grid size of the GCMs is too large to accommodate real sub-grid scale vertical motion. GCMs cannot resolve (top) the concentrated rain or the surrounding cloud downdrafts and subsidence within the scale of its grid space (bottom). The top and bottom diagrams contrast the mean vertical motion of the GCM (top) and the real up-and-down vertical motion of nature if deep convection is occurring within a grid space. Note that the unresolved vertical motion of the top diagram allows less OLR to escape to space.

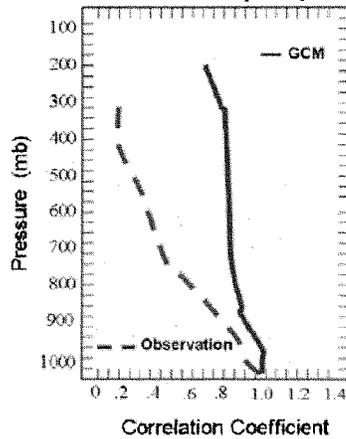


Figure 4. Comparison of correlation coefficient between upper and lower level tropospheric water vapor of the typical GCMs output (red) and that of the Rawinsonde-reanalysis observations (blue line). The GCM outputs are programmed to have a

simultaneous moistening of the lower and upper tropospheric levels, but the observations of upper vs. lower troposphere moisture shows little correlation. This high correlation of the models causes them to artificially moisten the upper troposphere and block too much OLR to space. Adapted from Sun and Held 1996.

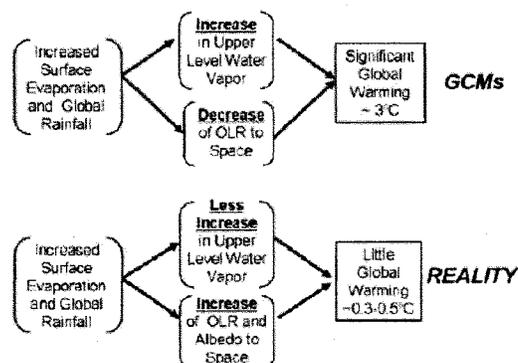


Figure 5. A view of the physical process differences between the global warming for a doubling of CO₂ from the GCMs (top) and hypothesized reality (bottom).

Positive or Negative Water Vapor Feedback? Most geophysical systems react to forced imbalances by developing responses which oppose and weaken the initial forced imbalance; hence, a negative feedback response. Recent GCM global warming scenarios go counter to the foregoing in hypothesizing a positive feedback response. Observations indicate that the specific humidity and relative humidity of the middle and upper troposphere have been going down over the last 4-5 decades (Figure 6). The assumed positive water vapor increase with temperature as programmed into the GCMs does occur however at the surface and the lower troposphere. But this simultaneous increase of temperature and water vapor is not found in the upper troposphere near the radiation emission level. It is not the total precipitable water which is most important (measurements show this goes up with temperature) but rather the amount of water vapor near the upper tropospheric emission level which is important. This more closely specifies the amount of OLR.

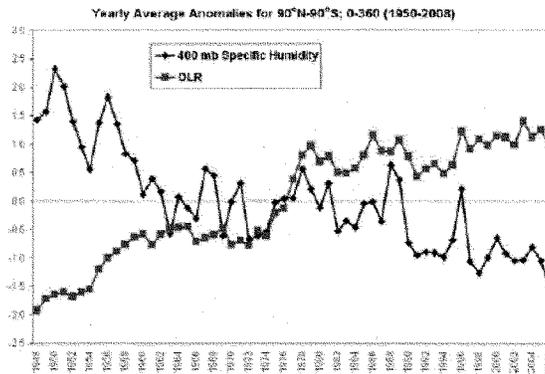


Figure 6. NCEP/NCAR reanalysis of standardized anomalies of 400 mb (~7.5 km altitude) water vapor content (i.e. specific humidity – in blue) and Outgoing Longwave Radiation (OLR) from 1950-2008. Note the downward trend in moisture and the upward trend in OLR.

Faulty Reasoning Behind Climate GCMs. A basic assumption error behind the GCMs has been the model builder's general belief in the physics of the National Academy of Science's (NAS) 1979 study – often referred to as The Charney Report. This report hypothesized that a doubling of atmospheric CO₂ would bring about a general warming of the globe's mean temperature between 1.5 – 4.5oC (or an average of ~ 3.0oC). This was based on the report's assumption that the relative humidity (RH) of the atmosphere should be expected to remain quasi-constant if the globe's temperature were to increase. The fundamental tenet of the Clausius-Clapeyron (CC) equation specifies that as the temperature of the air rises its ability to hold water vapor increases exponentially. If relative humidity (RH) were to remain constant as atmospheric temperature rose then the water vapor (q) amount in the atmosphere would accordingly rise (Figure 7 and Figure 8). Observations show that this is indeed a valid assumption for the lower tropospheric levels but does not observationally apply in the upper troposphere (300-400 mb) where water vapor and relative humidity have been observed to slightly decrease as the atmospheric temperatures rises. Lower RH and reduced water vapor content near the upper-atmosphere emission level act to increase the amount of OLR which will be emitted to space.

The GCMs which test the influence of CO₂ increases have accepted the hypothesized NAS – Charney Report (1979) scenario. Some of the GCM modelers such as the early NASA-GISS (Hansen 1988) model have even gone further than the Clausius-Clapeyron equation would specify for water vapor increasing with temperature. Hansen's early GISS model assumed that a doubling of CO₂ would cause the upper tropospheric RH not just to stay constant but to actually increase. His assumed upper tropospheric increase of water vapor (q) for a doubling of CO₂ led to a water vapor increase (Δq) in the upper troposphere of as much as an extremely unlikely 50 percent. These large vapor increases caused Hansen to require that his model have a tropical (30oN-30oS) upper tropospheric

warming for a doubling of CO₂ of as much as 7°C (Figure 10). A 7°C warming at the upper level emission level is equivalent to a 23 W/m² enhancement of OLR for a doubling of CO₂ forcing of only 3.7 W/m². No wonder Hansen got such high values of global warming for a doubling of CO₂. This logically followed from his extremely high and unrealistic water vapor assumptions.

**FAMOUS NATIONAL ACADEMY OF
SCIENCE (1979) STUDY
(The Charney Report)**

↻ Doubling CO₂ will lead to global
ΔT change of 1.5-4.5°C (~3°C)

↻ Due to positive water vapor feedback
ΔT → Δ moisture → reduced OLR

Figure 7. The very influential NAS report of 1979 which deduced that any warming of the globe would occur with near constant relative humidity (RH). Global warming consequently is thought to cause an increase in atmospheric water vapor (q) and a decrease in OLR. This assumption appears valid in the lower troposphere but not for the upper troposphere. Although temperature increase may cause precipitable water to increase in the troposphere, it does not mean that upper tropospheric water vapor will necessarily increase.

CLAUSIUS-CLAPEYRON (CC)
RELATIONSHIP

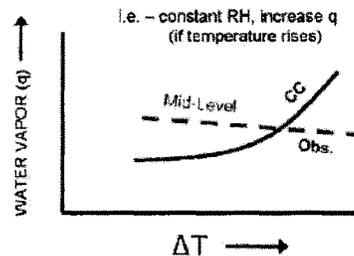


Figure 8. Clausius-Clapeyron (CC) relationship showing the required increase of water vapor as temperature increases at constant RH – red line. The observations of upper tropospheric water vapor – green dashed line – do not follow this theoretical relationship.

This is likely a result of a warmer climate causing more deep convection and more return flow subsidence (as shown in Figure 2).

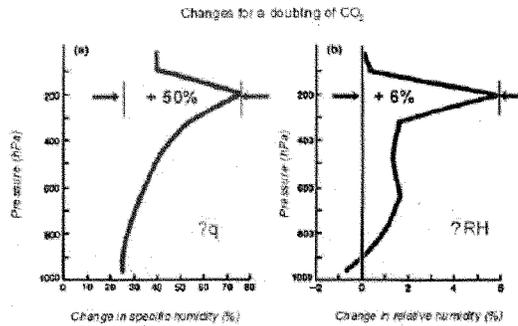


Figure 9. James Hansen's early GISS model showing his assumed increases in specific humidity (q) and RH for a doubling of CO₂. Such water vapor assumptions are completely unrealistic, especially for conditions in the upper troposphere where water vapor typically increases less.

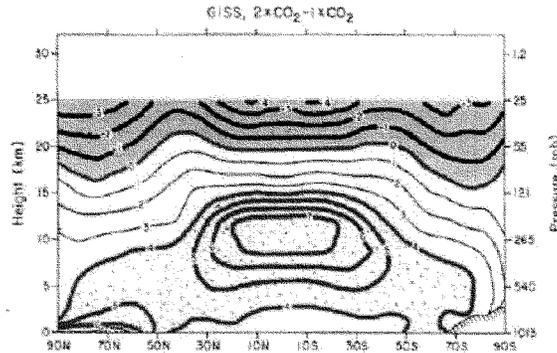


Figure 10. North-South vertical-cross section showing Hansen's early GCM's model change in temperature ($^{\circ}$ C) that would accompany a doubling of atmospheric CO₂. There is no way a doubling of CO₂ and an extra 3.7 W/m² blockage of OLR to space could lead to such extreme upper tropospheric temperature rises. These large temperature increases occurred because of Hansen's unrealistic upper level water vapor assumptions.

In order to obtain the global balance of incoming and outgoing radiation for his assumed high values of upper tropospheric water vapor it was necessary for Hansen to unrealistically raise his model's upper tropospheric temperatures to obtain the amounts of OLR (or δT_4) to space that would accomplish net radiation balance. It is amazing that Hansen's high water vapor increase and massively high upper tropospheric temperature rise assumptions for a doubling of CO₂ were not immediately challenged.

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It was these large amounts of warming resulting from his model's gross over-estimate of water vapor which Hansen presented to a US Senate Committee hearing at the request of then Senator Al Gore during the hot summer of 1988. The media and much of the general public accepted it all. The environmentalists salivated. Hansen had secured his place in the sun. History will reverse such adulation when his warming predictions are inevitable proven to be wrong.

Not only have Hansen's extreme and unrealistically high values of upper tropospheric moisture and temperature changes (for a doubling of CO₂) not been challenged, they were instead closely emulated by most of the other prominent early GCM groups of NOAA-GFDL (Figure 11), NCAR (Figure 12) and the British Met Service (Figure 13). They all followed suit and incorporated unrealistically high amounts of upper tropospheric water vapor and, as a result, obtained unrealistically high values of global upper and surface temperature just as Hansen had. The fact that most of the (assumed independent) GCMs produced similar warming results were used as verification of each model's results. But this was untrue. All the modelers were wrong in the same direction and in the same way.

Although the more recent GCM runs of Hansen's GISS model and the more recent, GFDL, NCAR and UKMET models have been improved, they are still fundamentally flawed. I expect the current set of GCM modelers will say I am referring to older model runs that are now obsolete. This argument does not hold however. If the more recent year models are superior to the older ones, then we would be seeing a revision downward of their warming estimates. But their newer models give much the same magnitude of warming as their older ones.

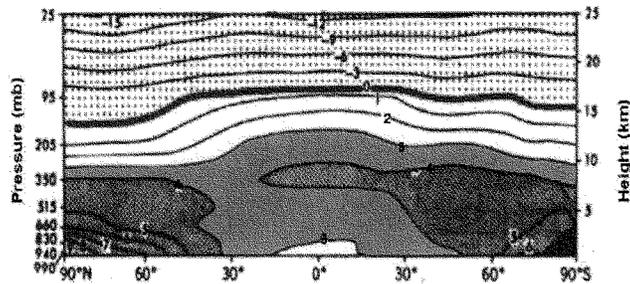


Figure 11. Same as Figure 10 but for the NOAA-GFDL GCM.

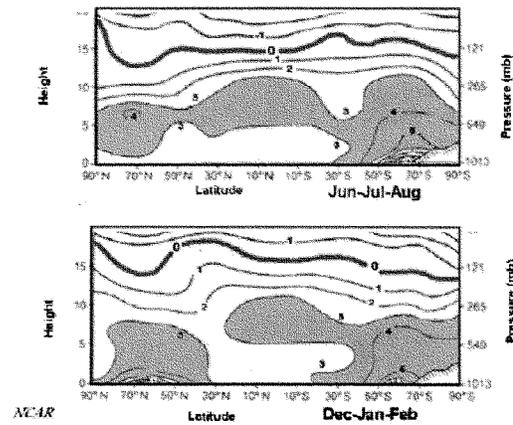


Figure 12. Same as Figure 10 but for the NCAR's GCM.

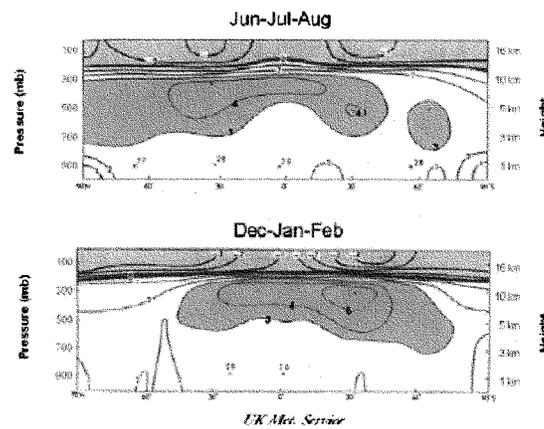


Figure 13. Same as Figure 10 but for the UKMET GCM.

3. IMPOSSIBILITY OF SKILLFUL GCM CLIMATE PREDICTION

Skillful initial-value numerical weather forecasts currently cannot be made for more than about two weeks into the future. This is because any imperfect representations of the highly non-linear parameters of the atmosphere-ocean system tend to quickly degrade (the so-called butterfly effect) into unrealistic flow states upon integration of longer than a week or two. Skillful short-range prediction is possible because there tends to be conservation in the initial value momentum-pressure fields which can be skillfully

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extrapolated or advected for a week or two into the future. But after 1-2 weeks, one must deal with the far more complex variation of the moisture and energy fields. Model results soon decay into chaos.

If skillful GCM forecasts were possible for a longer period of a season to a few years, we would be eager to track their skill. Currently, GCMs do not make official seasonal or annual forecasts. They dare not issue these forecasts because they know they are not skillful and would quickly lose their credibility if they gave real time forecasts that could actually be verified. How can we trust GCM climate forecasts 50 and 100 years into the future (that cannot be verified in our lifetime) when these same models are not able to demonstrate shorter range forecast skill?

[End of quotation from Gray paper]

A major cause for concern with regard to the Enhanced Greenhouse Effect espoused by the IPCC is that a crucial implied assumption may not be valid based on real world data. The IPCC models imply that global relative humidity is a constant as a result of various assumptions about evaporation and participation. This appears not to be the case, however, as shown in the following graph. Stockwell (2008) provides a discussion of the pros and cons for EGE and concludes that it is doubtful. Ref: <http://landshape.org/enm/greenhouse-thermodynamics-and-gcms/>

Gregory and others say that the IPCC models all assume that global relative humidity is a constant.² We note that this assumption would appear to imply their result since increases in temperature increase the amount of water vapor that the atmosphere can hold. This in turn results in an increased GHG warming effect, and so on and on, just as the IPCC concluded. Gregory puts it this way:

There is no physics in support of this assumption, and no way to calculate its value from first principles. This assumption means that if temperatures increase for any reason, the amount of water vapour in the atmosphere increases. But water vapor is the most important greenhouse gas, so the GHE becomes stronger and temperatures increase more. The current theory does not determine this -- it is only an assumption. If this assumption is only slightly wrong, it

² Gregory has expanded on the issue of what constitutes constant relative humidity as follow: "Yes, I agree. I don't mean to suggest someone types in relative humidity = constant into the computer code. I said in my write-up 'Relative humidity = constant (or various parameters to achieve the same effect.)' Is this O.K?"

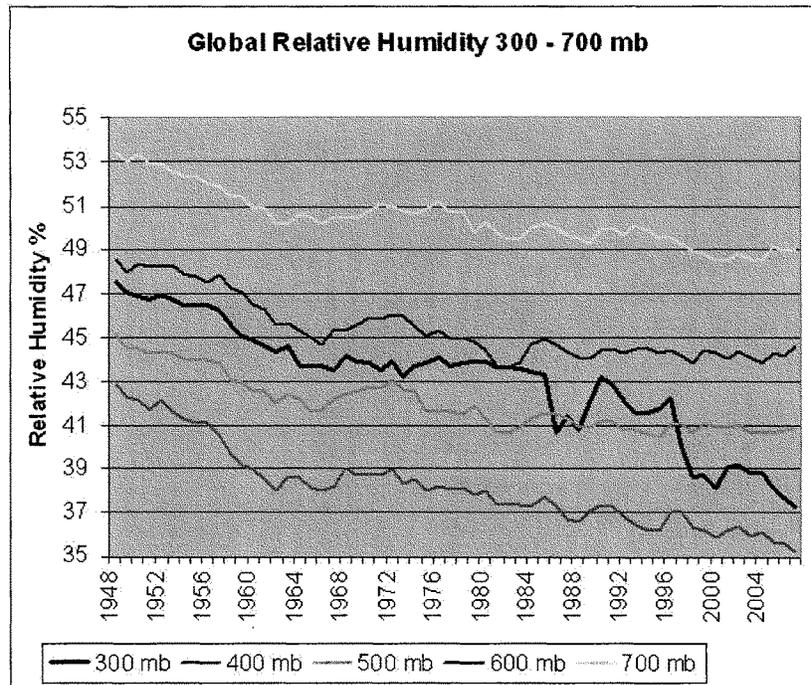
"They model evaporation and precipitation to achieve an almost constant relative humidity. This is based on short term observations of temperature changes. During these observations CO₂ concentrations are approximately constant, so these observations only hold true over periods when CO₂ does not change much. It is invalid to extrapolate these observations to long term periods with increasing CO₂. Comments by [Ken Gregory](#) — June 21, 2008 @ 4:04 am

Draft TSD Is Seriously Dated and Updates Made Are Inadequate

completely changes the expected response of increasing CO₂ because water vapour is such a dominant greenhouse gas.

So if this arbitrary assumption does not hold, then there is no positive feedback effect. If accurate, the chart below appears to support the anti-AGW case.

One recent alternative to the IPCC's approach is a new theory proposed by Miskolczi (2007). Whether it is correct or not is not yet known, but it does offer the advantage that it may explain several observed atmospheric observations better than the models relied on by the IPCC. Gregory (2008) argues that the IPCC approach violates energy conservation laws. He argues that the new theory shows that the application of these laws requires that the atmosphere maintain a "saturated" greenhouse effect controlled by water vapor content (ie, any "excess" of GHGs gets "rained out"). As a result any increase in other GHGs (like CO₂) results in a decrease in water vapor, the main GHG. Gregory concludes that *"almost all of the global warming of the last century must have been due to changes of the Sun or albedo."* The following chart shows that global relative humidity has indeed been falling for 60 years, particularly at the higher (blue) altitudes which he believes are the most relevant.



Source: Gregory (2008), citing NOAA at <http://www.cdc.noaa.gov/cgi-bin/Timeseries/timeseries1.pl>

The Miskolczi theory argues that the IPCC approach violates energy conservation laws. Global relative humidity is controlled by the laws of physics, not IPCC's arbitrary assumption that it is a constant, which is NOT the case over the last 60 years.

Implications of New Theory

According to Ken Gregory (June, 2008) "The long wave upward radiation from the surface is limited to 1.5 times the short wave downward radiation from the Sun.

"This limits the temperature to very close to the current temperature.

"Therefore, almost all of the global warming of the last century must have been due to changes of the Sun or albedo." –Ken Gregory, June, 2008

What all of this argues is that there is considerable doubt as to the validity of the IPCC GCM models because they do not correspond with observational data in a very important aspect. Since these models are the principal underpinning for the IPCC conclusions, and therefore the Draft TSD, it is vital that these doubts and uncertainties be carefully explained in the TSD so that readers understand these issues which directly affect the proposed finding of endangerment.

1.8 Scafetta and West: GHG Contribution to Global Warming May Be Much Smaller than Alleged by IPCC

As noted below in Section 2.4, solar variability (including sunspots) has attracted the attention of scientists for many centuries. Until the last couple decades, many scientists appear to have recognized the importance of the changes in the sun as a substantial contributor to changes in the climate. ("Changing Sun, Changing Climate," AIP, available at <http://www.aip.org/history/climate/solar.htm>)

With the advent of satellite-based instrumentation beginning in the late 1970s which measured on the sun's energy output (Total Solar Irradiance, or TSI in watts/square-meter), researchers were now able to track with substantial accuracy and precision the energy reaching the top of the earth's atmosphere.

The IPCC (2007) report examined all of the satellite data and found that the amplitude of the sun's TSI varied by only about 0.1% based with no apparent secular trend using an analysis that combined the data from several satellites. The analysis was complicated by a critical gap in the high-quality data that occurred from mid-1989 to 1991.75. The IPCC report based its conclusion of no secular trend in the data by adjusting the data based on a particular TSI proxy model that was believed to provide the best overall fit while bridging the so-called ACRIM-gap by using lower-quality data from other satellites. This way of constructing the TSI data has been challenged. If the alternative TSI reconstruction is used, it is suggested that the Sun could account for as much as 69 % of the increase in the Earth's average temperature (Scafetta & West (2008).

The possibility that IPCC (2007) has erred in its attribution of most of the relatively recent global warming to GHG increased with the publication of the Scafetta and Wilson (2009). This paper concludes that reconstruction of the solar TSI used by the IPCC appears to have been seriously flawed. This suggests that a secular increase in the sun's TSI may actually be

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responsible for a substantial part of the global temperature increase attributed to GHGs. This matter deserves additional review by other researchers and solar specialists.³ If this peer-reviewed analysis is correct, then the sun "could account for as much as 69% percent of the increase in the Earth's average temperature, depending on the TSI reconstruction used" (see Scafetta & West, 2008).

Until this new paper was published, one might have dismissed the above view by arguing it appears to be based on an erroneous reconstruction of the TSI. However, now the burden of proof seems to have switched to those scientists that continue to support the IPCC (2007) conclusions on solar variability.

³ A detailed slide set in pdf with extensive references and the 2/26/2009 climate science seminar video by Dr. Nicola Scafetta is available at: <http://www.epa.gov/economics/>

2. Some Major Inconsistencies in the Science of Global Warming that at Least Need to be Explained

In addition to the more recent inconsistencies discussed in Section 1 above, there are a number of others of somewhat longer standing that at least need to be discussed in the draft TSD in our view. They are so serious, however, that we believe that there is a need to change the conclusions of the draft TSD. For a more complete list of inconsistencies that others have found see Gregory (2009) and Singer (2008). Gregory's list has approximately 30 items, few of which are addressed in the draft TSD. Although these lists themselves have not been peer-reviewed, many of the references have been. All these inconsistencies are included in these comments by reference. This includes the important missing heating of the upper troposphere in the tropics, which is discussed below in Section 2.9 and briefly mentioned in the Draft TSD. These lists and the references they cite, unless carefully and successfully answered in the draft TSD, largely eliminate the GHG hypothesis as a serious contender for explaining a significant part of the global warming that has occurred. This leaves the most fundamental issue as to what does cause global temperature fluctuations. It is possible that a chaotic system such as climate varies with little rhyme or reason, of course, but curiously there appear to be a few regularities in the data. Failure to consider a number of other factors beyond those that the IPCC and the Draft TSD consider makes the draft TSD one-sided and unscientific in its discussion since it appears to pre-suppose the answer and the answer does not explain the observed fluctuations in global temperatures. Until the causes are clearly understood most any control effort (except stratospheric geoengineering—see Carlin, 2007 and 2008) is likely doomed to failure. It is only by taking a new and fundamental look at this question that a meaningful understanding of the endangerment can be reached. Although the hour may be late, it is only by doing so that an accurate endangerment TSD can be prepared.

2.1 What Is Science?

The first question is what science is. Science as used in these comments is the process of generating hypotheses and experimentally determining their validity by comparison with real world data—in other words, the application of the scientific method. We do not believe that science is writing a description of the world or the opinions of world authorities on a particular subject, or the number of scientists who agree on a particular issue. Science, we believe, is also

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not a statement of belief by scientific organizations. The question in our view is not what someone or some group believes but how what they believe corresponds to real world data. It is important to note that science evolves over time as new discoveries are made and new hypotheses are formulated and discarded. There is no such thing as permanent or settled science. Only continuing research can insure that important relationships are taken into account. Richard Feynman (1965) expressed this as follows:

In general, we look for a new law by the following process. First, we guess it. Then we compute the consequences of the guess to see what would be implied if this law that we guessed is right. Then we compare the result of the computation to nature, with experiment or experience; compare it directly with observation to see if it works. If it disagrees with experiment it is wrong. It's that simple statement that is the key to science. It does not make any difference how beautiful your guess is. It does not make any difference how smart you are, who made the guess, or what his name is---if it disagrees with experiment (observation) it is wrong.

Fundamental to the science of global warming and of climate change is what determines the evident changes in global temperatures over time. Until this is firmly understood any attempt to determine the effects of particular changes in the climate environment such as increases in ambient GHG levels on temperatures or human health and welfare is extremely risky since it runs the risk of being incorrect, with the result that any alleged endangerment may prove to be incorrect along with any actions that may be taken under the Clean Air Act as well.

2.2 What Determines Changes in Global Temperatures?

Global temperatures have long fluctuated both in the short and long term. Until we clearly understand these fluctuations it is not possible to make any meaningful conclusions as to the cause of either global warming. Numerous hypotheses have been offered, but they all cannot be correct since they differ greatly. One clue may be that there appears to be considerable cyclicity in temperatures over time; here is a brief synopsis of some of what we believe is known in terms of the length of the cycles involved:

Over 150 million year periods: There appears to have been a distinct approximately 150 million year cycle in Earth's temperatures. One explanation that has been offered is the change

Some Major Inconsistencies in the Science of Global Warming that Need to Be Explained

in level of galactic cosmic rays resulting from the Solar System's movements above and below the galactic plain resulting in higher cosmic ray levels when it is not in the plain (see Figure 2-10).

Over 100,000 year periods: For the last 3 million years or so the Earth has gone through a succession of ice ages interspersed with relatively brief interglacial periods such as the one we are now in (called the Holocene). In the early part of this period they averaged about 40,000 years each but more recently they have averaged about 100,000 years in length. Global temperatures are believed to have been 5 to 10°C less during ice ages than during interglacial periods. Various hypotheses have been proposed to explain this but the predominant view appears to be that it is due to changes in the Earth's orbit which change the intensity of the sun's radiation reaching the Earth (the so-called Malenkovitch cycles). One problem with this explanation is that it does not explain the shift from 40,000 years to 100,000 year cycles. What appears evident, however, is that Earth's climate is unstable on the downside during the interglacial periods and unstable on the upside during ice ages. There appears to be something which has prevented the Earth from getting even colder than it has during ice ages or warming more than it has during interglacial periods. It is far from clear what these somethings are, but this asymmetry appears to have existed for at least 3 million years.

Over 1500 year (or so) periods: The Earth has had repeated cooler and warmer periods during the current interglacial (Holocene) period as shown One view of global temperatures during the Holocene is shown in Figure 2-1.

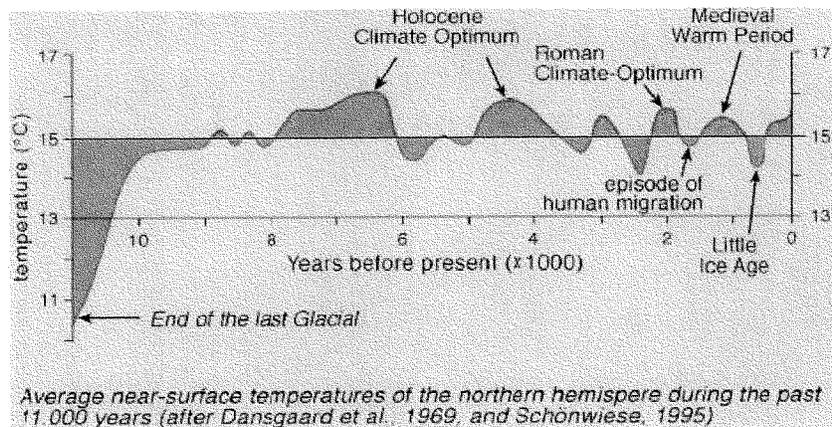


Figure 2-1: One View of Temperature Variation during the Holocene

Source: Gregory (2008)

This graph comes from a skeptic and may or may not accurately represent temperatures during this approximately 10,000 year period. The important thing is not its accuracy but rather that there appear to have been many temperature variations of roughly one °C on either side of 15°C throughout this long period.

The last previous very warm period is known as the Medieval Warm Period and extended from about 800 to 1200 AD. The last very cold period was known as the Little Ice Age and extended from roughly 1450 to the early 1800s. This was followed by the current warm period, particularly in the last quarter of the 20th Century. The total variation appears to have been about +/- 2°C according to this particular graph. The cause for some or all of these variations may be variations in solar radiation or other causes. It is clearly not related to levels of human-caused carbon dioxide until very recently since humans had little to do with such emissions during most of this period. It is known that sunspots were either absent or very few during the depths of the Little Ice Age (the so-called Dalton and the more serious Maunder minimums), however, which suggests that the solar variations may be related to at least these longer term variations.

Some Major Inconsistencies in the Science of Global Warming that Need to Be Explained

Over about 60 year periods: In the last 120 years or more there has been a clear variation in global temperatures with roughly alternating warming and cooling periods each lasting about 30 years for a cycle length of about 60 years total. During this period, there is a fairly clear pattern of trends either up or down lasting about 30 years (see Figure 2-3). In a 30 year time-frame the trends, once started, appear to be remarkably uniform. The reasons for this cycle are not widely agreed on, but any attempt to explain global temperatures needs to explain these observations if it is to be credible. One strong possibility is oscillations in sea surface temperatures since changes in the direction of global temperatures seem to have a remarkable coincidence with at least some of these oscillations. Perhaps the most important of these cycles is the Pacific Decadal Oscillation (PDO), although others such as the Atlantic Multidecadal Oscillation (AMO) have been identified in other major oceanic areas. The PDO is a long-lived El Niño/La Niña-like pattern that is observed in the sea-surface temperatures (SST) of the Northern and Central Pacific Ocean. Positive (/negative) phases of the PDO are typified by warmer (/cooler) than normal temperatures in the North-eastern and a Tropical Pacific Ocean and cooler (/warmer) than normal temperatures in the region to the south-west of the Aleutian Islands (see Figure 2-2). It is important to note that while the El Niño/La Niña oscillation varies on a time scale of 4 – 5 years, the PDO variations are governed by a time scale that is much longer. The immediate point here is that both the PDO and global temperatures have recently turned negative in the last few years. Similarly, both turned positive in the 1970s. The reasons for this are speculative at best, but the correlation appears to be overwhelming for the period for which we have much data. One possibility is variations in solar output, but much more complicated hypotheses have been proposed (see, for example, Wilson, 2008). It is worth noting, however, that human concerns about climate change appear to have followed these PDO variations quite closely with concerns about global cooling and a possible new ice age near the end of the last PDO cooling period in the 1970s and concern about global warming in the 1990s and 2000s.

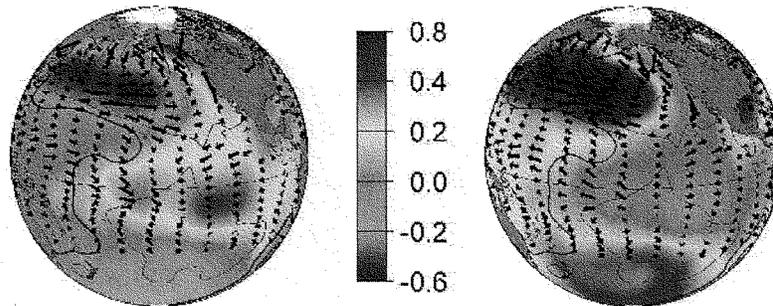


Figure 2-2: Pacific Ocean Water Temperatures during a positive and negative PDOs

Source: Wilson (2008), p. 23

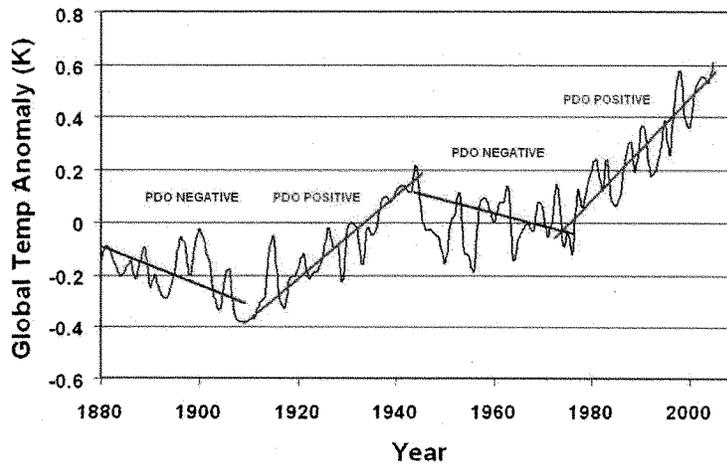


Figure 2-3: Sixty-year Cycle in Global Temperatures Showing Clear Trends

Over 3-5 year periods: There also appear to be a much shorter-term cycle and influences on global temperatures due to El Nino/LaNina (ENSO) oscillations and volcanic eruptions and perhaps other factors. These cycles are clearly evident in both the satellite (see Figure 2-7) and

Some Major Inconsistencies in the Science of Global Warming that Need to Be Explained

the ground data. There may be some argument as to their cause, but the evident similarity of these short-term cycles to the ENSO cycle is hard to ignore (see again Figure 2-7).

The climate is believed to be chaotic in nature and substantial year-to-year variations can be expected and have been observed. The surprising thing is actually how well ordered all these cycles actually seem to have been in terms of the available global temperature data.

Against this very complicated set of cycles and other factors that appear to influence global temperatures, those concerned about global warming in the 1990s and 2000s have put forth the hypothesis that the global warming since the 1970s has been due to increases in the global levels of carbon dioxide and other GHGs, and that these levels are a result of human-caused emissions of this compound. There is considerable evidence that increased levels of carbon dioxide may lead to higher global temperatures all things being equal. But are these increases the predominant reason? To explore this topic it is vital to see how well the increases in CO₂ relate to increases in temperature. This is what we will do in the next subsection.

2.3 Evidence for a Predominant Influence of Carbon Dioxide

A useful task is to explain these variations since that may provide clues as to what is influencing our current and future climate, and therefore what might be effective in reducing these fluctuations if that should be desired. Figure 2-4 shows global surface temperatures and CO₂ levels for the period 1880 to 2003. Hypotheses concerning the causation of temperature changes should be rejected if they do not explain at least recent satellite temperature history which appears to be the best available data, and should be replaced by alternative hypotheses that provide at least the possibility of offering such an explanation. Table 2-1 provides a comparison between the correlations between several factors and global surface temperature data over the last hundred years or so. Although this is a somewhat simplistic approach it suggests what the most important factors are in the order of their significance:

1. Ocean warming index (PDO and AMO)
2. Total solar irradiance
3. Carbon dioxide
4. Carbon dioxide last decade

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CO2 will be discussed in this section, solar variability in Section 2.5, and ocean oscillations in Section 2.5.

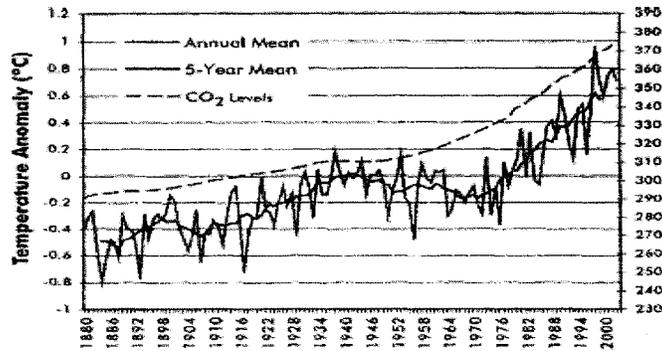


Fig. 4. Global temperature (left scale) from ground stations v.s. CO₂ concentration in ppm in atmosphere (right scale) from 1880–2003. Available at: www.GISS.NASA.gov. Accessed 2003.

Figure 2-4: Global Temperatures and CO₂ Levels, 1880-2003

Factor	Years	Correlation (Pearson Coefficient)	Correlation Strength (R-squared)
Carbon Dioxide	1895-2007	0.66	0.43
Total Solar Irradiance	1900-2004	0.76	0.57
Ocean Warming Index (PDO & AMO)	1900-2007	0.92	0.85
Carbon Dioxide Last Decade	1998-2007	-0.14	0.02

Table 2-1: Correlation between Global Temperatures and Various Single Explanatory Factors

Source: d'Aleo (2008)

Some Major Inconsistencies in the Science of Global Warming that Need to Be Explained

The problems become particularly evident when one examines the downtrend period from roughly 1940 through the early 1970s, shown in Figure 2-4, and that for the 2000s, shown in Figure 2-6. For both of these periods, there does not appear to be any relationship between CO₂ levels and global temperatures. Without fully understanding these relationships, or the lack thereof, it is difficult to understand the possible causes of these climate changes on the basis of the GHG/CO₂ hypothesis:

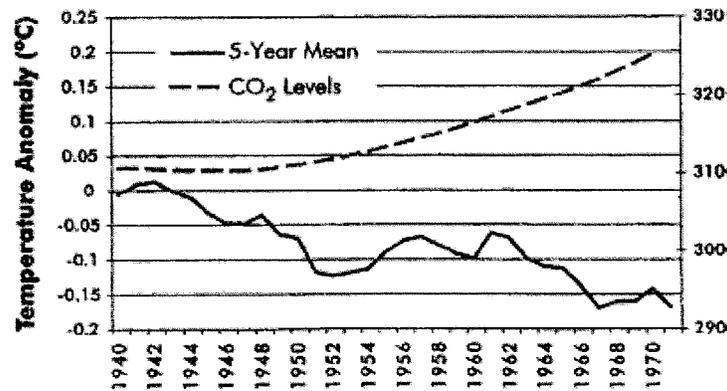
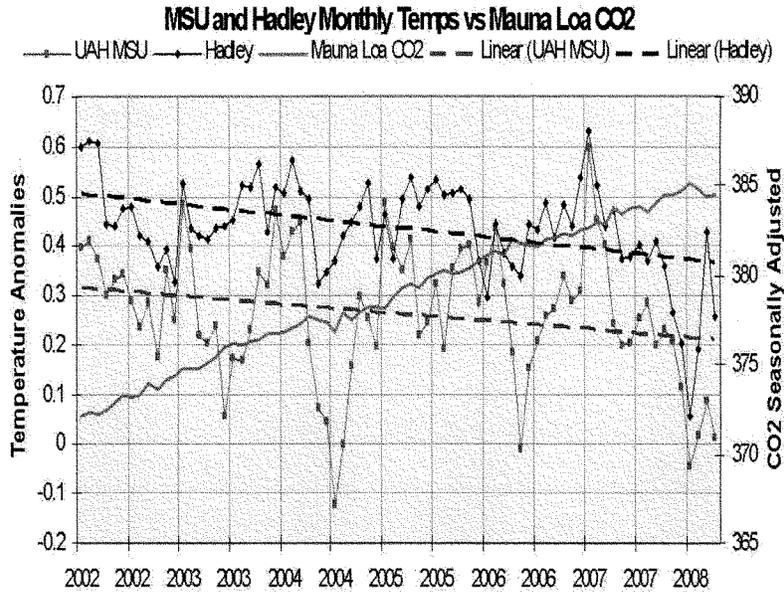


Fig. 1. Global temperature (left scale) from ground stations vs. CO₂ concentration in ppm in atmosphere (right scale) from 1940–1970. Available at: GISS.NASA.gov. Accessed 2003.

Figure 2-5: Global Surface Temperature Anomaly and CO₂ Levels, 1940-70⁴

⁴ Based on GISS data and reproduced from Joel M. Kauffman, "Climate Change Reexamined," *Journal of Scientific Exploration*, Vol. 21, No. 4, pp. 723–749, 2007.



Negative correlation since 2002
 $R = -0.4$ with Hadley, -0.21 with MSU

Figure 2-6: Global Temperature Anomalies and CO₂, 2002-8

Source?

It is very clear that the strongest correlation is between the ocean warming index (PDO + AMO) and temperature; the next strongest is with TSI, and the weakest is with CO₂. In fact, CO₂ alone has no explanatory power over the last decade according to this analysis.

It appears that over the last 130 years ambient CO₂ levels are believed by GISS to have risen whether or not global temperatures have risen with the exception of the early 1940s when they either plateaued or fell slightly. If as hypothesized by the IPCC and Draft TSD global

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temperatures are primarily a function of CO₂ levels it is very difficult to understand why temperatures fell from 1940 to 1975 and after 1998 at the same time that CO₂ levels were increasing since there were no major volcanic eruption during either of these periods. The CO₂ hypothesis does allow for the possibility of large volcanic eruptions, which cool the planet, but this does not appear to explain these two downturns in global temperatures. One possibility is that there may be other important factors at work determining global temperatures besides CO₂ levels.

2.4 Pacific Decadal Oscillation/Atlantic Multidecadal Oscillation and ENSO as Explanations for Global Temperature Changes

Perhaps the closest simple “explanation” for the observed changes in global temperatures is provided by the PDO and/or AMO together with ENSO. In fact, major changes in the PDO from positive to negative and back appear to coincide almost exactly with observed changes in global temperature trends over 20-30 year timeframes, as shown in Figure 2-2. Since this chart was prepared the temperature trend has been negative and the PDO has also gone negative.

⁵ Don Easterbrook (2008) reaches the following conclusions:

The IPCC prediction of global temperatures, 1° F warmer by 2011 and 2° F by 2038 (Fig. 1), stand little chance of being correct. NASA’s imagery showing that the Pacific Decadal Oscillation (PDO) has shifted to its cool phase is right on schedule as predicted by past climate and PDO changes (Easterbrook, 2001, 2006, 2007). The PDO typically lasts 25-30 years and assures North America of cool, wetter climates during its cool phases and warmer, drier climates during its warm phases. The establishment of the cool PDO, together with similar cooling of the North Atlantic Oscillation (NAO), virtually assures several decades of global cooling and the end of the past 30-year warm phase. It also means that the IPCC predictions of catastrophic global warming this century were highly inaccurate.

The switch of PDO cool mode to warm mode in 1977 initiated several decades of global warming. The PDO has now switched from its warm mode (where it had been since 1977) into its cool mode. As shown on the graph above, each time this had happened in the past century, global temperature has followed. The upper map shows cool ocean temperatures in

⁵ Watts blog

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blue (note the North American west coast). The lower diagram shows how the PDO has switched back and forth from warm to cool modes in the past century, each time causing global temperature to follow. Comparisons of historic global climate warming and cooling over the past century with PDO and NAO oscillations, glacial fluctuations, and sun spot activity show strong correlations and provide a solid data base for future climate change projections.

The Pacific Ocean has a warm temperature mode and a cool temperature mode, and in the past century, has switched back forth between these two modes every 25-30 years (known as the Pacific Decadal Oscillation or PDO). In 1977 the Pacific abruptly shifted from its cool mode (where it had been since about 1945) into its warm mode, and this initiated global warming from 1977 to 1998. The correlation between the PDO and global climate is well established. The announcement by NASA's Jet Propulsion Laboratory that the Pacific Decadal Oscillation (PDO) had shifted to its cool phase is right on schedule as predicted by past climate and PDO changes (Easterbrook, 2001, 2006, 2007). The PDO typically lasts 25-30 years and assures North America of cool, wetter climates during its cool phases and warmer, drier climates during its warm phases. The establishment of the cool PDO, together with similar cooling of the North Atlantic Oscillation (NAO), virtually assures several decades of global cooling and the end of the past 30-year warm phase.

Comparisons of historic global climate warming and cooling over the past century with PDO and NAO oscillations, glacial fluctuations, and sun spot activity show strong correlations and provide a solid data base for future climate change projections. As shown by the historic pattern of GDOs and PDOs over the past century and by corresponding global warming and cooling, the pattern is part of ongoing warm/cool cycles that last 25-30 years. The global cooling phase from 1880 to 1910, characterized by advance of glaciers worldwide, was followed by a shift to the warm-phase PDO for 30 years, global warming and rapid glacier recession. The cool-phase PDO returned in ~1945 accompanied by global cooling and glacial advance for 30 years. Shift to the warm-phase PDO in 1977 initiated global warming and recession of glaciers that persisted until 1998. Recent establishment of the PDO cool phase appeared right on target and assuming that its effect will be similar to past history, global climates can be expected to cool over the next 25-30 years. The global warming of this century is exactly in phase with the normal climatic pattern of cyclic

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warming and cooling and we have now switched from a warm phase to a cool phase right at the predicted time....

Just how much cooler the global climate will be during this cool cycle is uncertain. Recent solar changes suggest that it could be fairly severe, perhaps more like the 1880 to 1915 cool cycle than the more moderate 1945-1977 cool cycle. A more drastic cooling, similar to that during the Dalton and Maunder minimums, could plunge the Earth into another Little Ice Age, but only time will tell if that is likely.

One student of the subject (Ian Wilson, 2008) was so struck by the apparently strong relationship between the PDO and global temperatures that he has hypothesized a complicated explanation of global temperature changes and PDO changes involving length of year, planetary motions, and other factors. Whether or not his hypothesis is correct, the relationship between the PDO and global temperatures is so striking that it surely deserves much further research. Unfortunately, the IPCC reports do not consider or attempt to model PDO changes so this interesting possibility has not been explored by them. The Draft TSD needs to do so, however.

An interesting and important observation is that most of the shorter term variations in the satellite temperature data appear to be explained by the ENSO as can be seen in Figure 2-7 below which shows a surprising number of short term highs and lows marked as El Nino or La Nina. The PDO can be characterized as the envelope or larger, longer term ENSO. The effects of ENSO are illustrated in Figure 2-7 showing some of the widely acknowledged factors influencing temperatures at various times since 1978:

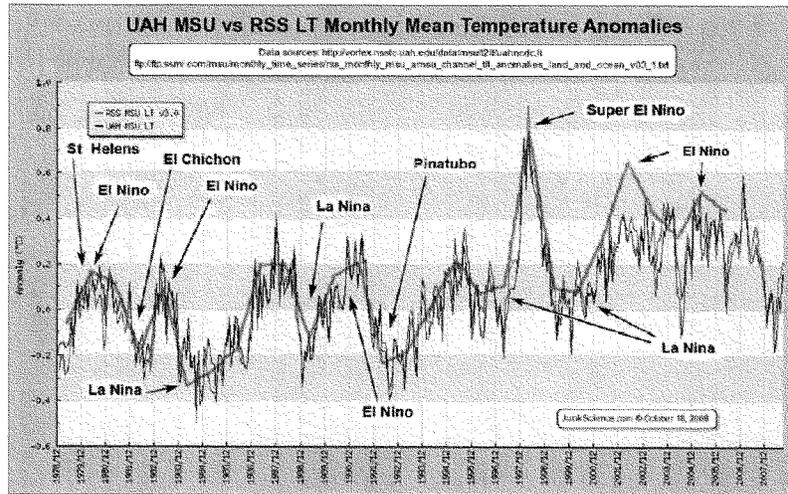


Figure 2-7: Common Identifications Made of Causes for Global Temperature Fluctuations

Source: Arrak (2009)

This graph is also very interesting in another respect. This is that if the data is examined without trying to draw a straight trend line from the beginning of the satellite data in 1978 until 1997 there is no indication that the data varies as a result of changes in GHGs. Rather the satellite data looks more like this:

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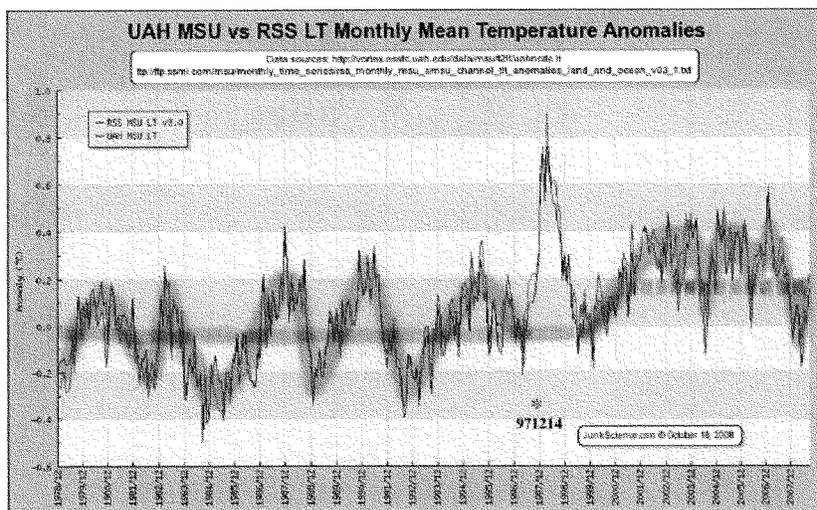


Figure 2-8: MSU Data with Addition of Center Lines

Source: Arrak (2009).

Drawing a straight trend line in many ways limits the options examined and even presupposes the GHG/CO₂/AGW hypothesis. Much better is to utilize more of the data by trying to fit a more robust pattern to it. Ambient CO₂ levels were increasing throughout this 1978-97 period yet global temperatures remained in a narrow band with little apparent increase. Further, the sharp spike in temperatures in 1998 appears highly unlikely to have been caused by changes in GHG levels since they vary only very slowly rather than exhibiting the sharp spike seen here. The reason for the 1998 spike and its possible after effects in the 1999-2006 period are unknown but would seem very important to learn about before assuming that it is related to changes in GHGs.⁶ Similarly, the period 1999 to 2006 shows another narrow but higher band of temperatures with no increase during the period. One possibility is that the elevated temperatures during this period were an after-effect of the sudden surge in 1998, perhaps caused by the sudden input of energy at that time. Finally, the period 2007-9 shows a strong downward trend in temperatures which is surely not related to steadily increasing GHG emissions and

⁶ Arno Arrak has suggested the possibility that the 1998 spike was due to gamma ray burst 971214, but he emphasizes that this is only a possibility.

atmospheric levels. Thus it is very hard to see any effect during the period 1978 to 2009 that can reasonably ascribed to changing CO₂ or GHG levels. This is in marked contrast with ground level measurements such as the HADCRUT series, which show a marked increase in temperatures throughout the period until 1998 (but not thereafter). One possible explanation for this apparent inconsistency between the HADCRUT and MSU data is that ground level measurements may inevitably be compromised by the urban heat island effects, which presumably increased rapidly during the period due to rapid urbanization in many parts of the world.

2.5 Solar Variability

Prior to the advent of the IPCC and interest in the effects of increasing CO₂, the predominant view appears to have been that variations in global temperatures over periods less than 100,000 years were primarily due to solar variability since the Sun is Earth's major source of heat and light. A number of researchers have studied this over the years, and they have found some apparent relationships between sunspot cycles and global temperatures. Some (prominently Svensmark, 1998) have even developed a hypothesis to explain this apparent relationship. This hypothesis is roughly as follows:

Solar variability has been studied for at least 400 years. The general conclusion prior to 1990 was that the Sun is the major driver but there was little agreement as to the exact mechanism. But starting in 1990, the IPCC instead attributed warming to GHGs/humans. In 1998, however, Svensmark suggested a mechanism for indirect solar variability effects. Now many or even most GW skeptics cite solar variability as the major cause and basis for their skepticism. In recent years there has been a furious debate/war on this issue. There has been some new research in recent years, however, some of which will be summarized in the following sections.

Predominant Views Prior to 1990

- ❖ "Earth's temperature often seems to correlate directly with solar activity: when this activity is high the Earth is warm"
- ❖ "During the famous 'Little Ice Age' during the 17th Century, the climate was notably cooler....This correlated with the Maunder Minimum on the sun, an interval of few sunspots and aurorae"

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- ❖ “In the 11th and 12th centuries, a “Medieval Maximum” in solar activity corresponded to the “Medieval Optimum” in climate”
- ❖ “The 20th century has been marked by generally increasing levels of solar activity”—
Hoyt and Schatten, 1997

Indirect Solar Variability May Be Major/Better Explanation than GHGs

Although Total Solar Irradiance (TSI) may not vary much, that does not rule out indirect effects of solar variability as the major cause of global climate changes. The impact of changes in solar eruptions, wind, and magnetic field may explain some or all known global climate changes during the Holocene together with volcanic eruptions. TSI even varies with sunspot cycles. Other researchers agree that solar variability may be related to temperature variations prior to mid-20th Century. Svensmark (1998) hypothesized that the Sun’s magnetic field varies with sunspots and determines the number of cosmic rays available to stimulate low level clouds on Earth.

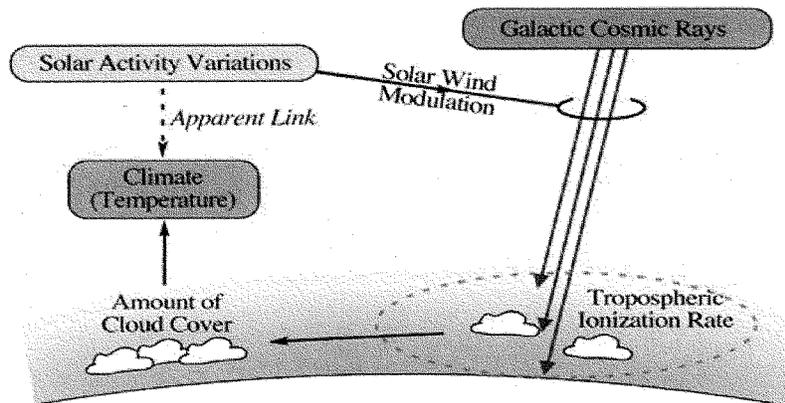


Figure 2-8 : One Interpretation of Svensmark Hypothesis⁷

2.5.1 CERN Study

In 2007 Jasper Kirkby of the CERN published a review article which reached the following major conclusions:

⁷ <http://www.sciencebits.com/files/pictures/climate/crcFig2.jpg>

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- ❖ “Over the last few years... diverse reconstructions of past climate change have revealed clear associations with cosmic ray variations recorded in cosmogenic isotope archives, providing persuasive evidence for solar or cosmic ray forcing of the climate.”
 - ❖ “The high correlation of the temperature variations in the $\Delta^{14}\text{C}$ record suggests that solar/cosmic ray forcing was a major driver of climate” [over the last 2000 years].
- ❖ “Two different classes of microphysical mechanisms have been proposed to connect cosmic rays with clouds:”
 - ❖ Production of cloud condensation nuclei
 - ❖ Global electrical circuit in the atmosphere and, in turn, on ice nucleation and other cloud microphysical processes.”
- ❖ “Considerable progress on understanding ion-aerosol-cloud processes has been made in recent years, and the results are suggestive of a physically-plausible link between cosmic rays, clouds and climate.”

His conclusions were based on a broad review of the evidence for GCR impact on climate using a number of different time periods and lines of evidence. The important points would appear to be the following:

- ❖ Galactic cosmic rays (GCRs) are strongly related to global temperatures
- ❖ Solar activity modulates GCRs reaching earth, with the modulation related to sunspot cycles

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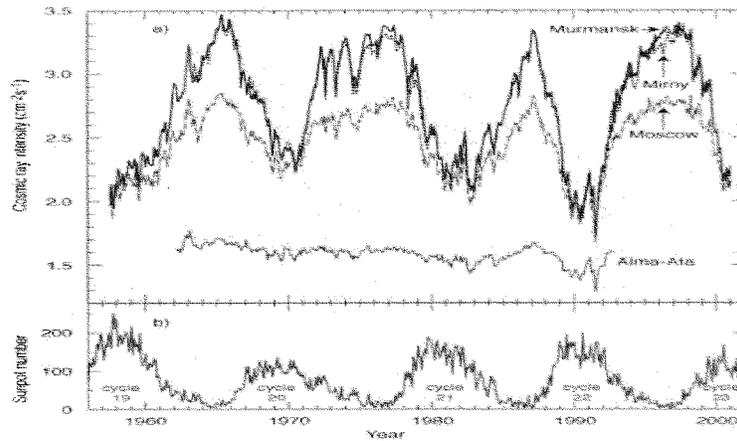


Figure 2-9: Solar Modulation of Galactic Cosmic Rays, 1957-2001

Source: Kirkby (2008)⁸

⁸ Mirny is in Antarctica. (a) based on balloon measurements of the cosmic ray intensity at shower maximum (15-20 km altitude) measured by the Lebedev Physical Institute. Based on CERN 2001-007, 41-62 (2001) and Babarykin et al (1964).

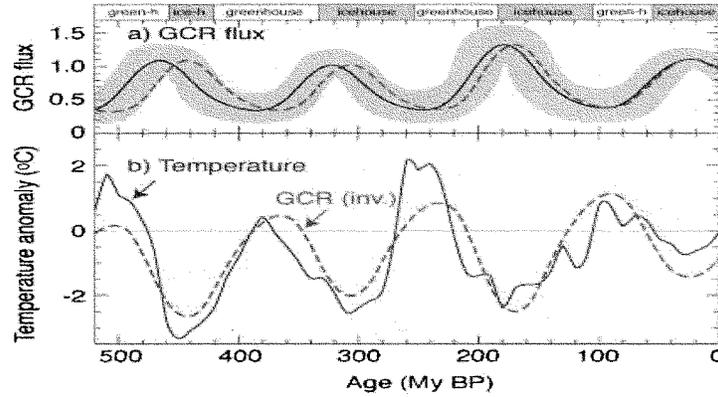


Figure 2-10: Galactic Cosmic Rays and Climate: Past 500 myr

Source: Kirkby (2008)

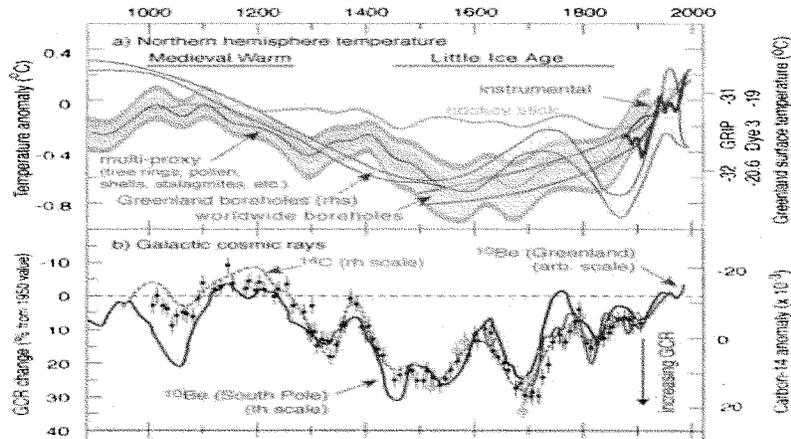


Figure 2-11: Galactic Cosmic Rays & Temperatures: Last 1100 yrs

Source: Kirkby (2008)

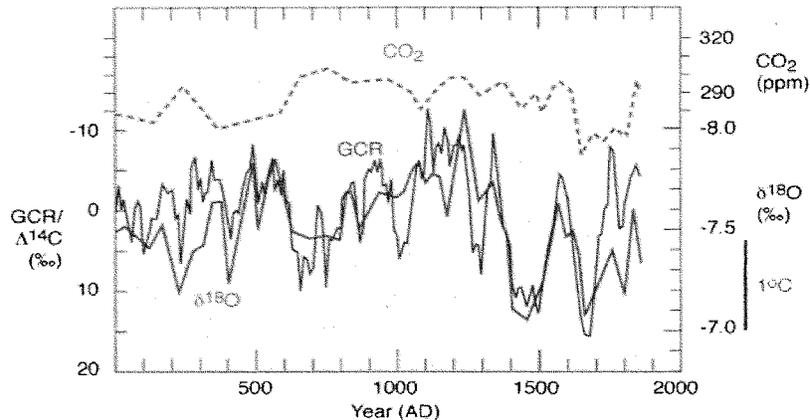


Figure 2-12: Temperature Reconstruction for the Central Alps over Last Two Millennia, Obtained from O-18 Composition of Speleothem from Spannagel Cave, Austria, Showing Little Relation to CO₂ Changes

Source: Kirkby (2008) based on Mangini et al. (2005)

2.6 Urban Heat Island Effects and Other Problems of Surface Temperature Measurements

It appears that there is another major influence on global temperature measurements—but significantly only for surface temperature measurements. This is the effect of rapidly expanding urbanization worldwide and a number of other factors that appear to be corrupting surface measurements. Because most surface measurements are made in urban areas there is a high risk that the urban heat island effect will influence the measurements made. This UHI effect is well known and well documented. Strong support for this effect can be found in the extreme divergence between surface and satellite temperature measurements. This is shown in Figure 2-13 below:

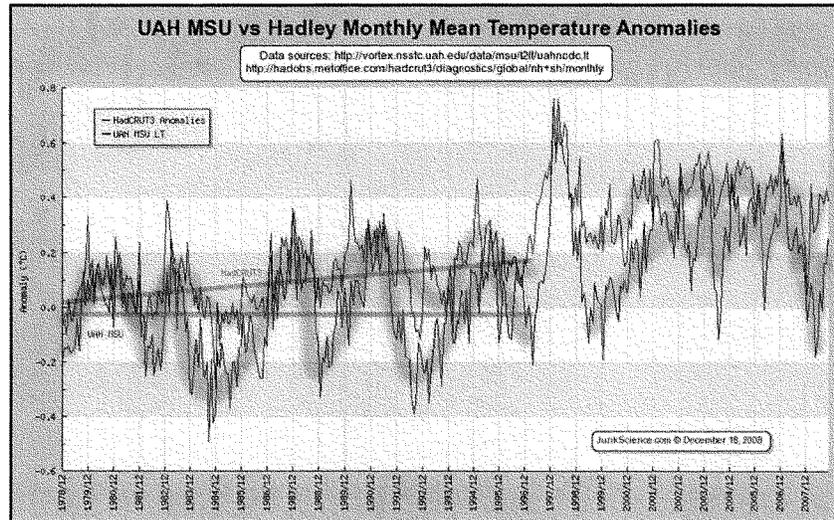


Figure 2-13: Satellite (UAH MSU LT) and land-based (HADCRUT3) Temperature Anomalies Compared

Source: Arrak (2009)

Note that the difference between the satellite and the ground data steadily increased during the 1978-97 period, at the same time that worldwide urbanization also increased. It is possible, of course, that the two approaches are measuring different things, so the comparison may be suspect for this reason, but the draft TSD needs to explain why there was no increase in lower troposphere temperatures during this long period. Without any, the case for GHG-caused temperature increases during this critical period is greatly weakened.

In addition to the problems of urbanization and the UHI, surface measurements also suffer from a number of other problems including major station dropout, missing data, bad siting, instruments with known warm biases being introduced without adjustment, difficulties in obtaining data from oceans and other areas with few monitors, and sometimes even black-box and man-made adjustments designed to maximize [reported] warming, as documented in great detail by Anthony Watts and others. Given these many problems it would appear to be much better to trust the satellite rather than the surface measurements even when carried out by neutral groups with the best of intentions. There are two satellite databases which appear to be

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in close agreement, unlike the surface measurement databases, which show significant differences between the HADCRUT and GISS.

One of the most obvious places to look to try to understand these variations during the Holocene including the two recent periods is to look at variations in the Sun, the source of Earth's heat and light. There are two possible types of solar variation. The first and most visible is direct variation, usually measured by Total Solar Irradiance (TSI). This is the variation of the sun's total radiation output. The second type of solar variance is often referred to as indirect since it involves the impact of solar variation on other aspects of Earth's climate system, which in turn affect global temperatures, among other things. The discussion here will start with direct effects and then proceed to indirect.

Direct Solar Variability

Most measurements show only small variations, usually about 0.1 percent, but it is not known how it may have varied before accurate measurements have become available. One important aspect of these variations is that they vary with the sunspot cycle, with the highest TSI roughly coinciding with the maximum number of sunspots.

Perhaps the best known aspect of solar variations and the place to start is sunspot cycles, shown in Fig. 2-13 over the last 400 years. The first thing to note is the amazing correspondence between the average number of sunspots and the global temperatures depicted in Fig. 2-11.

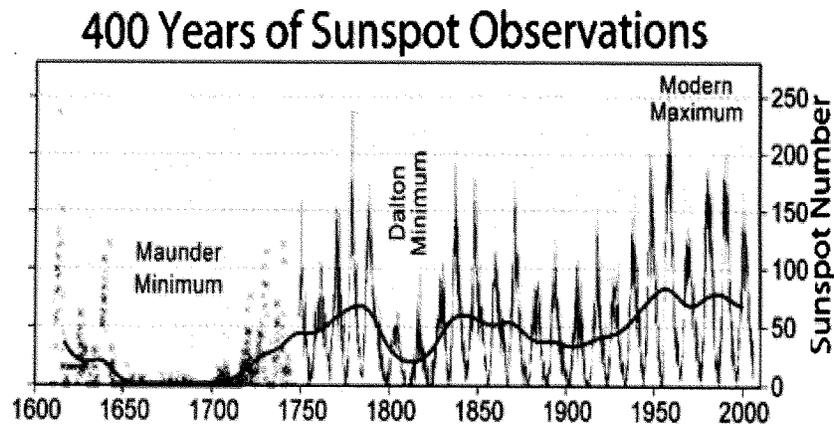


Figure 2-14: Relation of Sunspots (or Lack Thereof) to Little Ice Age Periods

Phil Chapman has made the following observation concerning the new sunspot cycle 24:⁹

The new cycle, No.24, was supposed to start several years ago, with a gradual build-up in sunspot numbers. It did not happen. The first Cycle 24 sunspot appeared in January 2008 and lasted only two days. Other minor ones have come and soon gone since then.

The reason this matters is that there is a close correlation between variations in the sunspot cycle and Earth's climate. The previous time a cycle was delayed like this was in the Dalton Minimum, an especially cold period that lasted several decades from 1790.

Northern winters became ferocious: in particular, the rout of Napoleon's Grand Army during the retreat from Moscow in 1812 was at least partly due to the lack of sunspots.

Whether the rapid temperature decline in 2007 coincided with the failure of cycle No.24 to begin on schedule is unknown but may be of interest.

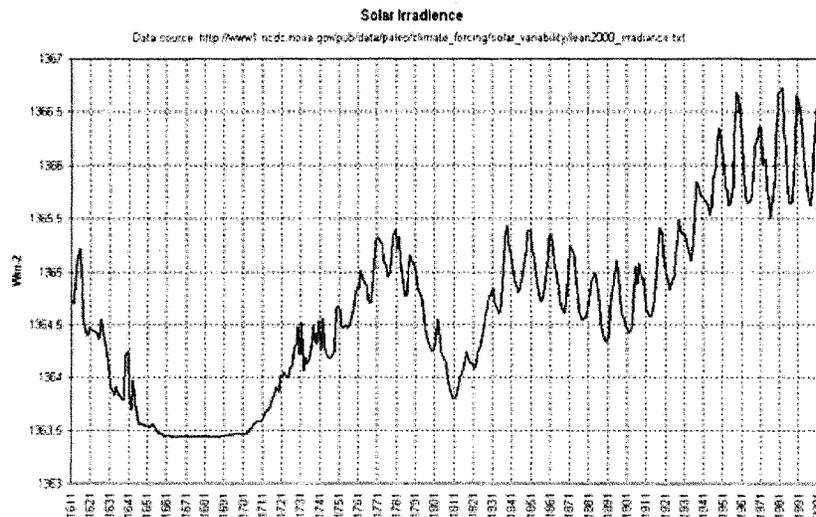
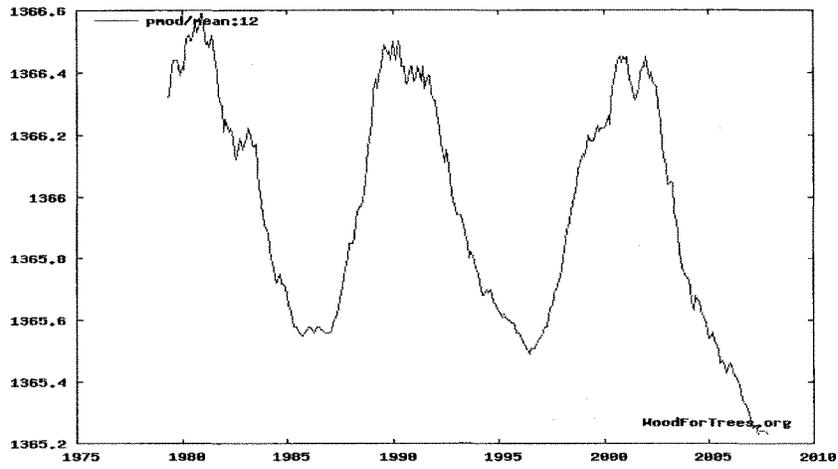


Figure 2-15: Solar Irradiance since 1611¹⁰

⁹ Phil Chapman, "Sorry to Ruin the Fun, but an Ice Age Cometh," *The Australian*, April 23, 2008.

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¹⁰ From <http://www.junkscience.com/Greenhouse/irradiance.gif>

Figure 2-15: Solar Irradiance since 1979 Showing the Recent Downward Trend¹¹

2.7 Summary of Evidence for CO₂ and Sun/Cosmic Ray Warming Hypotheses

Besides the most apparent comparisons between global temperatures and CO₂ levels, the CO₂ only and sun/cosmic ray hypotheses imply a number of predictions involving observable evidence. An interesting comparison of the predictions of the CO₂ and the sun/cosmic ray hypotheses with available data is the following:

Issue	Prediction - CO ₂ Hypothesis	Prediction - Sun/Cosmic Ray Hypothesis	Actual Data	Hypothesis Offering Best Explanation
Antarctic and Arctic Temperatures	Temperatures in the Arctic and Antarctic will rise symmetrically	Temperatures will initially move in opposite directions	Temperatures move in opposite directions	Sun/Cosmic Ray
Troposphere Temperature	Fastest warming will be in the troposphere over the tropics	The troposphere warming will be uniform	Surface warming similar or greater than tropospheric warming	Sun/Cosmic Ray
Timing of CO ₂ and Temperature Changes at End of Ice Age	CO ₂ increases then temperature increases	Temperature increases then CO ₂ increases	CO ₂ concentrations increase about 800 years after temperature increases	Sun/Cosmic Ray
Temperature correlate with the driver over last 400 years	NA	NA	Cosmic ray flux and Sun activity correlates with temperature, CO ₂ does not	Sun/Cosmic Ray
Temperatures during Ordovician period	Very hot due to CO ₂ levels > 10X present	Very cold due to high cosmic ray flux	Very cold ice age	Sun/Cosmic Ray
Other Planets' Climate	No change	Other planets will warm	Warming has been detected on several other planets	Sun/Cosmic Ray

¹¹ <http://www.woodfortrees.org/plot/pmod/mean:12>
From PMOD; SORCE solar irradiance instrument does not show the additional decline

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Source: Gregory (2009)

Gregory (2009) provides a much more detailed description of each of these issues and his basis for reaching the conclusions that he has. In contrast, the IPCC reports conclude that since the CSI variation is small therefore solar variability makes at most a very minor contribution to global temperature changes and can be safely ignored in most of their actual models and conclusions. This does not address the possibility, however, as hypothesized by Svensmark (1998), that there may be indirect pathways by which solar variability can have substantial effects on the Earth.

To the extent that Gregory has accurately captured the comparison, the sun/cosmic ray hypothesis appears to offer a much better explanation of all these comparisons. Gregory (2009) also compares the temperature increases predicted by the IPCC computer models during the 20th Century with the actual temperature increases and says that the predicted was 1.6 to 3.74°C while the observed was about 0.6°C. He comments that “a model that fails to history match is useless for predicting the future.”

2.8 Are Sunspot Cycles Telling Us Anything?

2.8.1 Sunspot Cycle 23 is Now Over 12 Years Old

Sunspot cycle 23 reached its 12th birthday in May, 2008. Cycle 22 was only 9.5 years long. There have only been three small and short-lived Cycle 24 spots to date. It is widely believed that the longer cycle 23 lasts and the later and weaker Cycle 24 is, the colder global temperatures will be. It is presently unknown how soon Cycle 24 will start and how strong it will be if and when it should start.

2.8.2 Penn and Livingston

In 2006, two astrophysicists, Penn and Livingston of the National Solar Observatory published a paper reporting on their measurements of the computed magnetic field from the Zeeman splitting of the Fe I 1564.8 nm line, shown for umbral spectra observed from 1998 through 2005. While there is a large variation between different sunspots, nonparametric tests confirm that the data show a highly significant trend. Mean values for each calendar year are shown as data points in Figure 2-16, and the error bars show the standard error of the mean. The best-fit linear function (fit to the original 906 data points) reveals a decrease in the average magnetic field strength of 52 G/yr. Magnetic field and intensity changes observed over time in

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the sunspot umbrae from different spots behave in the same way as the magnetic field and intensity changes observed spatially across single sunspots. If these trends continue the authors say that sunspots may vanish by 2015. Given the strong association between sunspots and global temperatures, this suggests the possibility that we may be entering a period of global cooling rather than warming. This possibility needs to be discussed in the Draft TSD.

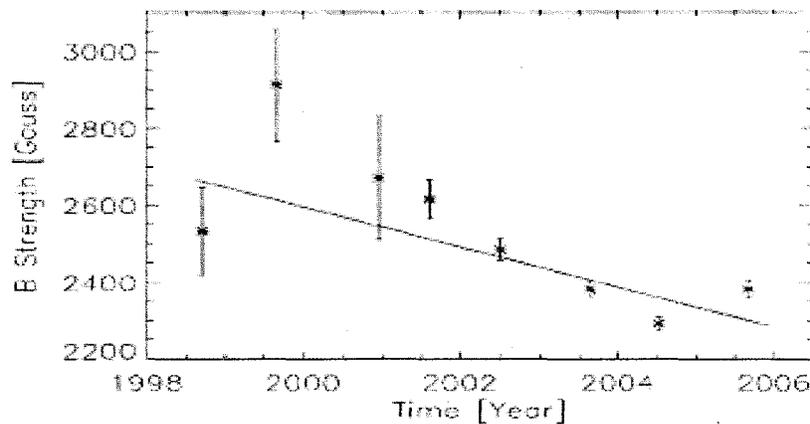


Figure 2-16: Decay in Sun's Magnetic Field since 1999

Source: Penn and Livingston (2006)

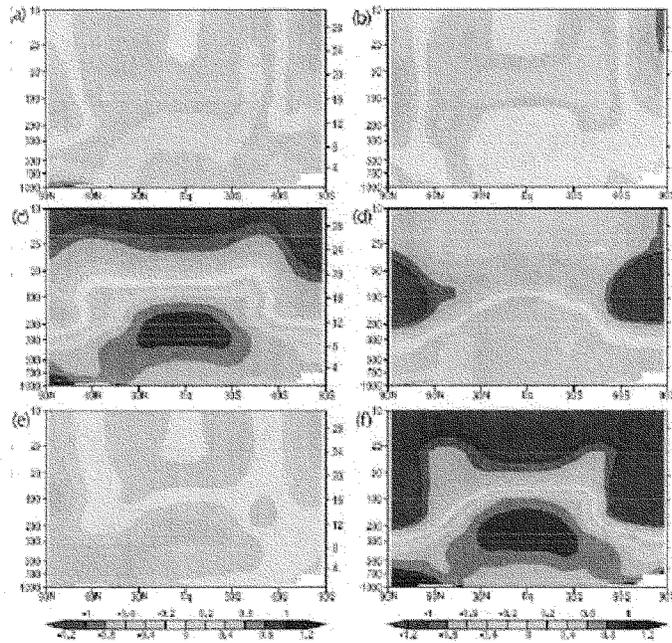
2.9 The Missing Heating in the Tropical Troposphere

Computer models based on the theory of GHG/CO₂ warming predict that the troposphere in the tropics should warm faster than the surface in response to increasing CO₂ concentrations, because that is where the CO₂ greenhouse effect operates. Sun-Cosmic ray warming will warm the troposphere more uniformly.

The UN's IPCC *AR4* report includes a set of plots of computer model predicted rate of temperature change from the surface to 30 km altitude and over all latitudes for 5 types of climate forcings as shown below.

Computer Model Predicted Temperature Change

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The six plots show predicted temperature changes due to:

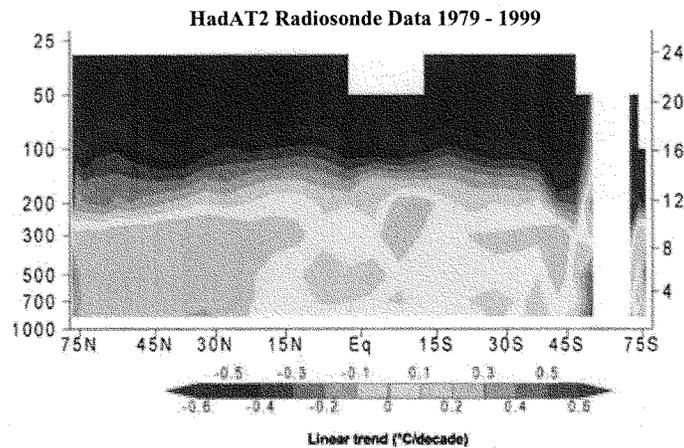
- a) Sun
- b) Volcanic activity
- c) Anthropogenic CO₂ and other greenhouse gasses
- d) Anthropogenic ozone
- e) Anthropogenic sulphate aerosol particles
- f) All the above forcings combined

The rate of temperature change is shown by the colour in degrees Celsius per decade. It is apparent that plot c) of warming caused by greenhouse gasses is strikingly distinct from other causes of warming. Plot f) is similar to plot c) only because the IPCC assumes that CO₂ is the dominant cause of global warming.

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The computer models show that greenhouse warming will cause a hot-spot at an altitude between 8 and 12 km over the tropics between 30 N and 30 S. The temperature at this hot-spot is projected to increase at a rate of two to three times faster than at the surface.

The Hadley Centre's real-world plot of radiosonde temperature observations shown below, however, does not show the projected CO₂ induced global warming hot-spot at all. The predicted hot-spot is entirely absent from the observational record. This shows that most of the global temperature change cannot be attributed to increasing CO₂ concentrations.



The left scale is atmosphere pressure in hPa. The right scale is altitude in km.

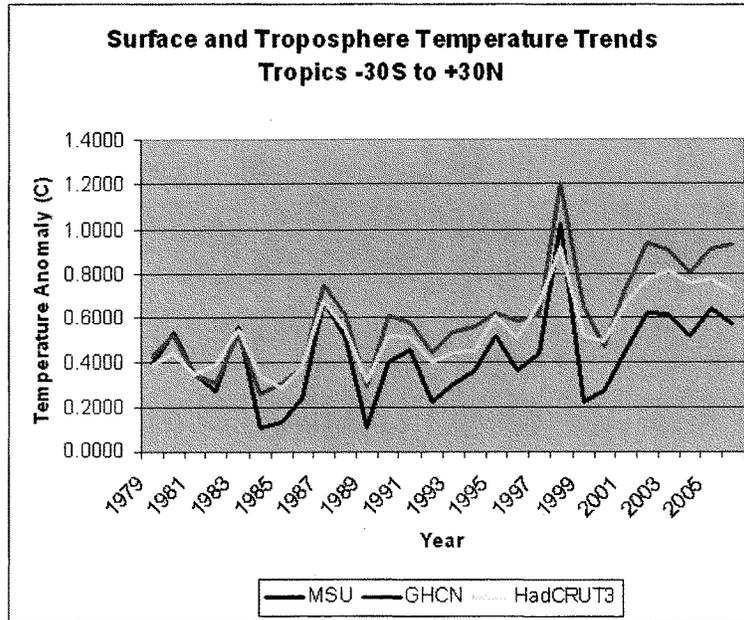
Source: HadAT2 radiosonde observations, from Santer et al. (2006), p. 116, fig. 5.7

This graph compares the annual temperatures of the troposphere to the surface measurements in the tropics from 30 degrees North to 30 degrees South.

The Draft TSD indeed notes that the lack of heating in the tropical troposphere is a problem but says that the data has been questioned. *While this is being sorted out or if it is never sorted out, the prudent thing to do is to assume that the data is correct and therefore that the hypothesis is invalid until shown otherwise by new and better science.* Not to do so is to take a major risk since otherwise very expensive remediation actions may be taken on the basis of a claim that data is questionable when it may indeed be correct. Our non-expert take on the data,

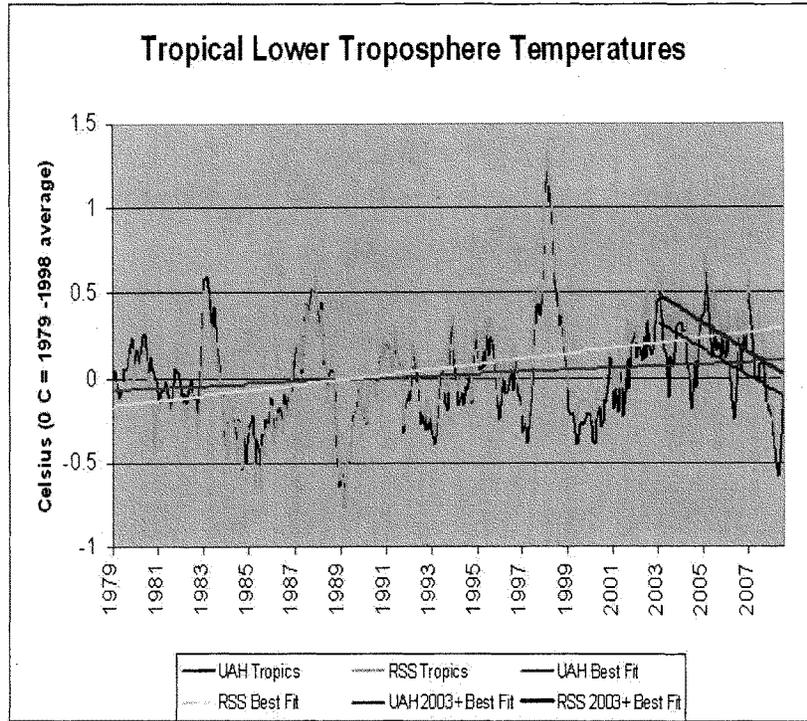
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for what it may be worth, is that it probably is correct given the widespread use of the methods used to gather it.



The MSU curve is the Microwave Sounding Unit satellite measurements. It measures the temperature of the troposphere up to approximately 8 km. The GHCN curve is the Global Historical Climatology Network data set of land surface temperatures from the National Climatic Data Center. The HadCRUT3 curve is the Land and Sea-Surface Temperatures data set from UK Met Office. The three curves are scaled so that the average of the first 5 years are the same.

A comparison of the records show that the surface has warmed faster than the troposphere, the opposite of what is predicted by the theory of CO₂ warming. Observations therefore agree with the Sun-Cosmic ray warming theory (Kirkby, 2007). The response of the troposphere temperatures in the tropics is sometimes called the fingerprint of the CO₂ contribution to warming.



This graph shows two analyses of Microwave Sounding Unit (MSU) satellite temperature measurement data of the troposphere over the tropics from 20 degrees North to 20 degrees South. The UAH analysis is from the University of Alabama in Huntsville and the RSS analysis is from Remote Sensing Systems. The two analyses use different methods to adjust for factors such as orbital decay and inter-satellite difference. The overall trend lines to July 2008 shows increasing temperatures at 0.06 C/decade for UAH and 0.15 C/decade for RSS. However, since January 2003, the temperatures have been declining at 0.76 C/decade for UAH and 0.83 C/decade for the RSS data. The IPCC projections do not agree with the data.

2.10 Another Possible Inconsistency: Do Changes in CO₂ Cause Changes in Temperature?

The IPCC (2007) argues that it is changes in ambient CO₂ levels that have and will largely determine temperature changes. A number of skeptics dispute this. One of their arguments is that changes in temperature have preceded changes in CO₂ by hundreds of years rather than the other way around over the last quarter million years (see Gregory, 2008, citing Caillon et al., 2003; and Singer, 2008, citing Fischer, 1999). They argue that this is incompatible with changes in CO₂ levels having any effect on temperature. According to Gregory (2009), “Logic demands that cause must precede effect. Increases in air temperature drive increases in atmospheric CO₂ concentration, and not vice versa.”

2.11 Conclusions with Regard to the Best Explanation for Global Temperature Fluctuations

The reason for this extensive review of some of the available science is to use it to derive some implications for the endangerment TSD. Several general conclusions stand out as a result of this analysis. These are based largely on inspection of the available surface and satellite data. Despite the complexity of the chaotic climate system the following conclusions appear to be well supported by the available data:

- A. What appears to be by far the best single explanation for global temperature fluctuations is variations in the PDO/ENSO. ENSO appears to operate in a 3-5 year cycle. PDO/AMO appear to operate in about a 60 year cycle.
- B. There appears to be a strong association between solar sunspots/irradiance and global temperature fluctuations. It is unclear exactly how this operates, but one possibility is through indirect solar variability such as the effect on cloud formation.
- C. Changes in GHG concentrations appear to have so little effect that it is difficult to find any effect in the satellite temperature record, which started in 1978.
- D. The surface measurements (HADCRUT) are more ambiguous than the satellite measurements in that the increasing temperatures shown since the mid-1970s could either be due to the rapid growth of urbanization and the heat island effect or by the increase in GHG levels or by other measurement problems. However, since no such increase is shown in the satellite record it appears more likely that urbanization and the

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UHI effect are the most likely cause. If so, the increases may have little to do with GHGs and everything to do with the rapid urbanization during the period. Given the discrepancy between surface temperature records in the 1940-75 and 1998-2008 and the increases in GHG levels during these periods it appears even more unlikely that GHGs have much effect on measured surface temperatures either. These points need to be very carefully and fully discussed in the draft TSD since they bear directly on the plausibility of the GHG/CO₂ hypothesis.

- E. Hence it is not reasonable to conclude that there is any endangerment from changes in GHG/CO₂ levels based on the satellite record, since almost all the fluctuations appear to be due to natural causes and not human-caused pollution as defined by the Clean Air Act. The surface record is more equivocal but needs to be carefully discussed with all its nuances.
- F. There is a significant possibility that there are one or more other natural causes of global temperature fluctuations that we do not yet fully understand and which may account for the 1998 temperature peak which appears on both the satellite and surface temperature records. This possibility needs to be fully explained and discussed in the Draft TSD.

Resolving the remaining uncertainties would appear to be of great importance before a endangerment TSD is finalized on the assumption that the GHG/CO₂ only hypothesis is correct. The important factors affecting global temperatures may include any of the three hypothesized in this section or all of them or others not discussed here or even others not currently understood. We do not currently have sufficient evidence to determine which, if any, are of importance and how important each might be. The currently favored GHG/CO₂ only hypothesis does not explain a number of aspects of the available data so it alone appears unlikely to be the sole explanation. There is an urgent need to update and improve on the IPCC reports by taking an independent perspective and including new information not included in their reports concerning all the factors summarized above.

3. Contrast between Continuing Improvements in US Health and Welfare and their Alleged Endangerment Described in the draft TSD

One of the problems with the EPA's Endangerment TSD is the nearly complete disregard of observed trends in a wide array of measures which by and large show that despite decades of increasing anthropogenic greenhouse gas emissions the U.S. population does not seem to have been adversely affected by any vulnerabilities, risks, and impacts that may have arisen (to the extent that any at all have actually occurred as the result of any human-induced climate changes).

For instance, despite the overall rise in U.S. and global average temperatures for the past 30 years, U.S. crop yields have increased (Figure 3-1), the population's sensitivity to extreme heat has decreased (Figure 3-2), and our general air quality has improved (Figure 3-3). Further, there has been no long-term increase in weather-related property damage once changes in inflation, population size, and population wealth are accounted for (an essential step in any temporal comparison). All of these trends are in the opposite sense from those described in the EPA's Endangerment TSD.

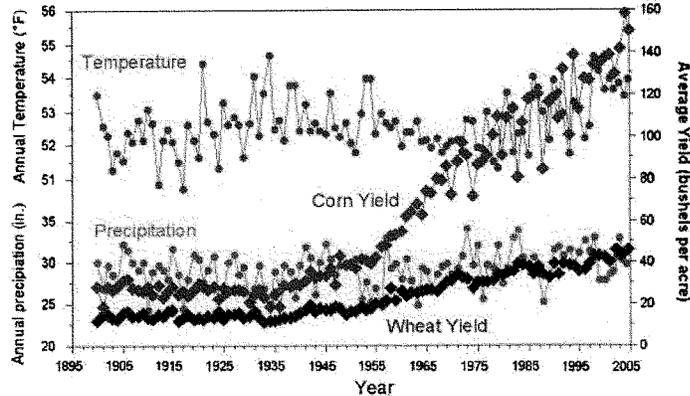


Figure 3-1: Yields of Major Cash Crops such as Corn and Wheat

Data sources: NCDC, USDA

Average Annual Heat-Related Mortality

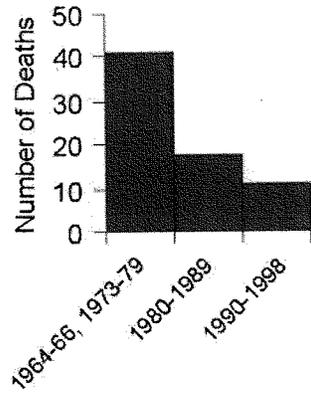


Figure 3-2. Average Annual Heat-Related Mortality Per Standardized Million People in the U.S.

(Source: Davis et al., 2003).

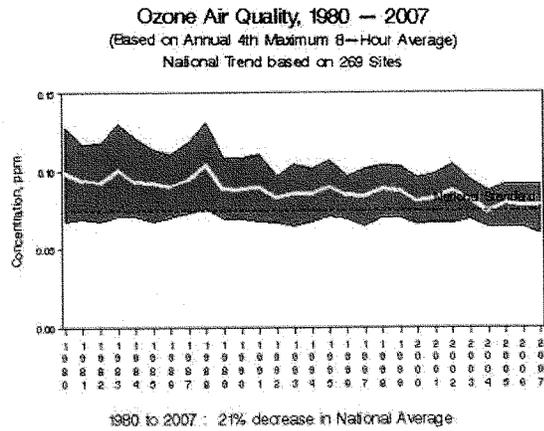


Figure 3-3. Trends in ozone air quality

Some Major Inconsistencies in the Science of Global Warming that Need to Be Explained

Source: <http://www.epa.gov/airtrends/ozone.html>

Perhaps, most significant of all, the average lifespan of Americans has increased (Figure 2-5).

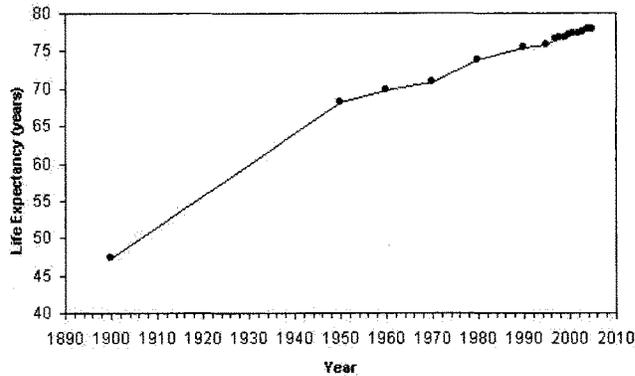


Figure 3-5: Life Expectancy at Birth in the U.S.

Source: [http://www.cdc.gov/nchs/data/07.pdf#027](http://www.cdc.gov/nchs/data/hus/07.pdf#027)

What better measures of human health and welfare are there? In fact, there is no better way to obtain a good picture of how human health and welfare may trend in the future under increases in greenhouse gas emissions than to assess how we have fared in the past during a period of increasing greenhouse gas emissions and ambient levels. True, hurricanes will strike again in the future and cause a great deal of damage and suffering. But that will largely occur because our climate is one which includes hurricanes. The same is true for tornadoes, droughts, floods, heat-waves, cold outbreaks, strong thunderstorms, heavy rains, hail, lightning, snowstorms, blizzards, freezing rain, etc. Those are all aspects of our climate.

Climate *change* may alter the strength, path, or frequency of these events—lessening some and increasing others. But to the large part, our nation’s climate in the future will be made up of the same characteristics as it is today.

4. Detailed Comments by Draft TSD Part and Section

This is the section that has suffered most from the very short review time allowed for EPA offices to comment.

4.1 Executive Summary

Page ES-7, new separate paragraph anywhere on the page: Based on the Sections 1.7 and 2 above we suggest adding the following paragraph:

Despite the IPCC and CCSP reports there is substantial evidence that the factors most closely correlated with temperature changes are the following:

2. Oceanic climate oscillations, particularly PDO, AMO and ENSO
3. Solar variability
4. Carbon dioxide

There are a number of inconsistencies between the GHG/CO₂/AGW hypothesis and available observed data that make this hypothesis scientifically invalid unless they can be resolved:

1. Lack of observed upper tropospheric heating in the tropics
2. Lack of observed constant humidity levels, a very important assumption of all the IPCC models, as CO₂ levels have risen
3. Satellite data show no appreciable temperature increases during the period 1978-1997, just when the surface station data show a pronounced rise (see Section 2.5). Satellite data after 1998 is also inconsistent with the GHG/CO₂/AGW hypothesis
4. The models used by the IPCC do not take into account or show the most important ocean oscillations which clearly do affect global temperatures, namely, the Pacific Decadal Oscillation, the Atlantic Multidecadal Oscillation, and the ENSO. Leaving out any major causes for global warming from the analysis results in the likely misattribution of the effects of these oscillations to the GHGs/CO₂ and hence is likely to overstate their importance as a cause for climate change.
5. The models and the IPCC ignored the possibility of indirect solar variability, which if important, would again be likely to have the effect of overstating the importance of GHGs/CO₂.

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6. The models and the IPCC ignored the possibility that there may be other significant natural effects on global temperatures that we do not yet understand. This possibility invalidates their statements that one must assume anthropogenic sources in order to duplicate the temperature record. The 1998 spike in global temperatures is very difficult to explain in any other way.

Page ES-7, lines 13-8: This paragraph is misleading in several ways and can be made much more accurate and less misleading if reworded as follows:\

Warming of the climate system was unequivocal in the first half of the 20th Century and between 1997 and 1998. Cooling, however, occurred from about 1940 and 1975 and after 1998. The period from 1978 to 2007 is in doubt because surface measurements show an increase while satellite data show little if any change during this period. Global mean surface temperatures rose by 0.74°C during the 20th Century, but have declined since 2008, particularly when satellite data is used. The cause of a sudden upward blip in temperatures in 1998 is uncertain but appears to be too rapid to ascribe to changes in GHG/CO2 concentrations.

Page ES-7, lines 25-30: The cited temperature changes are misleading at best. There is a profound difference between surface and satellite measurements which is not discussed. Satellite data shows no significant change between 1978 and 2008 and thus does not support the view that there was an increased rate of warming in the last 30 years. In fact, it says that there has been no appreciable change. As discussed in Section 2.5 above there are strong reasons to believe that the satellite data is more accurate so any statement along these lines needs to carefully explain the differences between the measurement approaches and explain why one is superior to the other. It is also misleading to quote changes since 1900 since it is highly unlikely that GHG changes were appreciable before 1940.

4.3 Part III

Section 5: Page 38, lines 21-2: The Draft TSD does not explain the serious problems with depending on computer-based climate models as the primary tools for simulating the likely patterns of response of the climate system to different forcing mechanisms. Gary (2009), reproduced in part in Section 1.7 above, for example, explains these limitations in considerable detail and concludes that it is impossible to use them for the purpose that the IPCC used them for. These limitations are crucial to any assessment of the results these models produced and

need to be explicitly described in the Draft TSD. We believe that the following language would be appropriate, but suspect that you can craft better language:

Skillful initial-value numerical weather forecasts currently cannot be made for more than about two weeks into the future. This is because any imperfect representations of the highly non-linear parameters of the atmosphere-ocean system tend to quickly degrade (the so-called butterfly effect) into unrealistic flow states upon integration of longer than a week or two. Skillful short-range prediction is possible because there tends to be conservation in the initial value momentum-pressure fields which can be skillfully extrapolated or advected for a week or two into the future. But after 1-2 weeks, one must deal with the far more complex variation of the moisture and energy fields. Model results soon decay into chaos.

If skillful GCM forecasts were possible for a longer period of a season to a few years, many would be eager to track their skill. Currently, GCMs do not make official seasonal or annual forecasts. People do not dare to issue these forecasts because they know they are not skillful and would quickly lose their credibility if they gave real time forecasts that could actually be verified. It therefore appears highly unlikely that we should trust GCM climate forecasts 50 and 100 years into the future (that cannot be verified in our lifetime) when these same models are not able to demonstrate shorter range forecast skill.

Section 5: Page 38, lines 22-4: This sentence only discusses the positive aspects of using the models but not the negative ones as suggested above. This sentence is at best misleading because it does not mention that the models used some not yet accepted physical principles as well as accepted ones. The most important example is the indirect assumption that relative humidity levels will be unchanged by increased CO2 levels. Recent research (for example, Paltridge, 2009 and Gray, 2009) does not support this assumption and in fact finds that humidity is decreased, which has an important effect on the model predictions. In addition, "their ability to reproduce observed features of current climate and past physical changes" shows nothing more than that the models were made to fit past and current data available when they were run. The test for these models is not what they show for past outcomes but for future periods when there is no data to fit the models. As shown in Figure 1-2 above, there is already considerable doubt as to how well they are able to do this. Our alternative language would be as follows:

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Although the models use a number of accepted physical principles they also make other assumptions, particularly with regard to humidity levels with added CO₂, that do not correspond with current observations (Paltridge, et al., 2009). Furthermore, the ultimate test of these models, whether they can accurately predict the future, and the current data suggests that they have greatly overestimated global temperatures in the last few years since the latest IPCC report was issued [attach Figure 1-2 from Section 1 above here]. This does not prove the models to be wrong, but suggests the need for caution in applying the IPCC model results and further study.

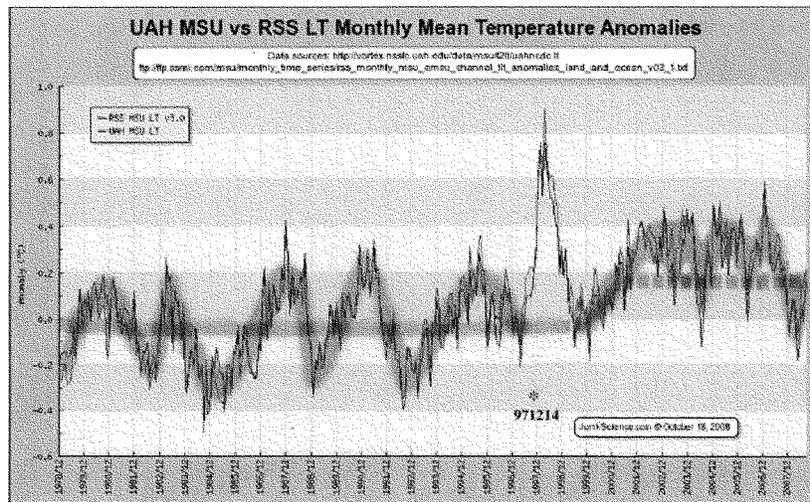
Section 5, Page 38, lines 24-28: Neither the IPCC nor the TSD explore the possibility that indirect solar variability, urban heat island effects, increasing urbanization, monitoring station dropouts, missing temperature data, bad siting, instruments with known biases introduced without adjustment, the difficulties of obtaining representative data from oceans and other areas with few monitors, and possibly even black-box and man-made adjustments to maximize reported warming have occurred in the case of surface stations. In addition, neither the IPCC nor the TSD have explored the effects of the Pacific Decadal Oscillation, the Atlantic Multidecadal Oscillation or the ENSO may also explain all or some of the global temperatures and forcings. Our proposed alternative language is as follows:

Although there have been some efforts made to learn whether observed changes in global temperatures are consistent with the model results, many alternative explanations have not received the scrutiny they deserve, including indirect solar variability (Kirkby, 2007), urban heat island effects, increasing urbanization, monitoring station dropouts, missing temperature data, bad station siting, instruments with known biases introduced without adjustment, the difficulties of obtaining representative data from oceans and other areas with few monitors, and possibly even black-box man-made adjustments to maximize reported warming that may have occurred in the case of surface stations, the Pacific Decadal Oscillation, the Atlantic Multidecadal Oscillation, and the ENSO. These possible alternative explanations need urgent attention by independent analysts.

Section 5, Page 38, lines 30-2: It may be true that such studies exist, but there are others who find much more ambiguous results. See Section 1.7 above discussing the research by Scafetta et

al., 2008 and 2009 and the extended discussion of the satellite global temperature data in Section 2.4 suggesting much smaller or possibly no influence from the growth of GHG levels. Our proposed alternative language is as follows:

Although a CCSP study (Karl et al., 2006) found evidence of human influences on the climate system by using patterns of observed temperature change, recent work by Scaffeta and others (2008 and 2009) found that solar irradiance has increased more than previously thought and that all or much of the change in global temperatures may be attributable to non-human sources. In addition, a review of satellite global temperature data suggests that few if any of the changes observed appear likely to be the result of the gradual increase in GHGs, as shown in the following graph:



Drawing a straight trend line as is often done in many ways limits the options examined. It is much better is to utilize more of the data by trying to fit a more robust pattern to it. Ambient CO₂ levels were increasing throughout this 1978-97 period yet global temperatures remained in a narrow band with little apparent increase. Further, the sharp spike in temperatures in 1998 appears highly unlikely to have been caused by changes in

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GHG levels since they vary only very slowly rather than exhibiting the sharp spike seen here. The reason for the 1998 spike and its possible after effects in the 1999-2006 period are unknown but would seem very important to learn about before assuming that it is related to changes in GHGs. Similarly, the period 1999 to 2006 shows a higher shows another narrow but higher band of temperatures with a slight negative trend during the period. One possibility is that the elevated temperatures during this period were an after-effect of the sudden surge in 1998. Finally, the period 2007-9 shows a strong downward trend in temperatures which is surely not related to steadily increasing GHG emissions and atmospheric levels. Thus it is very hard to see any effect during the period 1978 to 2009 that can reasonably ascribed to changing CO₂ or GHG levels. This is in marked contrast with ground level measurements such as the HADCRUT series which show a marked increase in temperatures through 1998 (but not thereafter). One possible explanation for this apparent inconsistency between the HADCRUT and MSU data is that ground level measurements may inevitably be compromised by the urban heat island effects which presumably increased rapidly during the period due to rapid urbanization in many parts of the world. Until the significant differences between the surface and satellite data in the critical 1978 to 1997 period are better understood it would appear premature to reach any conclusions as to GHG endangerment.

Section 5, Page 39, lines 17-19: But others indicate just the opposite, as discussed above. Our suggested rewording would be as follows:

Climate modeling simulations run by the IPCC, shown in Figure 5.1, suggest to them that natural forcings alone cannot explain the observed warming (for the globe, the global land, and global oceans) and that the observed warming can only be reproduced with models that contain both natural and anthropogenic forcings. This, however is contrary to the findings of Scafetta and others (2008 and 2009) and for the reasons discussed in the previous entry do not appear to apply to satellite data for the period 1978-2008.

Section 5, Page 39, lines 20-21, Figure 5.1: For the reasons discussed in Section 2.5 above, this Figure has some very serious problems which need to be carefully explained to avoid misleading the reader. It appears that this Figure is based on surface (as stated in the header) rather than

satellite lower troposphere data. The difference needs to be pointed out along with an explicit comparison with the satellite data. Then there needs to be a discussion of the relative merits of satisfying either the satellite data or the surface data. As it is the reader has no idea that there is such a large difference between the two and to ask the obvious question as to why and which one he/she rely on (see Section 2.4 for a discussion of all this). In fact, unlike the surface data the satellite data cannot reasonably be explained by possible anthropogenic causes. Perhaps that is why it is not used here. Our suggestions for revision [although not the specific proposed language in this case] would be as follows:

Add a second row of graphs for the satellite data comparing it in the same way with each of the three cases. Also include a graph showing Figure 2-7 above and explicitly explain the extreme difficulty of explaining this data assuming anthropogenic causes (see Section 2.4 above for the detailed explanation). Finally, carefully explain the advantages and disadvantages of relying on the two data sources, including the severe reliability problems posed by the surface data because of urban heat island effects, increasing urbanization, monitoring station dropouts, missing temperature data, bad station siting, instruments with known biases introduced without adjustment, the difficulties of obtaining representative data from oceans and other areas with few monitors, and possibly even black-box man-made adjustments to maximize reported warming that may have occurred in the case of surface stations. Conclude by saying that this means that there is a great need to fully understand the reason for the differences between the two data sets before reaching any conclusions as to the anthropogenic causes of the warming that occurred in the period 1978 to 2007. Also mention the severe drop in temperatures since the summer of 2007, which does not appear to be accounted for by the models. There is also a need to note exactly which natural forcings the IPCC used and to point out that they did not use PDO/AMO, ENSO, and indirect solar variability, despite their potentially great importance as causes of global temperature changes.

Section 5, Page 40, lines 1-3: This sentence probably needs a comma after “temperatures” to be clear.

[add text if time permits]

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Section 5, Page 40, lines 5-7: This is a curiously worded statement that ignores the argument (see Section 2.10 above) that Antarctic ice cores show that at temperature minimums, CO₂ increases follow temperature increases by about 800 years. This suggests the following revised wording:

Analyses of paleoclimate data show that CO₂ increases follow temperature increases rather than the other way around (Fischer et al., 1999) and (Caillon, 2003). This strongly suggests that CO₂ may not be causing higher temperatures, but rather that higher temperatures cause a rise in CO₂ levels (which is logical given the reduced capacity of water to hold CO₂ at higher temperatures).

Section 5, Page 40, lines 9-12: Once again, the Draft TSD and presumably the IPCC ignore the following possible “natural causes” so it is difficult to take this statement seriously: including indirect solar variability (Svensmark et al., vvv), urban heat island effects, increasing urbanization, monitoring station dropouts, missing temperature data, bad station siting, instruments with known biases introduced without adjustment, the difficulties of obtaining representative data from oceans and other areas with few monitors, and possibly even black-box man-made adjustments to maximize reported warming that may have occurred in the case of surface stations, the Pacific Decadal Oscillation, the Atlantic Multidecadal Oscillation, and the ENSO. It also does not mention the Scafetta and others (2008 and 2009) studies which reach a different conclusion.

Section 5, Page 40, lines 18-46 in Figure 5.2: This graph suffers from all the same problems as Figure 5.1 and needs to be revised in an analogous way as proposed above. It once again uses surface temperatures and ignores the important comparison with satellite data during the years for which it is available. There is also no reason to omit the important data since 2000. Reliance on the satellite data would probably contradict most of the quoted conclusions in lines 4-11 of page 40, but we have not had sufficient time to actually obtain and analyze the North American data given the short time given for our review.

Section 5, from line 39 on page 40 to line 2 on page 41: This is a very important caveat but it is important for the reader to understand just how important it is. As mentioned in the quote from Richard Feynman in Section 2.? Above, good science requires that even a single inconsistency

between an hypothesis and real world data should invalidate the hypothesis. Until this question of possible errors in the data is resolved (and in our view there is actually very little question that it is correct—and hence the hypothesis invalid) it would appear inappropriate to reach any conclusions on whether the hypothesis is correct. This also would be a good point to discuss the atmospheric relative humidity problem discussed above in Section 1.7 since this is a similar problem which also appears to invalidate the GHG/CO2 hypothesis assuming that the data is correct (it appears to us to be). So our suggested revision would be to add the following at the end of line 2:

The question posed here is a matter of great scientific importance because failure of any detail of a hypothesis to explain the observed data invalidates the hypothesis until it may be revised so that it conforms with the observed data (Feynman, 197?). Given this, the hypothesis is not ready to be used for policy purposes until this issue is fully resolved. This is not the only such problem with the hypothesis; a similar one is the fact that balloon monitoring shows that atmospheric relative humidity has fallen in recent years at the same time that CO2 concentrations have risen. Since the models all assume in one way or another that this is not the case, and this assumption is the basis for the all important positive feedback from water vapor, this problem is another one which needs to be resolved before any finding of endangerment is made (Gray, 2009, Miskolczi, 2007, and others).

Section 5, Page 41, lines 32-7: It is odd that the draft TSD pays such attention to the Southern and Northern Annular Modes here given the obvious relationships between ENSO and PDO/AMO in explaining global temperature changes (see Section 2.4 above for a detailed discussion). This might be a good point to explain all this by using the text in Section 2.4 above so that the reader can easily see how global temperatures are apparently affected by these natural oscillations. Figure 2-3 would be particularly important to include in this regard.

Section 5, Page 41, lines 39-45: As discussed in Section 1.4 above, this paragraph appears to be somewhat outdated. We suggest the following alternative language:

Although anthropogenic influences may have contributed to Tropical Atlantic hurricane behavior, the tide of opinion on this subject may be changing. Gutowski et al. (2008), as

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cited in the CCSP (2008i) report find evidence suggesting a human contribution to recent hurricane activity, but emphasize that more research is needed. Vecchi et al. (2008) suggest that empirical evidence is insufficient at the current time to draw a distinction between natural and anthropogenic causes. However, if one were to turn to purely physical arguments or to the latest state-of-the-science dynamical calculations from high temporal and spatial resolution modeling efforts, one would begin to gather enough weight to start to tip the scale in the direction of natural cycles. Vecchi et al. (2008) lay out these lines of evidence and summarize their conclusions in the following figure:

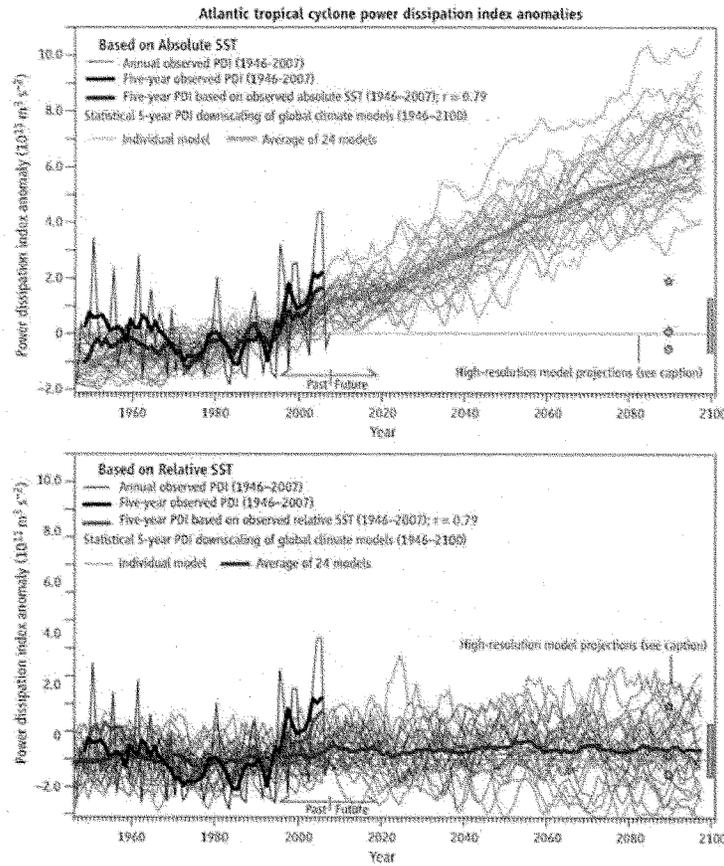


Figure 5.?. Observed Tropical Cyclone Activity in Atlantic Basin, 1946-2007 (Black Lines) and Fit to Absolute Tropical Atlantic SST (Thick Brown Line, Top) and Relative Tropical Atlantic SST (Thick Light Blue Line, Bottom)

Climate model projections to the year 2100 based upon the observed tropical cyclone/absolute SST relationship (orange lines, top) and observed tropical cyclone/relative SST relationship (blue lines, bottom). The projections made by high resolution dynamic hurricane models are indicated by the green symbols on the right of each chart (see Vecchi et al., 2008 for additional details).

The top chart in Figure 5.7 shows a cumulative measure of annual Atlantic tropical cyclone activity (thick black line), a statistical fit to the observed activity using absolute tropical Atlantic SSTs (thick brown line) and the climate model projections of the future Atlantic tropical cyclone activity based upon that statistical fit (thin orange line are individual model projections, the thick orange line is the model average). Clearly, under this scenario, Atlantic hurricane activity is projected to increase dramatically in the future driven by anthropogenic global warming. The bottom chart of Figure 5.7 shows the results of the scenario in which Atlantic tropical cyclone activity (thick black line) is driven by relative changes in the tropical Atlantic SSTs (thick light blue line). Climate model projections of this relationship are indicated by the thin dark blue lines and the thick blue line model average. In this scenario, global warming has little impact on Atlantic tropical cyclone activity.

The current “best thinking” as to the impact of global warming on Atlantic tropical cyclone activity from high resolution dynamical hurricane models is indicated by the elements in green (stars, squares, triangles, bars) at the far right-hand side of each chart. In each case, the high-resolution model results fall within the spaghetti of the model projections depicted in the bottom chart and not within the spaghetti of the top chart. This implies that our best hurricane models are lending their support to side maintaining that there is little impact from global warming, and instead, tropical cyclones are largely modulated by natural variability.

Obviously, there is still a lot of work that needs to be done in the arena of hurricane modeling before this issue can be cleared up, which is the primary message that Vecchi et al (2008) want you to take home with you, but, along the way, Vecchi et al. (2008) strongly demonstrate that based upon what we now know, it seems that natural multi-decadal oscillations in the climate of the Atlantic Ocean trump anthropogenic global warming, when it comes to being the dominant driver of 20th and 21st century Atlantic hurricane activity.

4.4 Part IV

Section 7, Page 64, or elsewhere in Section 7: It is important to note that human lifespans in the US have been steadily increasing during the entire 20th Century despite rising GHG/CO₂ levels,

Detailed Comments by Draft TSD Part and Section

as shown in Figure 3-2 above, so if there has been an endangerment, it must have been a very minor one. We also suggest inclusion of this Figure in the TSD.

Section 8, Page 70, or elsewhere in Section 8: It is important to note that ozone levels in the US have been steadily increasing during the entire 20th Century despite rising GHG/CO2 levels, as shown in Figure 3-3 above, so if there has been an endangerment, it must have been a very minor one. We also suggest inclusion of this Figure in the TSD.

Section 9, Page 75, or elsewhere in Section 9: It is important to note that crop yields in the US have been irregularly increasing during the entire 20th Century despite rising GHG/CO2 levels, as shown in Figure 3-1 above so if there has been an endangerment, it must have been very minor at most. We also suggest inclusion of this Figure in the TSD.

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About the Comments

This comments have been prepared by Alan Carlin in the National Center for Environmental Economics (NCEE) in the EPA Office of Policy, Economics, and Innovation. Considerable assistance has been received from John Davidson of NCEE although the views expressed do not necessarily represent his views.

FRED UPTON, MICHIGAN
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA
RANKING MEMBER

ONE HUNDRED TWELFTH CONGRESS
Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6115

Majority (202) 225-2927
Minority (202) 225-3641
February 1, 2011

The Honorable Lisa P. Jackson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Jackson:

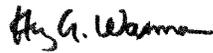
We are writing to request your assistance with documenting the effects of the Clean Air Act on the nation's public health, environment and economy.

Since 1970, the Clean Air Act has reduced key air pollutants by 60%, while at the same time the economy grew by over 200%. Over the last forty years, the Act has allowed millions of Americans to lead healthier, more productive, and longer lives.

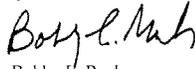
Unfortunately, some are now arguing that this landmark law is an attack on jobs and the economy. This argument flies in the face of exhaustive work done by the agency to examine the positive effects of the Act. For example, EPA's most recent analysis under section 812 has found that the Clean Air Act will deliver nearly \$2 trillion in benefits by 2020 – exceeding the costs of the Act by more than 30 to 1. Moreover, trading the health of American families for industry cost savings is an approach that Congress has always rightfully rejected.

To assist us in addressing these issues, we would appreciate it if you could provide us with your best information regarding the effects of the Clean Air Act on job creation and economic growth. Given that Congress could begin debating Clean Air Act amendments as soon as this month, we ask that you respond no later than February 7th. Should you have any questions, please have your staff contact Alexandra Teitz of the Committee Staff at 202-225-4407.

Sincerely,



Henry A. Waxman
Ranking Member
Committee on Energy and Commerce



Bobby L. Rush
Ranking Member
Subcommittee on Energy and Power



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FEB 08 2011

THE ADMINISTRATOR

The Honorable Henry A. Waxman
Ranking Member
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515-6115

The Honorable Bobby L. Rush
Ranking Member
Subcommittee on Energy and Power
Committee on Energy and Commerce
Washington, DC 20515-6115

Dear Congressman Waxman and Congressman Rush:

Thank you for your February 1 letter about the role that implementing the Clean Air Act plays in American job creation and economic growth. The Environmental Protection Agency's Office of Policy has completed the enclosed white paper in response to your inquiry. The balance of this letter includes highlights from that paper.

The EPA's priority is safeguarding the health of the American people. Implementing the Clean Air Act in service to that imperative strengthens the American economy. It does so by saving millions of American adults and children from the debilitating and expensive illnesses that occur when smokestacks and tailpipes release unrestricted amounts of harmful pollution into the air that all of us breathe. In 1990 alone, EPA's implementation of the Act prevented an estimated 18 million child respiratory illnesses, 850,000 asthma attacks, 674,000 cases of chronic bronchitis, and 205,000 premature deaths.¹ The mere monetary value of saving Americans from those harms through implementing the Clean Air Act is projected to reach \$2 trillion in 2020 alone.² Over the period from 1990 through 2020, the monetary value to Americans of the Act's protection is projected to exceed the cost of that protection by a factor of more than 30 to 1.³

In addition to lowering healthcare costs, increasing productivity, and saving lives, the EPA's implementation of the Clean Air Act's public health protections creates American jobs. Updated standards for cutting harmful air pollution at American facilities spur investments in the

¹ EPA, *Section 812 Retrospective Analysis: The Benefits and Costs of the Clean Air Act, 1970 to 1990*, October 1997 (http://www.epa.gov/oar/sect812/1970-1990/chptr1_7.pdf).

² EPA, *Section 812 Prospective Analysis: The Benefits and Costs of the Clean Air Act, 1990 to 2020*, August 2010 (<http://www.epa.gov/oar/sect812/aug10/fullreport.pdf>).

³ *Id.*

design, manufacture, installation, and operation of pollution-reducing technologies. Those activities create jobs for Americans across a wide range of industrial professions and crafts. Many power plants and factories slated to receive job-creating, pollution-reducing upgrades to meet updated Clean Air Act standards are located in the same highly industrialized regions where unemployment currently is particularly high. Importantly, jobs installing or operating pollution controls at American facilities cannot be sent abroad. Data from the International Brotherhood of Boilermakers indicates that the number of boilermakers in the United States increased by 6,700 – or 35 percent – from 1999 to 2001 as a result of the EPA’s standards to implement the Clean Air Act.⁴ The Institute of Clean Air Companies estimates that preparations to comply with just one of those standards have occupied approximately 200,000 person-years of labor over the past seven years.⁵

It has been reported that American companies are currently holding record amounts of cash, but are not investing it in ways that increase employment, such as improvements to their facilities.⁶ The EPA’s updated public health safeguards under the Clean Air Act will encourage investments in labor-intensive upgrades that will put currently unemployed or under-employed Americans back to work. In fact, economists have noted that environmental spending is more labor intensive than many other business expenditures.⁷

The EPA’s implementation of the Clean Air Act is one of the reasons for the dramatic growth of the U.S. environmental technologies industry and its workforce. By 2008, that industry was generating approximately \$300 billion in annual revenues and directly supporting nearly 1.7 million jobs.⁸ Air pollution control equipment alone generated revenues of more than \$18 billion in 2007.⁹

Environmental technology exports also strengthen the U.S. trade balance, generating a \$11 billion surplus in 2008.¹⁰ Those exports have grown dramatically, from less than \$10 billion in 1990 to \$43.8 billion in 2008, and the U.S. share of foreign environmental technology markets has been increasing.¹¹ Just from 2002 to 2004, America’s exports of environmental technology to China grew by 125 percent.¹² The Heads of the European Environmental Agencies projected

⁴ International Brotherhood of Boilermakers, *Boilermaker Labor Analysis and Installation Timing*, March 2005, EPA Docket OAR-2003-0053 (docket of the Clean Air Interstate Rule).

⁵ November 3, 2010 letter from David C. Foertner, Executive Director of the Institute of Clean Air Companies, to Senator Thomas R. Carper (http://www.icac.com/files/public/ICAC_Carper_Response_110310.pdf).

⁶ See, e.g., Justin LaHart, “Companies Cling to Cash: Coffers Swell to 51-Year High as Cautious Firms Put Off Investing in Growth,” *The Wall Street Journal*, December 10, 2010.

⁷ Richard D. Morgenstern, William A. Pizer, and Jhih-Shyang Shih, “Jobs Versus the Environment: An Industry-Level Perspective,” *Journal of Environmental Economics and Management*, May 2002, Vol. 43, no. 3, at 412-436.

⁸ Environmental Business International, Inc., *Environmental Business Journal*, April 2010 (<http://web.ita.doc.gov/ete/eteinfo.nsf/068f3801d047f26e85256883006ffa54/4878b7e2fc08ac6d85256883006c452c?OpenDocument>).

⁹ U.S. Department of Commerce International Trade Administration, *Environmental Technologies Industries: FY2010 Industry Assessment* ([http://web.ita.doc.gov/ete/eteinfo.nsf/068f3801d047f26e85256883006ffa54/4878b7e2fc08ac6d85256883006c452c/\\$FILE/Full%20Environmental%20Industries%20Assessment%202010.pdf](http://web.ita.doc.gov/ete/eteinfo.nsf/068f3801d047f26e85256883006ffa54/4878b7e2fc08ac6d85256883006c452c/$FILE/Full%20Environmental%20Industries%20Assessment%202010.pdf)).

¹⁰ *Id.*

¹¹ *Id.*

¹² U.S. Department of Commerce International Trade Administration, *Energy and Environment Export News*, August 2005 (<http://www.ita.doc.gov/media/publications/pdf/eeen02.pdf>).

in 2005 that the annual world market for environmental goods and services would surpass \$700 billion by 2010, making it comparable to the aerospace and pharmaceutical industries.¹³ America currently leads the world in this industry. We should not forfeit the lead or miss out on the extraordinary opportunity to continue supplying the world with environmental technology stamped "Made in the USA."

In sum, the EPA's work to implement the Clean Air Act's public health protections creates American jobs and bolsters the global competitiveness of American industry, even as it lowers healthcare costs and protects American families from birth defects, illnesses, and premature death.

Thank you again for your letter. If you have any further questions, please do not hesitate to contact me or to have your staff contact David McIntosh, Associate Administrator for Congressional and Intergovernmental Relations, at (202) 564-0539.

Sincerely,



Lisa P. Jackson

Enclosure

cc: The Honorable Fred Upton
Chairman, Committee on Energy and Commerce

The Honorable Ed Whitfield
Chairman, Subcommittee on Energy and Power
Committee on Energy and Commerce

¹³ Network of Heads of the European Environment Protection Agencies, *The Contribution of Good Environmental Regulation to Competitiveness*, November 2005 (http://www.eea.europa.eu/about-us/documents/prague_statement/prague_statement-en.pdf).

Empirical evidence regarding the effects of the Clean Air Act on jobs and economic growth

This White Paper responds to a request dated February 1, 2011, from Congressmen Waxman and Rush. The purpose of the White Paper is to highlight relevant findings from the economics literature on the connection between environmental regulation – specifically, the Clean Air Act – and employment and economic growth in the United States.

Introduction

The purpose of the Clean Air Act is to protect the health and welfare of the American public. In addition, before being promulgated, regulations undergo a rigorous analysis overseen by the Office of Information and Regulatory Affairs. This includes looking for opportunities to increase health benefits as well as ways to lower costs and increase flexibility for businesses, to the extent allowable by statute. For the Clean Air Act in particular, the economic benefits from public health protection have been shown to greatly outweigh the costs. For example, in 1990 alone, the Clean Air Act (CAA) prevented an estimated 18 million child respiratory illnesses, 850,000 asthma attacks, 674,000 cases of chronic bronchitis, and 205,000 premature deaths.¹ The monetary value of these public health protections are projected to reach \$2 trillion in 2020 alone. Over the period from 1990 through 2020, the monetary value to Americans of the Act's protection is projected to exceed the cost of that protection by a factor of more than 30 to 1.²

Nonetheless, there have been concerns about the impacts of the Clean Air Act on jobs and economic growth. This white paper addresses some of those concerns and reaches the following conclusions: (1) The Clean Air Act has provided tremendous economic benefits to the U.S. economy over the last 40 years by protecting public health, (2) clean air regulations promote job creation in some sectors of the economy that focus on environmental protection, offsetting the impacts on regulated sectors; and (3) the costs of pollution abatement are a very small fraction of total manufacturing costs and research has found that they play a negligible part in plant location decisions and have a very small impact on employment.

The Clean Air Act Protects Public Health and Supports Economic Growth.

Pollution and the associated impacts impose real costs on the economy which can slow economic growth and reduce the productivity of the workforce. Reduced pollution and the associated improved health mean fewer missed days at work and school, and lower expenses for health care. Protecting children from neurotoxins leads to workers with higher IQ. For example, in 1990, the Clean Air Act (CAA) prevented an estimated 18 million child respiratory illnesses, 850,000 asthma attacks, 674,000 cases of chronic bronchitis, and 205,000 premature

¹ EPA, *Section 812 Retrospective Analysis: The Benefits and Costs of the Clean Air Act, 1970 to 1990*, October 1997 (accessed February 8, 2011)

² USEPA (2010). *The Benefits and Costs of the Clean Air Act: 1990 to 2020. Revised Draft Report*. Prepared by the USEPA Office of Air and Radiation August 2010. Table 5-5. <http://www.epa.gov/air/sect812/aug10/fullreport.pdf> (accessed February 8, 2011).

deaths.³ Just last year, the Clean Air Act is estimated to have saved over 160,000 lives; avoided more than 100,000 hospital visits; prevented millions of cases of respiratory problems, including bronchitis and asthma; enhanced productivity by preventing 13 million lost workdays; and kept kids healthy and in school, avoiding 3.2 million lost school days due to respiratory illness and other diseases caused or exacerbated by air pollution.⁴ In addition, protecting ecological resources can increase the value they provide to the economy (e.g., reducing acid rain protects forest ecosystems).

In addition to healthier and more productive workers, lower air pollution translates into lower health care expenditures. Studies of environmentally-related illness provide an indicator of the costs of not regulating – or the potential benefits to be gained from regulating. Landrigan et al. (2002) estimated the contribution of environmental pollutants to the costs of pediatric disease in American children. Although they looked at only a subset of types of illness, and noted that there were uncertainties, they were able to conclude that the health care cost savings are potentially large. To quote:

“Total annual costs are estimated to be \$54.9 billion (range \$48.8-64.8 billion): \$43.4 billion for lead poisoning, \$2.0 billion for asthma, \$0.3 billion for childhood cancer, and \$9.2 billion for neurobehavioral disorders. This sum amounts to 2.8 percent of total U.S. health care costs.”⁵

The improvements in public health benefits that result from the Clean Air Act translate into tremendous economic benefits. Those benefits to the economy that can be monetized were estimated at \$1.3 trillion in 2010 and are projected to reach \$2 trillion by 2020, outweighing estimated costs by more than 30 to 1.⁶ Over the two-decade period from 1990 to 2020, the Clean Air Act is estimated to deliver the present-value equivalent of \$12 trillion dollars in net benefits, even without monetizing all of the health and welfare benefits.⁷

Recent Clean Air Act regulations have continued to have benefits that outweigh the costs. In its Reports to Congress in 2008, 2009 and 2010 on the Benefits and Costs of Federal Regulations,⁸ OMB examined ten EPA regulations finalized in those years (seven of which were Clean Air Act regulations). All ten rules had benefits greater than costs (comparing midpoints of the range of benefits and costs.) As a group, total benefits were 7 times greater than costs.

³ EPA, *Section 812 Retrospective Analysis: The Benefits and Costs of the Clean Air Act, 1970 to 1990*, October 1997 http://www.epa.gov/oar/sect812/1970-1990/chptr1_7.pdf (accessed February 8, 2011)

⁴ USEPA (2010). *The Benefits and Costs of the Clean Air Act: 1990 to 2020. Revised Draft Report*. Prepared by the USEPA Office of Air and Radiation August 2010. Table 5-5.

⁵ Landrigan PJ, Schechter CB, Lipton JM, Fahs MC, and Schwarz J. 2002. Environmental Pollutants and Disease in America’s Children: Estimates of Morbidity, Mortality, and Costs for Lead Poisoning, Asthma, Cancer, and Developmental Disabilities. *Environmental Health Perspectives*. Vol 110, No 7, pp 721-8.

⁶ USEPA (2010). *The Benefits and Costs of the Clean Air Act: 1990 to 2020. Revised Draft Report*.

⁷ Non-monetized benefits include health effects from air toxics, UVb exposure, chronic respiratory diseases other than chronic bronchitis, and many ecosystem benefits.

⁸ http://www.whitehouse.gov/omb/inforeg_regpol_reports_congress (accessed February 8, 2011)

A series of studies led by Dale Jorgensen at Harvard found that implementing the CAA actually increased the size of the US economy. The study used information on the actual expenses incurred in the US to implement the CAA for the period 1970-1990, and the estimated benefits (avoided damages) that accrued from improvements in human health and welfare because of the reduced emissions of air pollutants. These adverse health and welfare effects appear in several ways in the study's economic model. Without the Clean Air Act implementation, the predicted increase in air pollution levels results in adverse effects on the productivity of the US workforce (restricted activity, lost work days, fatalities). Higher air pollution levels place other demands on the US economy, including increasing expenditures on medical care (hospital visits, other medical expenses), additional education expenses to compensate for diminished IQ levels, and other expenditures to address increased soiling and ecological damages (e.g., adverse effects on yields of agricultural crops). Researchers found that, while requiring pollution abatement does divert capital investment from other uses, even after accounting for this spending, the lower demand for health care and the more productive workforce actually increased the size of the economy.

The study concluded that:

- The 1970 CAA provides sustained, long-run net economic benefits.
- By 2010, the model results estimated that GDP was as much as 1.5% higher as a consequence of enactment of the CAA.⁹

In a similar exercise, EPA and contractors, under the review of EPA Science's Advisory Board, conducted a prospective study that simulated how the economy changed as a result of implementation of the Clean Air Act from 1990 to 2020. This study also shows net improvements in GDP over time, despite the fact that GDP (as a measure of economic output) fails to capture much of the value of health benefits to society as a whole.¹⁰

Impacts of the Clean Air Act on Employment

Economic research has shown that a proper assessment of employment impacts must consider how firms respond to regulations. Regulated firms often hire workers to produce more environmental control -- in the same way that they hire workers to produce more output. In fact, reducing pollution tends to be more labor intensive than producing many commodities. For example, Morgenstern et al. (2002) examined four heavily regulated industries (pulp and paper, refining, iron and steel, and plastic) and concluded:

“We find that increased environmental spending generally does *not* cause a significant change in employment. Our average across all four industries is a net gain of 1.5 jobs

⁹ Dale W. Jorgenson Associates (2002a). *An Economic Analysis of the Benefits and Costs of the Clean Air Act 1970-1990. Revised Report of Results and Findings*. Prepared for USEPA, National Center for Environmental Economics, Washington, DC. August 2001, with Appendices January 2002 and Welfare Revision August 2002). <http://yosemite.epa.gov/ee/epa/ee/nsl/vwRepNumLookup/EE-0565?OpenDocument> (accessed February 8, 2011)

¹⁰ USEPA (2010). *The Benefits and Costs of the Clean Air Act: 1990 to 2020. Revised Draft Report*. Prepared by the USEPA Office of Air and Radiation August 2010. <http://www.epa.gov/air/sect812/aug10/fullreport.pdf> (accessed February 8, 2011).

per \$1 million in additional environmental spending.... These small positive effects can be linked to labor-using factor shifts and relatively inelastic estimated demand.”^{11 12}

A recent peer-reviewed study (2008) by Bezdek, Wendling, and DiPernab found that this spending on environmental protection (EP) can be powerful. They find:

“Contrary to conventional wisdom, EP, economic growth, and jobs creation are complementary and compatible: Investments in EP create jobs and displace jobs, but the net effect on employment is positive. Second, environment protection has grown rapidly to become a major sales-generating, job-creating industry—\$300 billion/year and 5 million jobs in 2003. Third, most of the 5 million jobs created are standard jobs for accountants, engineers, computer analysts, clerks, factory workers, etc., and the classic environmental job (environmental engineer, ecologist, etc.) constitutes only a small portion of the jobs created. Most of the persons employed in the jobs created may not even realize that they owe their livelihood to protecting the environment. Fourth, at the state level, the relationship between environmental policies and economic/job growth is positive, not negative. States can have strong economies and simultaneously protect the environment. Finally, environmental jobs are concentrated in manufacturing and professional, information, scientific, and technical services, and are thus disproportionately the types of jobs all states seek to attract.”¹³

Clean Air Act Regulations Support Jobs in Pollution Control, a Growing International Market

Although the costs of air pollution controls are small compared to the benefits, the money that is spent by industry to comply with regulations does not disappear from the economy. Expenditures for environmental protection go towards the purchase and installation of new equipment, spurring investments in the design, manufacture, installation, and operation of pollution-reducing technologies. All of those activities create employment, including work installing, operating, and maintaining pollution controls which must be done domestically.

Air pollution regulations also stimulate investment in innovative technologies to solve a broad spectrum of pollution problems. Some innovations, such as selective catalytic reduction (SCR) and ultralow NOx burner technologies resulted in healthy competition between manufacturers. In some cases, innovations in one sector were transferrable to other areas. For example,

¹¹ Jobs Versus the Environment: An Industry-Level Perspective. Richard D. Morgenstern, William A. Pizer, and Jihh-Shyang Shih, *Journal of Environmental Economics and Management* | May 2002 | Vol. 43, no. 3 | pp. 412-436.

¹² These results are similar to Berman and Bui (2001) who find that while sharply increased air quality regulation in Los Angeles to reduce NOx emissions resulted in large abatement costs they did not result in substantially reduced employment.

¹³ “Environmental protection, the economy, and jobs: National and regional analyses” Roger H. Bezdek, Robert M. Wendling and Paula DiPerna, *Journal of Environmental Management* Volume 86, Issue 1, January 2008, Pages 63-79. The authors use a broader definition of environmental employment than other studies that rely on DOC data.

improvements in mercury control technologies for waste incinerators led the way for innovations in sorbent technologies and other multipollutant controls for power plants, and these innovations have helped U.S. companies become a world leader in these technologies. (ICF, 2005).¹⁴

The environmental technology and services sector has experienced dramatic growth since the early 1970s, following the passage of the Clean Air Act and other environmental laws. By 2008 the industry was generating approximately \$300 billion in revenues and supporting nearly 1.7 million jobs. Air pollution control equipment alone generated revenues of \$18 billion in 2007.¹⁵

Environmental technology exports help the U.S. balance of trade, generating a \$11 billion surplus in 2008. Environmental technology exports have grown dramatically from less than \$10 billion in 1990 to about \$44 billion in 2008, and the U.S. share of foreign environmental technology markets has been increasing.¹⁶ Environmental technology export growth to China between 2002 and 2004 was 125 percent.¹⁷ According to the Department of Commerce, "The U.S. is regarded as a world leader in many environmental technology categories including: engineering, design, construction and consulting services; ... stationary and mobile source air pollution monitoring and control equipment; ... and information systems/software for environmental management analysis."

Environmental protection is also growing rapidly as an international market. The Heads of the European Environmental Agencies estimate that the world market for environmental goods and services was worth \$552 billion in 2005 and grew to \$734 billion by 2010.¹⁸ This market is comparable in size to the aerospace and pharmaceutical industries.

This growth translates to increased employment in these sectors. Many environmental technology industry jobs are high-tech, such as engineering and computer-aided design; others involve traditional manufacturing, transport, and communication. Jobs related to Clean Air Act implementation are widely dispersed throughout the states and occur in many sectors of the economy.

¹⁴ The Clean Air Act Amendments: Spurring Innovation and Growth While Cleaning the Air. http://www.icfi.com/Markets/Environment/doc_files/caaa-success.pdf (accessed February 8, 2011).

¹⁵ DOC International Trade Administration. "Environmental Technologies Industries: FY2010 Industry Assessment." [http://web.ita.doc.gov/ete/eteinfo.nsf/068f3801d047f26e85256883006ffa54/4878b7e2fc08ac6d85256883006c452c/\\$FILE/Full%20Environmental%20Industries%20Assessment%202010.pdf](http://web.ita.doc.gov/ete/eteinfo.nsf/068f3801d047f26e85256883006ffa54/4878b7e2fc08ac6d85256883006c452c/$FILE/Full%20Environmental%20Industries%20Assessment%202010.pdf) (accessed February 8, 2011)

¹⁶ Id.

¹⁷ DOC's International Trade Administration "Energy and Environment Export News," August 2005. Pg. 7. <http://www.ita.doc.gov/media/publications/pdf/eeen02.pdf> (accessed February 8, 2011).

¹⁸ Network of Heads of the European Environment Protection Agencies. 2005. "The Contribution of Good Environmental Regulation to Competitiveness." http://www.eea.europa.eu/about-us/documents/prague_statement/prague_statement-en.pdf (accessed February 8, 2011).

The table below presents the average employment impacts associated with the manufacture, installation and operation of one example of air pollution abatement technology: scrubbers to reduce sulfur dioxide pollution.¹⁹

EXHIBIT 1. SUMMARY OF EMPLOYMENT IMPACTS PER MODEL SCRUBBER

MODEL SCRUBBER	MODEL SCRUBBER DESCRIPTION	ONE-TIME EMPLOYMENT IMPACTS (ANNUAL EQUIVALENT FTEs) ²	RECURRING ANNUAL EMPLOYMENT IMPACTS (FTEs PER YEAR) ³
Model Scrubber 1	Medium/Large Utility Boilers	848 - 1,001	103
Model Scrubber 2	Small Utility Boilers	409 - 493	39
Model Scrubber 3A ¹	Large Industrial/ Institutional Boilers (method 1)	333 - 400	29
Model Scrubber 3B ¹	Large Industrial/ Institutional Boilers (method 2)	77 - 91	16
Model Scrubber 4	Small- and Medium-Sized Industrial/Institutional Boilers	40 - 48	6

Notes:

- As described in later sections of this document, Model Scrubbers 3A and 3B are different analytic variants of the same model scrubber. Both represent scrubbers at large industrial boilers, but we estimate employment impacts for Model Scrubber 3A based on one methodology and Model Scrubber 3B based on another.
- One-time employment impacts reflect the labor required for the manufacturing and installation of each model scrubber, including the labor required to produce scrubber components (e.g., the absorber vessel) that scrubber makers purchase from other firms.
- Recurring employment impacts include labor required for the operation, maintenance, and administrative support for each scrubber over its full lifetime of operation.

The installation of control equipment like scrubbers which has been triggered by new air regulations have often led to impressive job growth for these sectors. Spurred by the implementation of the CAA, the U.S. boilermaker population grew by approximately 35 percent, or 6,700 boilermakers, in just two years, between 1999 and 2001, according to data from the International Brotherhood of Boilermakers.²⁰ The creation of additional jobs has continued. Over the past seven years, the Institute for Clean Air Companies (ICAC) estimates that implementation of just one rule – the Clean Air Interstate Rule Phase 1 – resulted in 200,000 jobs in the air pollution control industry.²¹

¹⁹ Jason Price, Nadav Tanners, Jim Neumann (IEc) and Roy Oomen (ERG), Employment Impacts Associated with the manufacture, Installation and Operation of Scrubbers, Memo to Ellen Kurlansky, January 15, 2010

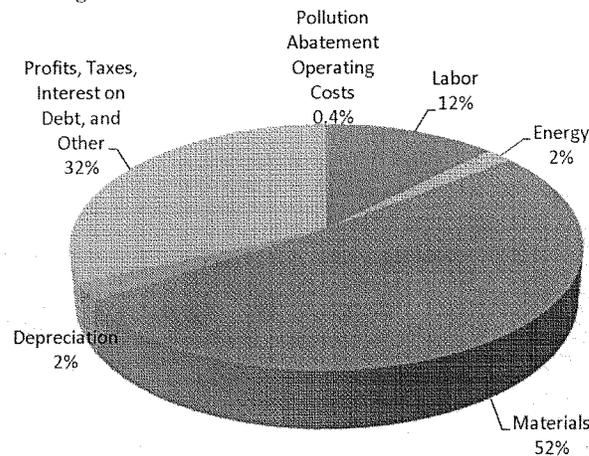
²⁰ International Brotherhood of boilermakers, *Boilermaker Labor Analysis and Installation Timing*, March 2005, EPA Docket OAR-2003-0053 (docket of the Clean Air Interstate Rule)

²¹ November 3, 2010 letter from David C. Foetner, Executive Director of the Institute of Clean Air Companies, to Senator Thomas R. Carper (http://www.icac.com/files/public/ICAC_Carper_Response_110310.pdf) (accessed February 8, 2011)

The Clean Air Act, Abatement Costs, and Competition

Critics argue that pollution abatement costs will drive manufacturing overseas. However, pollution abatement costs are a small fraction of total manufacturing costs. The U.S. Census Bureau has conducted an annual survey of the U.S. manufacturing sector to measure Pollution Abatement Costs and Expenditures (PACE).²² From this statistically-based PACE survey, Census estimates total pollution abatement costs by industry in the U.S. The PACE survey results suggest that pollution abatement operating costs are only a small portion of overall costs of manufacturing (0.4%), this includes not just air pollution abatement but also all other pollution abatement costs. Figure 1 shows the relative magnitude of each cost category for the manufacturing sector.

Figure 1. Pollution Abatement Costs are a Very Small Percentage of Total Manufacturing Costs



Source: U.S. Census Bureau, Pollution Abatement Costs and Expenditures: 2005
U.S. Census Bureau, Annual Survey of Manufacturers: 2005

Because most industries incur abatement costs that are less than 1 percent of their total cost even small changes in wage rates, capital costs or raw material costs are likely to have a much larger impact than any changes in environmental regulation. Reducing abatement costs by 10 percent will only reduce the total costs faced by industry by less than 1 tenth of 1 percent. Conversely, lowering raw materials costs by 10 percent could reduce total costs by 5 percent.

²² The PACE survey was conducted annually between 1973 and 1994 (with the exception of 1987), but was discontinued after 1994 by the U.S. Census Bureau for budgetary reasons. EPA helped fund the survey to collect data for 1999 and 2005, but resource constraints have prevented further surveys. Data from 1999 are not included because it is not directly comparable to other years. See <http://yosemite.epa.gov/ce/epa/ced.nsf/webpages/pace2005.html#whatarc> (accessed February 9, 2011)

The PACE survey also allows examination of the changes in abatement costs over time (1973-1994, when data were collected each year). As a percent of GDP, abatement costs have been remarkably constant over time and always less than 0.3% of GDP (usually between 0.25% and 0.3% of GDP). These costs remained low despite huge gains in air quality over the same time period, suggesting that industry found ways to reduce costs as regulations became more stringent.²³

Because the composition of the US economy has changed during this period away from heavy industry and to a more service-oriented economy, another way to examine trends is to focus more exclusively on how pollution expenditures for affected manufacturing industries in the US relate to their overall level of economic activity. The share of total revenues devoted to pollution abatement expenses by US manufacturing has been small (ranging between 0.4%-0.6%) since 1980, despite a substantial increase in the number and scope of environmental regulations impacting this sector of the US economy. Focusing further on the most heavily regulated industries among US manufacturers, pollution abatement costs remain a small part of total revenue. Even for these industries, the share of revenue devoted to financing pollution abatement costs reached a high of 2% (petroleum sector in 1994), and has typically been observed to lie between 1.0-1.5% for these industries since 1980.²⁴

A related line of literature explores whether environmental regulations (including clean air regulations) harm U.S. competitiveness. In a widely cited review, Jaffe, Peterson, Portney, and Stavins concluded that: "Overall, there is relatively little evidence to support the hypothesis that environmental regulations have had a large adverse effect on competitiveness, however that elusive term is defined."²⁵ Similarly, Taylor (2005) concluded that while environmental regulation can affect trade and investment flows it is only one of a number of factors that affect firms' decisions to relocate.²⁶ Furthermore, Levinson (2009, 2010) determined that the pollution intensity of U.S. imports has actually declined over time. While not directly addressing the pollution havens hypothesis, this research provides strong evidence that any tendency U.S. environmental regulations might have to "offshore" employment is overwhelmed by other economic forces.²⁷

²³ Notes: Starting in 1992, the PACE Survey collected PAOC on non-media and other. Non-media consists of expenditures on underground storage tanks and site cleanup, while 'other' consists of expenditures on noise abatement, radiation abatement, multimedia and not elsewhere classified. For consistency across time, PAOC in 1992, 1993 and 1994 do not include expenditures on non-media and other. Including non-media and others, PAOC as a percent of total GDP in 1992 is 0.30% (compared to 0.28% without non-media), 0.28% in 1993 (compared to 0.26% without non-media), and 0.29% in 1994 (compared to 0.26% without non-media)

²⁴ U.S. Census Bureau, Pollution Abatement Costs and Expenditures

²⁵ A.B. Jaffe, S.R. Peterson, P.R. Portney, and R. Stavins, "Environmental Regulation and the Competitiveness of U.S. Manufacturing: What Does the Evidence Tell Us?" *Journal of Economic Literature* 33(1995):132-163. (accessed February 8, 2011)

²⁶ M. Scott Taylor, 2005. "Unbundling the Pollution Haven Hypothesis," *The B.E. Journal of Economic Analysis & Policy*, Berkeley Electronic Press, vol. 0(2). (accessed February 8, 2011)

²⁷ Arik Levinson, "Technology, International Trade, and Pollution from US Manufacturing" *American Economic Review* 2009, 99:5, 2177-2192.

Arik Levinson, "Offshoring pollution: Is the U.S. increasingly importing polluting goods?" *Review of Environmental Economics and Policy* 4(1) Winter 2010, pp. 63-83.

Finally, the costs attributed to environmental protection may overstate the true economic costs – as in cases where the entire cost of capital improvements is attributed to pollution control expenditure, even though the expenditures also help improve operating efficiency. For example, Morgenstern, Pizer, and Shih (2001) investigated how much \$1 spent on “environmental protection” really costs an industry. Using statistical analysis and facility specific data bases on manufacturers, they determined how much of the investment in pollution control (including air pollution controls) was truly long term additional costs and how much resulted in cost saving process improvements. For some industries, notably plastics, the industry actually saved money as productivity was boosted. On average, the study concluded, \$1 spent on environmental pollution control reflected a real expense of only 87 cents.²⁸

Business Support for the Clean Air Act Benefits

In December 2010, fourteen business organizations representing over 60,000 firms wrote President Obama and Congressional leaders urging them to support EPA’s mission and to reject efforts to block, delay or weaken implementation of the Clean Air Act. In their letter, the groups note that studies consistently show that the economic benefits of implementing the Act far exceed the costs of controlling air pollutant emissions. They wrote: “In short, the Clean Air Act provides lawmakers with an example of how responsible environmental measures can both ignite new industries and send a market signal to investors and entrepreneurs that innovation and investment in the clean energy sector is good business.”²⁹

The same month, 8 major utilities sent a letter to the editor of the Wall Street Journal saying, “Contrary to claims that EPA’s agenda will have negative economic consequences, our companies’ experience complying with air quality regulations demonstrates that regulations can yield important economic benefits, including job creation, while maintaining reliability.”³⁰

²⁸ Richard Morgenstern, William A. Pizer, and Jih-Shyang Shih, The Cost of Environmental Protection, *Review of Economics and Statistics* | November 2001 | Vol. 83, No. 4 | pp. 732-738 | Related Discussion Paper 98-36

²⁹ American Business for Clean Energy, December 15, 2010, *More Than 60,000 Firms In U.S. Business Groups Urge Congress To Support EPA, Caution That Clean Air Act Rule Delays Could Drive Up Business Costs*
http://www.americanbusinessforcleanenergy.org/ckfinder/userfiles/files/121510_Businesses_for_CAA_news_release_FINAL.pdf (accessed February 8, 2011)

³⁰ Peter Darbee, chairman, president and CEO, PG&E Corp.; Jack Fusco, president and CEO, Calpine Corp.; Lewis Hay, chairman and CEO, NextEra Energy, Inc.; Ralph Izzo, chairman, president and CEO, Public Service Enterprise Group, Inc.; Thomas King, president, National Grid USA.; John Rowe, chairman and CEO, Exelon Corp.; Mayo Shattuck, chairman, president and CEO, Constellation Energy Group; Larry Weis, general manager, Austin Energy, “We’re OK With the EPA’s New Air-Quality Regulations,” Letter to the Editor, Wall Street Journal, December, 8, 2010.

February 9, 2011

U.S. House of Representatives
Washington, DC 20515

Dear Representative:

As health and medical professionals, we are keenly aware of the health impacts of air pollution. Air pollution is linked to a wide range of health consequences including cancer, asthma attacks, heart attacks and strokes. The Clean Air Act guarantees all Americans, especially the most vulnerable, air that is safe and healthy to breathe. Despite tremendous air pollution reductions, more progress is needed to fulfill this promise. Please support the full implementation and enforcement of the Clean Air Act.

Throughout its four decade history protecting the public from air pollution, the Clean Air Act has enjoyed strong bi-partisan support. The original Clean Air Act and its subsequent amendments received overwhelming votes in Congress. This landmark public health law directed the Environmental Protection Agency to protect health and the environment from air pollution. The result is saved lives and improved quality of life for millions of Americans. But the job is not finished. Communities across the nation still suffer from poor air quality. Low income families face the impacts of toxic air pollution every day. From smog causing asthma attacks to toxic mercury harming children's neurological development, far too many people face a constant threat from the air they breathe and the impacts of climate change.

Please fulfill the promise of clean, healthy air for all Americans to breathe. Support full implementation of the Clean Air Act and resist any efforts to weaken, delay or block progress toward a healthier future for all Americans.

Sincerely,

Alabama

Tim Byrum, MSN,
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Tonya Wheat, RHD
Saraland
David Smith, MD
Spanish Fort
Emily Green, DrPH
Vestavia

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Sarah B. Petras, MPH
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 Angie Unruh, RN, ADN
Surprise
 Fred Samia, MFA
Topanga
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Lisa Houston, MPH
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 Anita Liebsch, FNP
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 Ashly Schroyer, RN, BSN
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 Elizabeth Wington, RN
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 Ellen McDonough, FNP-C, MSN
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FOR IMMEDIATE RELEASE:
February 2, 2011

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**American Lung Association Urges Congress to Reject
Chairman Upton's Clean Air Act Bill**

WASHINGTON—The American Lung Association urges Congress to reject Chairman Fred Upton's draft bill that will undermine the Clean Air Act. The proposed legislation will rollback Clean Air Act protections that are in place to address the health impacts of carbon dioxide pollution and other greenhouse gas pollution, including protections upheld by the U.S. Supreme Court. The bill blocks Environmental Protection Agency (EPA), California, and other states from setting automobile greenhouse gas pollution standards. The bill would repeal at least eleven final actions taken to protect health and the environment under the Clean Air Act.

"The enactment of Chairman Fred Upton's bill would strip away Clean Air Act protections that safeguard Americans and their families from air pollution that puts their lives at risk," said Charles D. Connor, CEO of the American Lung Association. "The protections against the health harm from carbon dioxide and other greenhouse gas pollution are essential to public health and must be preserved."

The Clean Air Act guards the most vulnerable Americans—those with asthma and other lung disease, children, older adults, and people heart disease and diabetes—from the dangers of airborne pollutants, including the threats from growing carbon dioxide pollution. Each year the Act prevents tens of thousands of adverse health effects, including asthma attacks, heart attacks and even premature death. This year alone, the Clean Air Act will save more than 160,000 lives, according to preliminary estimates by the U.S. Environmental Protection Agency.

Forty years of evidence shows that these health benefits come without harm to the economy. Since 1970, the Clean Air Act has cut emissions by more than 60 percent, all while the economy has grown by more than 200 percent. The Office of Management and Budget has shown that the benefits of the Clean Air Act far outweigh the compliance costs.

Americans have these protections because Congressional leaders of both parties worked together to create this law to protect the lives and health of their constituents. We urge Congress to reject Chairman Upton's approach and support implementation of this vital law.

About the American Lung Association

Now in its second century, the American Lung Association is the leading organization working to save lives by improving lung health and preventing lung disease. With your generous support, the American Lung Association is "Fighting for Air" through research, education and advocacy. For more

information about the American Lung Association, a Charity Navigator Four Star Charity and holder of the Better Business Bureau Wise Giving Guide Seal, or to support the work it does, call 1-800-LUNG-USA (1-800-586-4872) or visit www.LungUSA.org.

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FOR IMMEDIATE RELEASE: February 3, 2011

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**Congress Should Protect the Clean Air Act and
 Reject Rep. Upton's Bill that Would Harm Public Health, Says APHA**

Washington, D.C., February 3, 2011 – The American Public Health Association today expressed deep concern over a proposal by U.S. Rep. Fred Upton that would block the Environmental Protection Agency's authority to regulate carbon dioxide and other greenhouse gas emissions under the Clean Air Act. APHA is calling on lawmakers to reject any attempt to roll back Clean Air Act protections that would limit the agency's ability to protect public health by reducing greenhouse gas emissions that contribute to climate change.

"For 40 years, the Clean Air Act has safeguarded the health of all Americans, including our most vulnerable" said Georges C. Benjamin, MD, FACP, FACEP (E), executive director of APHA. "Attempts to remove protections already in place must be stopped."

"The public health community is very concerned about the long-term health consequences of global climate change," said Benjamin. "Blocking EPA's authority to reduce carbon dioxide and other greenhouse gases could mean the difference between chronic debilitating illness or a healthy life for countless Americans."

Climate change and rising temperatures expose more Americans to conditions that result in illness and death due to respiratory illness, heat-related stress and insect-borne diseases. These maladies fall most heavily on our most vulnerable communities, including children, older adults, those with serious health conditions and poor people.

Protecting the EPA's authority under the Clean Air and ensuring it has the necessary means to continue to safeguard public health is a primary legislative priority for APHA during the 112th Congress.

For more about APHA, visit www.apha.org.

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Founded in 1872, the APHA is the oldest and most diverse organization of public health professionals in the world. The association aims to protect all Americans and their communities from preventable, serious health threats and strives to assure community-based health promotion and disease prevention activities and preventive health services are universally accessible in the United States. APHA represents a broad array of health providers, educators, environmentalists, policy-makers and health officials at all levels working both within and outside governmental organizations and educational institutions. More information is available at www.apha.org.

Press Release

For Immediate Release: February 3, 2011

Trust for America's Health Warns the Rollback of the Clean Air Act Could Harm Millions of Americans

Washington, D.C., February 3, 2011 – The Trust for America's Health warns that Chairman Fred Upton's (R-MI) draft bill could undermine the Clean Air Act and thereby harm millions of Americans.

"TFAH is incredibly concerned that the proposed legislation will eliminate current protective measures that address the health impact of carbon dioxide and other greenhouse gas pollution," said Jeff Levi, executive director of TFAH. "We believe the Environmental Protection Agency (EPA) and any state should be able to create measures that ensure Americans are protected from airborne toxins."

The potential consequences for public health are grave because the Clean Air Act protects the most vulnerable populations—those with asthma and other lung disease, children, older adults, and people with heart disease and diabetes—from the dangers of pollution. Our nation's commitment to cleaner air, embodied in the forty-year old Clean Air Act, is an investment in prevention that reduces adverse health outcomes and saves lives. EPA estimates the Act will save more than 160,000 lives in 2011 alone.

"The science says carbon pollution is bad for our health. Rolling back EPA's ability to protect the public from this threat literally has life and death stakes," Levi added.

Trust for America's Health is a non-profit, non-partisan organization dedicated to saving lives by protecting the health of every community and working to make disease prevention a national priority. www.healthyamericans.org

FRED UPTON, MICHIGAN
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA
RANKING MEMBER

ONE HUNDRED TWELFTH CONGRESS
Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6115

Majority (202) 226-2927
Minority (202) 225-3641

February 8, 2011

The Honorable Fred Upton
Chairman
Committee on Energy and Commerce
U.S. House of Representatives
2125 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Upton:

I am writing you to share with you a letter that has an important bearing on tomorrow's hearing on your legislation to overturn EPA's scientific determination that carbon emissions endanger public health and welfare.

The letter is a private letter that former EPA Administrator Stephen L. Johnson wrote to President Bush on January 31, 2008. It addresses the same issue as your legislation: whether carbon emissions endanger the public.

Administrator Johnson wrote: "the latest science of climate change requires the Agency to propose a positive endangerment finding, as was agreed to at the Cabinet-level meeting in November." According to Mr. Johnson, "the latest climate change science does not permit a negative finding, nor does it permit a credible finding that we need to wait for more research."

Administrator Johnson also wrote: "A robust interagency policy process involving principal meetings over the past eight months has enabled me to formulate a plan that is prudent and cautious yet forward thinking. ... [I]t ... creates a framework for responsible, cost-effective and practical actions." He added that actions to reduce carbon emissions "should spur both private sector investment in developing new, cost-effective technologies and private sector deployment of these technologies at a large scale."

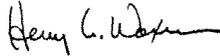
Administrator Johnson released an advanced notice of proposed rulemaking in July 2008, which solicited public comment on an endangerment finding. The final endangerment finding was made by Administrator Lisa Jackson in December 2009.

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The Honorable Fred Upton
February 8, 2011
Page 2

As Administrator Johnson's letter makes clear, both Republican and Democratic Administrations have had the same view of the science: carbon emissions are a serious threat to our nation's welfare. I urge you to leave the science to scientists and drop your effort to use legislation to overturn EPA's endangerment finding.

Sincerely,

A handwritten signature in black ink, appearing to read "Henry A. Waxman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Henry A. Waxman
Ranking Member

Enclosure



The Administrator
Washington, D.C. 20460

Joel,

I sincerely appreciate your
continued advice and counsel.

As I mentioned, I really
need your help in bringing
these issues to closure.

Thank you,
Steve



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

January 31, 2008

THE ADMINISTRATOR

The President
The White House
Washington, D.C. 20500

Dear Mr. President:

You have committed the US to pursue new, quantifiable actions to reduce carbon emissions. These new actions should spur both private sector investment in developing new, cost-effective technologies and private sector deployment of these technologies at a large scale. I believe legislation is the best approach to achieve this. However, your Administration is compelled to act on this issue under existing law given the many lawsuits and petitions before the Environmental Protection Agency (EPA). It is my intent to do so in a way that is responsible and that does not foreclose a superior legislative solution.

First, the Supreme Court's *Massachusetts v EPA* decision still requires a response. That case combined with the latest science of climate change requires the Agency to propose a positive endangerment finding, as was agreed to at the Cabinet-level meeting in November. Some have noted that the Energy Independence and Security Act (EISA) enables implementation of your 20-in-10 plan without an endangerment finding. Even if that is true, a finding is still required by the Supreme Court case, and the state of the latest climate change science does not permit a negative finding, nor does it permit a credible finding that we need to wait for more research. EISA also did not change EPA's obligation regarding the regulation of vehicles although it did expand the Department of Transportation's authority in a way that will facilitate a joint rulemaking.

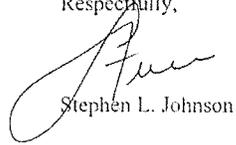
A second set of actions will be required by other imminent lawsuits and petitions. For instance, EPA has pending before it petitions seeking greenhouse gas standards for aircraft, marine vessels, and off-road vehicles. Also within the next several months, EPA must face regulating greenhouse gases from power plants, some industrial sources, petroleum refineries and cement kilns.

A robust interagency policy process involving principal meetings over the past eight months has enabled me to formulate a plan that is prudent and cautious yet forward thinking. This plan will fulfill your Administration's obligations under the Supreme Court decision and also will provide a response to the multiple pending lawsuits and petitions rather than risk additional unfavorable court action. Further, it follows your May 14th 2007 Executive Order and creates a framework for responsible, cost-effective and practical actions.

I want to thank you for talking with me about this plan when we met last month and, of course, I welcome your guidance as we move forward. After careful and sometime difficult deliberation, I have concluded that it is in the Administration's best interest to move forward with this plan in the next few weeks. I appreciate the senior-level discussions that have enabled me to develop this approach, and I look forward to working with other members of your team to discuss details and a rollout.

Attached is my plan.

Respectfully,

A handwritten signature in black ink, appearing to read "S. Johnson", is written over the printed name. The signature is fluid and cursive, with a large initial "S" and a long, sweeping underline that extends to the right.

Stephen L. Johnson

*Privileged
Communication to the President*

EPA Climate Change Plan

Phase 1

- In response to the Supreme Court mandate in *Massachusetts v EPA*, issue a proposed positive endangerment finding for public notice and comment as agreed to in the policy process.
- In response to the direction in EISA, issue a proposed vehicles rule jointly with the Department of Transportation to implement the new EISA and address issues raised in the Supreme Court case.
- To address requirements under the Clean Air Act, issue a proposed rule to update the New Source Review program to raise greenhouse gas thresholds to avoid covering small sources and to better define cost-effective, available technology.

Timing: Proposal in March or April. Final by the end of 2008.

Phase 2

- Issue advanced notices covering remaining petitions, lawsuits and court required deadlines. This would enable EPA to frame issues for the legislative debate and to channel future rulemakings to pursue environmental protection in context of benefit-cost analysis, availability of existing technologies, energy security, and remaining useful life of affected facilities.

Timing: Spring 2008.

Phase 3

- As required by EISA, issue a proposed renewable fuels rule following new authority provided by EISA. Note that the new EISA significantly altered the regulatory approach that EPA, in coordination with Department of Energy and the Department of Agriculture, must take.

Timing: Proposal by September 2008. Final rule in 2009. Additional administrative steps will be taken in 2008.



ADMINISTRATOR
OFFICE OF
INFORMATION AND
REGULATORY AFFAIRS

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

July 10, 2008

The Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Dear Administrator Johnson:

I am writing with regard to the draft Advance Notice of Proposed Rulemaking (ANPR) "Regulating Greenhouse Gas Emissions Under the Clean Air Act," submitted to the Office of Management and Budget (OMB) on June 17, 2008 pursuant to Executive Order 12866. The issues raised during interagency review are so significant that we have been unable to reach interagency consensus in a timely way, and as a result, this staff draft cannot be considered Administration policy or representative of the views of the Administration. However, given the Administration's commitment to respond to the Supreme Court's decision in *Massachusetts v. EPA*, we have determined in this case that consensus is not necessary in order for EPA to seek public comment on the wide-ranging issues raised by the draft regarding the potential regulation of greenhouse gases under the Clean Air Act. Thus, as we have discussed, you are withdrawing the draft from review under Executive Order 12866, and I am waiving the requirement for review due to the extraordinary circumstances presented here. Of course, given the significance of any actions to address greenhouse gas emissions under the Clean Air Act, any future notice would be subject to interagency review under Executive Orders 12866 and 13342.

The enclosed letter from the Secretaries of Agriculture, Commerce, Transportation, and Energy, along with summaries of issues raised by their departments, and letters from the Chairman of the Council on Environmental Quality, the Director of the Office of Science and Technology Policy and the Chairman of the Council of Economic Advisors, and the Chief Counsel for Advocacy at the Small Business Administration identify important concerns. As reflected in these letters, there is strong disagreement with many of the legal, analytical, economic, science and policy interpretations in the draft; however, these letters do reflect agreement with you that the Clean Air Act is a deeply flawed and unsuitable vehicle for reducing greenhouse gas emissions. Interagency reviewers concluded upon reading the draft that trying to address greenhouse gas emissions through the existing provisions of the Clean Air Act will not only harm the U.S. economy, but will fail to provide an effective response to the global challenge of climate change.

As the President observed in April:

Decisions with such far-reaching impact should not be left to unelected regulators and judges. Such decisions should be debated openly [and] made by the elected representatives of the people they affect.

EPA should seek public comment on the issues raised in the attached letters and should address these issues before it considers, and before OMB reviews, a notice of proposed rulemaking under the Clean Air Act.

The draft sets out a hypothetical roadmap outlining ways in which different provisions of the Clean Air Act could be applied to address greenhouse gas emissions. Following such a regulatory roadmap could result in the piecemeal application of command-and-control regulation—based on EPA staff determinations of the availability and suitability of a wide range of technology—covering both U.S. manufacturing activity and a broad range of commercial and household activities to an extent well beyond the scope of current regulation. To illustrate:

- The draft observes that regulation under almost any section of the Act would trigger the prevention of significant deterioration (PSD) program, which could require case-by-case EPA permitting covering building design for large office and residential buildings, hotels, retail stores and other similarly-sized projects;
- The draft discusses potential requirements that would regulate the design of plants in the U.S. manufacturing sector to increase energy efficiency;
- The draft discusses various technologies to achieve greenhouse gas emission reductions in the trucking industry, including devices to limit vehicle speed;
- In the agricultural sector, the draft discusses animal feeding operations, agricultural soil management, and fire management practices as a source of greenhouse gas emissions;
- The draft discusses approaches to reduce greenhouse gas emissions from households, for example, it notes that it “could require a different unit of measure tied to [a] machine’s mission or output—such as grams per kilogram of cuttings from a ‘standard’ lawn for lawnmowers”;
- The draft suggests reducing greenhouse gases from shipping through both ship design and marine operations, including redesigning ship hulls, limiting ship speed, using less ballast, and regulating route planning and port management. (It notes that “innovative strategies for reducing hull friction include coatings with textures similar to marine animals...”).

To mitigate the far reaching and potentially harmful effects of regulating greenhouse gases under the Clean Air Act, the draft offers several untested legal propositions for “flexible” interpretations of the Act. In the case of PSD permitting, which could capture thousands of small sources never before regulated under the Clean Air Act, the draft specifically acknowledges that these novel theories violate the plain meaning of the Act, but suggests “the plain meaning of

legislation is not conclusive..." The draft also relies on untested legal theories to suggest that some Clean Air Act provisions could be adapted to provide economic incentives to reduce greenhouse gas emissions. For example, it suggests that a regulatory program based on National Ambient Air Quality Standards might permit the adoption of a nationwide cap-and-trade program. Even if this regulatory approach legally could support economic incentives, it would likely be narrowly focused to cover a limited set of activities, and would not successfully engage the ingenuity and creativity of American citizens so that future generations can continue to enjoy both prosperity and environmental quality.

Addressing greenhouse gas emissions may be the most significant environmental policy decision of our generation, and I respect that you are engaging public debate on the appropriateness of relying on the Clean Air Act, written decades ago to address different air quality concerns, to guide these policies. I appreciate that EPA will publish in the *Federal Register* this letter along with the enclosed letters from your Cabinet and other colleagues in addition to the June 17th EPA draft in order to facilitate public understanding of, and public comment on, the issues associated with regulating greenhouse gases under the Clean Air Act.

Sincerely,



Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget

United States
Department of AgricultureUnited States
Department of CommerceUnited States
Department of TransportationUnited States
Department of Energy

July 9, 2008

The Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, D.C. 20503

Dear Administrator Dudley:

The Departments of Agriculture, Commerce, Transportation, and Energy have serious concerns with the draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act" ("draft") submitted by the Environmental Protection Agency to the Office of Management and Budget on June 17, 2008.

Climate change is a significant issue for both our environment and our economy, and the nations of the world must act together to address greenhouse gas ("GHG") emissions. The United States currently is working with the world's major emitting economies to devise a new international framework to replace the one that expires in 2012. In addition, since 2001 our agencies have committed billions of dollars and have taken other actions to confront climate change through the development and deployment of new technologies; through rulemakings to increase fuel economy, energy efficiency, and the production and use of alternative fuels; and through significantly increased investment in new climate science research. These and other serious efforts to address climate change must continue.

The EPA staff now has prepared a draft suggesting that the Clean Air Act can be both workable and effective for addressing global climate change by regulating GHG emissions from stationary and mobile sources of virtually every kind. Our agencies have serious concerns with this suggestion because it does not fairly recognize the enormous—and, we believe, insurmountable—burdens, difficulties, and costs, and likely limited benefits, of using the Clean Air Act to regulate GHG emissions.

First, the Clean Air Act is fundamentally ill-suited to the effective regulation of GHG emissions. Indeed, the draft acknowledges that "the [Clean Air Act] was not specifically designed to address GHGs." Instead, the Clean Air Act is premised on the idea that controlling emissions in the United States will improve air quality in the United States, and that a State or region can improve its air quality by controlling emissions in that area. This is not true in the case of GHGs. Controlling GHG emissions in the United States will reduce atmospheric concentrations of those gases only if our emissions reductions are not simply replaced with emissions increases elsewhere in the world. Moreover, under the Clean Air Act, emissions requirements generally are related to a health-based or public-welfare-based air quality standard. Yet there is no such

The Honorable Susan E. Dudley
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standard for GHGs in the Act or elsewhere, and thus the draft seems to take the approach of seeking emissions reductions with no precise idea of exactly what goal is being pursued or what GHG concentration-level objective is to be achieved.

Second, the use of the Clean Air Act to regulate GHG emissions unilaterally as envisioned in the draft would harm America's international competitiveness. Applying Clean Air Act regulations to U.S. businesses in order to address global climate change—outside of any international framework that brings together all of the world's major economies, both developed and developing—would simply export economic activity and emissions to less-regulated countries and might not generate any net reduction in worldwide GHG emissions. According to the Energy Information Administration, carbon dioxide emissions in non-OECD (Organization for Economic Cooperation and Development) nations already surpass those of OECD nations and are estimated to exceed them by 72 percent in 2030. The draft does not take account of these realities, and instead builds a regime that would impose enormous costs on U.S. consumers, workers, and businesses without addressing the fundamental shift in emissions growth from the developed world to the developing world.

Third, while acknowledging that “the complexity and interconnections inherent in [Clean Air Act] regulation of GHGs” has caused EPA staff to “not believe that all aspects of the Act are well designed for establishing the kind of comprehensive GHG regulatory program that could most effectively achieve the GHG emission reductions that may be needed over the next several decades,” the draft nevertheless suggests that regulating GHGs under the Clean Air Act would be workable. We disagree. The draft offers a number of legal constructs to support its position, but there is no certainty of how those theories will work in actuality, or whether they would be upheld by the courts. Such legal uncertainty simply emphasizes the risk to the Nation's energy, economic, and environmental security of seeking to shoehorn a GHG regulatory program into the Clean Air Act. Moreover, some might read the draft's discussion of an array of GHG regulatory constructs to prejudge the question of endangerment, even though there are critical open issues that must be addressed and resolved in making that legal determination and which must be decided before GHG emissions can be regulated under the Clean Air Act.

Even if the Act could support all of the legal theories outlined in the draft, the suggested permitting regimes would be extraordinarily intrusive and burdensome. In fact, the draft recognizes that regulation of GHG emissions under the Clean Air Act would likely extend permitting requirements and emissions controls to many sources not previously subject to Clean Air Act regulation, such as large buildings heated by natural gas. This could lead to EPA exercising de facto zoning authority through control over thousands of what formerly were local or private decisions, impacting the construction of schools, hospitals, and commercial and residential development.

Fourth, although the draft sets forth data and analysis that could be useful in the overall debate about GHGs, our agencies disagree with many of the assumptions in the draft about the costs of controlling GHGs, the technologies currently available and potentially available in the future, the timeline for the development of some of those technologies, and the potential harm from and benefits of controlling GHG emissions from specific sources. Moreover, there are important

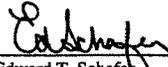
The Honorable Susan E. Dudley
Page 3

differences between the draft and the peer-reviewed reports recently issued by the U.S. Climate Change Science Program—an interagency program in which EPA has been a key participant.

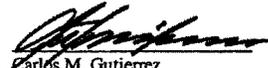
Finally, the draft suggests approaches to control GHG emissions that would needlessly duplicate newly passed laws and effectively ignore regulatory initiatives currently underway. For example, the Department of Transportation is already conducting a rulemaking to update fuel economy standards for light trucks and automobiles, pursuant to the recently enacted Energy Independence and Security Act of 2007. The draft suggests the possibility of an overlapping regulatory mandate using the Clean Air Act, potentially creating inconsistent regulatory mandates and uncertainty for U.S. industries and consumers, with minimal if any improvements in U.S. greenhouse gas emissions.

In sum, global climate change presents a serious challenge, and a workable and meaningful approach must be crafted to address that challenge. Unfortunately, using the Clean Air Act is not such an approach, as the draft sometimes acknowledges, but does not realistically address. In the enclosures with this letter, our respective agencies have provided brief analyses of some of the key technical, economic, and analytical difficulties with the draft, and our agencies may supplement these comments at a later date.

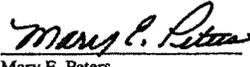
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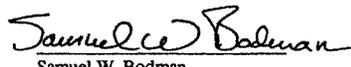
Edward T. Schafek
Secretary
U.S. Department of Agriculture



Carlos M. Gutierrez
Secretary
U.S. Department of Commerce



Mary E. Peters
Secretary
U.S. Department of Transportation



Samuel W. Bodman
Secretary
U.S. Department of Energy

Enclosures

U.S. Department of Transportation
U.S. Department of Energy
U.S. Department of Commerce
U.S. Department of Agriculture

Department of Transportation

The Department of Transportation ("the Department" or "DOT") hereby submits the following preliminary comments on the Environmental Protection Agency ("EPA") staff's draft

Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act," which was submitted to the Office of Management and Budget on June 17, 2008 ("June 17 draft" or "draft"). In

view of the very short time the Department has had to review the document, DOT will offer a longer, more detailed response by the close of the comment period.



CHAIRMAN

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20503

July 10, 2008

Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, DC 20503

Re: Environmental Protection Agency Draft Advance Notice of Proposed Rulemaking

Dear Administrator Dudley,

Thank you for the opportunity to provide comments on the Environmental Protection Agency's Draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gases Under the Clean Air Act" produced by agency staff for interagency review. Regrettably, the staff draft and supporting technical documents run several hundred pages in length and we have had a limited period of time to consider the material. Therefore, we are able to provide only a few preliminary and highly general comments, focusing on important areas of inquiry that the draft either does not address or does not adequately address as a basis for seeking public comment during the advanced notice of proposed rulemaking stage. In the short time provided, we have not been able to work through specific questions and issues with the Agency, and therefore are not able to support or otherwise endorse the draft document in its present form.

Overarching Comment

In his Rose Garden speech on April 16, 2008, President Bush announced a new national goal for reducing greenhouse gas emissions and outlined the new federal mandates, incentives, and other programs now in place that will help us achieve the goal. Acknowledging that further policies for the power generation sector would be necessary to fully achieve the goal, the President outlined the right way and the wrong way to proceed with any new policies. The EPA staff draft ANPR demonstrates why unaccountable new regulation under the existing Clean Air Act is the wrong way to accomplish our goals.

The staff draft does not provide a full and meaningful discussion of the broader policy and economic context in which it is considering, in the event of an endangerment finding, triggering the prospect of essentially automatic and immediate regulation over a vast range of community and business activity and an equally vast range of potential discretionary regulations with respect to the same and additional activities. In *Massachusetts v. EPA*, the Supreme Court reaffirmed that "EPA no doubt has significant latitude as to the manner, timing, content and coordination of its regulations with those of other agencies." 127 S.Ct. 1438, 1462 (2007). The staff draft, however, is long on "manner" and "content," and short on "timing," "coordination," and any meaningful sense of context. It myopically focuses on the Clean Air Act and ignores or understates major intended and unintended consequences that would flow from misapplying decades-old regulatory tools applicable to local and regional pollution that were never designed to address greenhouse gas emissions and the global nature of these emissions.

Recycled Paper

The staff draft employs a kitchen sink approach to the innumerable ways in which EPA would use the Clean Air Act to automatically or discretionarily regulate an unprecedented range of activities giving rise to greenhouse gas emissions. Yet the staff draft provides little or no discussion of the extent to which new EPA regulations would duplicate, contradict, or effectively countermand the numerous mandates, incentives, and public private partnerships that are already underway and producing real results in addressing greenhouse gas emissions. This concern is particularly acute to the extent EPA action would effectively override the deliberate, bi-partisan decisions of elected federal and state legislatures on certain policies, as well as overriding some of EPA's own successful programs.

For example, less than one year ago, the U.S. Congress passed the Energy Independence and Security Act of 2007 (EISA) which prescribes new mandatory programs and specifies targets for vehicle fuel efficiency, renewable fuels, lighting efficiency, appliance efficiency, and federal government vehicle and building operations. The Department of Transportation, in consultation with other agencies, including EPA, has already proposed an aggressive path to greater vehicle fuel efficiency in accordance with Congress' direction. EPA itself is already working to implement new renewable fuel requirements. And the Department of Energy is working on a new round of appliance efficiency standards and, in accordance with new EISA requirements, is embarking on a new round of standard-setting. These and other EISA requirements will prevent billions of tons of greenhouse gas emissions from entering the atmosphere. In order to better inform and guide appropriate public comment, EPA's ANPR should provide a full discussion of these authorities and a preliminary analysis of how they intersect with and obviate duplicative or contradictory approaches under the Clean Air Act.

In addition to the EISA mandates, the potential for duplication, conflict, and misplaced prioritization and methods can arise in a number of other contexts, including:

- The parties to the Montreal Protocol recently adopted a proposal advanced by the United States and a number of other countries to accelerate the phaseout of HCFCs—producing emission reductions that could exceed those of the Kyoto Protocol. A statutory framework for such emissions is already in place.
- A significant number of states have already enacted renewable portfolio standards carefully tailored to each state's unique energy system and capacity.
- The Department of Energy has produced new model building energy efficiency codes, tailored to different geographic regions and circumstances, and is working constructively with states and localities interested in adopting the relevant model code.
- Through the Energy Policy Act of 2005 and other legislation, Congress has chosen to use an incentive-based, rather than mandatory approach to addressing energy security and greenhouse gas emissions in certain sectors through a broad range and billions of dollars of subsidies for commercial deployment of cleaner, more efficient technologies including, nuclear power, more efficient coal power, renewable power (wind, solar, biomass, etc.), bio-fuels, highly fuel efficient vehicles. And more than 40 billion dollars in loan guarantee authority is being made available this year alone for nuclear power plants, large scale renewable power, carbon capture and storage, and other large scale opportunities to avoid, reduce, or capture greenhouse gas emissions.
- Through its multi-billion dollar conservation programs, the Department of Agriculture is directly subsidizing farmers and other landowners to compete for funding for projects

that will help biologically sequester carbon dioxide emissions. The Department is also providing substantial incentives for biofuel and biomass production facilities.

- DOE's Climate Vision partnership, EPA's Climate Leaders Partnership, and numerous subject specific partnerships such as EPA's Natural Gas Star and the EPA/DOE Energy Star programs are successfully establishing and meeting targets for greenhouse gas mitigation through public-private commitments and programs that are producing measurable results.

These programs, and the numerous others comprising the federal government's comprehensive climate change strategy, should be the starting point for any discussion as to whether further legislation, let alone regulation should be considered. EPA's ANPR should provide a full discussion of these authorities and a preliminary analysis of how they intersect with and obviate duplicative or contradictory approaches under the Clean Air Act in order to better inform and guide appropriate public comment.

Endangerment Finding

EPA should include in the ANPR and the docket the material, analysis, and final agency determinations that formed the basis for the agency's original denial of the petition for rulemaking as to mobile sources of pollution and should take public comment on the implications of that analysis in the agency's decision as to whether it can or should make an endangerment finding at this time. In *Massachusetts v. EPA*, the Supreme Court did not address the substantive merits of EPA's original analysis ("We need not and do not reach the question whether on remand EPA must make an endangerment finding, or whether policy concerns can inform EPA's actions in the event that it makes such a finding.") 127 S.Ct. at 1463. Instead, the court took issue with EPA reaching a "judgment" not to proceed with regulation without basing the reasons for its decision on the text of the Clean Air Act. The court held "only that EPA must ground its reasons for action or inaction in the statute" --in this case, running the analysis through the prism of the endangerment provisions of the Clean Air Act. (*Id.*). Doing so would seem to be the most immediate and essential response to the Court's remand. In this regard, however, the staff draft omits major elements and in some instances appears to be inconsistent with elements of the prior final agency determinations, signed by the EPA Administrator, concerning the state of the science, which are clearly relevant to the question of endangerment and which were not addressed one way or the other by the court.

EPA should take comment on the issues raised in the recent remarks by the Director of the Office of Science and Technology Policy concerning the current and future capability of the science with respect to predictions and projections of negative and positive climate impacts on a national, regional, and local scale. "Reflections on the Science and Policy of Energy and Climate Change," American Geophysical Union Fall Meeting, December 10, 2007. Any endangerment finding in the context of greenhouse gas emissions must draw from the emerging science of climate impacts. The Director's remarks provide helpful context for how to think through such issues and should be included in the docket.

EPA should take comment on the appropriate scope of activity that should be considered in making an endangerment decision in the context of greenhouse gas emissions. The remand

from the Court focused on the issue of endangerment with respect to the relative contribution of emissions from new motor vehicles to associated health or welfare impacts. Yet, the staff draft suggests an unprecedented approach of aggregating emissions of all greenhouse gases from all sources as the basis of an endangerment determination.

EPA should take comment on the extent to which it should subtract from the emissions projections for a source, reductions that are substantially likely to occur as a result of existing mandatory and incentive-based policies. For example, with respect to mobile sources, the 2007 EISA contains new mandates for vehicle fuel efficiency and for renewable fuel, supported by substantial federal budget incentives that will substantially reduce the greenhouse gas portfolio of such mobile sources.

EPA should also take comment on the extent to which its emissions projections for a source category should account for the problem of carbon leakage, occasioned by the current lack of meaningful and predictable international participation in greenhouse gas mitigation efforts. The IPCC has projected that most of the future increase in emissions will be produced by the major developing countries, whose cumulative emissions will also exceed those of the developed world relatively soon. Accordingly, EPA's assumptions about the relative benefits of reducing greenhouse gas emissions at a certain cost here in the U.S. would need to be offset by reasonable assumptions about 1) the growth in emissions in countries that are not taking comparable steps and 2) the prospect that increased costs in the U.S. will drive a certain amount of production and associated emissions to other countries not taking comparable steps, thereby increasing emissions in those countries. EPA provided relevant analysis when it modeled the impact of S. 2191 earlier this year and found that the economy-wide emissions reductions that would be required by that bill (approx. 70% reductions by covered entities) would have resulted in a miniscule 1-2% change in global greenhouse gas concentrations at a cost of trillions of dollars. The S.2191 analysis and other relevant analysis should be included in the docket.

Regulatory Content

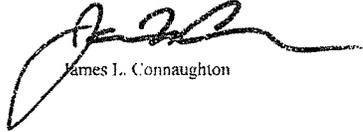
EPA should provide for public comment a much more complete technical, institutional, and economic analysis of the far reaching consequences that will arise from the automatic application of existing regulations that would occur in the event EPA makes an endangerment finding. The existing regulations as to conventional pollutants were never designed for the unique global characteristics and environmental aspects of greenhouse gas emissions. Also, the existing regulations were designed and implemented gradually over the course of more than thirty years, during which time states were able to build the capacity to implement, monitor and enforce an increasingly complex set of regulations, and entities subject to regulations were able to transition their activities to new levels of performance over time. In the event of an endangerment finding with respect to greenhouse gases, however, the cumulative impact of more than thirty years of regulation will immediately be imposed on the states and currently regulated entities in one fell swoop.

To complicate matters, the staff draft downplays the significance of the fact that applying regulations designed for relatively concentrated pollutants to relatively unconcentrated and voluminous emissions such as carbon dioxide will subject tens or even hundreds of thousands of community and business enterprises to Clean Air Act regulation for the first time. The

administrative implications and costs of this alone would be daunting for and federal budgets and staff. But the novel, case-by-case application of old regulations to an entirely new set of circumstances and parties foreshadows unrelenting confusion, conflicts over compliance, and decades long litigation windfall for attorneys, consultants, and activists, as communities and the courts strive to sort it all out.

Another issue that requires a full and complete analysis is the potential for the unintended consequences of conflicting efforts with respect to possible automatic regulation of substances for which we have existing obligations under the Montreal Protocol. For example, the successful acceleration of the phaseout of HCFCs in developed and developing countries depends on the accessibility of HFCs substitutes with zero-ozone depleting potential but are greenhouse gases. Any additional regulation on HFCs as a greenhouse gas could lead to a delay in the transition away from ozone-depleting compounds, which could increase risk to human health and undermine the significant domestic and global progress in protecting the ozone layer. EPA should give careful consideration and solicit comment on the potential for this consequence.

Yours sincerely,



James L. Connaughton



Executive Office of the President
Council of Economic Advisers



Executive Office of the President
Office of Science and Technology Policy

July 10, 2008

The Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, D.C. 20503

Subject: Environmental Protection Agency's Advance Notice of Proposed Rulemaking
"Regulating Greenhouse Gas Emissions under the Clean Air Act"

Dear Administrator Dudley:

The Council of Economic Advisers and Office of Science and Technology Policy would like to offer our views on the science and economics that relate to EPA's ANPR entitled "Regulating Greenhouse Gas Emissions under the Clean Air Act." Our comments are divided into two parts. In the first, we address complexities associated with the phenomenon of anthropogenic climate change that distinguish it from traditionally regulated phenomena and that significantly increase the technical difficulty of regulation. In the second, we address the likely consequences for public welfare of various proposals for mitigating greenhouse gas (GHG) emissions.

Part I: Implications of the Complex Nature of Anthropogenic Climate Change

According to the Intergovernmental Panel on Climate Change (IPCC), "Warming of the climate system is unequivocal," "...Most of the observed increase in global average temperatures... is very likely due to the observed increase in anthropogenic greenhouse gas concentrations" and "...evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases" (IPCC Fourth Assessment). These straightforward and widely accepted scientific conclusions cover a huge range in the diversity, timing, and severity of climate change impacts on the public welfare that greatly complicate their analysis. While it is true, as the ANPR authors point out, that "The exact benefits and costs of virtually every environmental regulation are at least somewhat uncertain," (p 39) the authors nevertheless acknowledge that "In the case of climate change, the uncertainty inherent in most economic analyses of environmental regulations is magnified by the long-term and global scale of the problem and the resulting uncertainties regarding socioeconomic futures, corresponding GHG emissions, climate responses to emissions changes, the bio-physical and economic impacts associated with changes in climate, and the

costs of reducing GHG emissions.” The ability to assess potential costs and benefits of a particular regulatory mechanism is critical to informed policymaking. However, the long-term nature and global scale of climate change and the nature of the associated uncertainties, such as those raised in the ANPR and listed above, is such as to overwhelm the capability of existing technical means to trace public welfare impacts to specific regulated activities.

GHG emissions, especially of CO₂, arise from a very wide variety of natural, domestic, and industrial activities, nearly all of which are beneficial to society. Because the geographical and temporal patterns of emissions vary with technology and market-driven human choices, a regulatory approach to the mitigation of GHGs that is based on an assortment of activity-specific regulatory mechanisms, such as those described in the ANPR, must necessarily be responsive on relatively short time-scales to the changing emissions picture. No reliable model of technical innovation exists to forecast how these patterns are likely to change even in the immediate future. Current rapid changes in transportation and energy production and use, for example, came as a surprise to economists and markets around the world. In the absence of much more accurate forecasting for the array of CO₂ emitting activities, the regulatory process will be continually out of step with reality unless it can be designed to adjust itself on realistic time scales. Historical time scales for environmental regulation in the U.S. suggest that this will be impossible, especially for the very large array of interconnected activities that would need to be regulated to mitigate CO₂ emissions.

This technical complexity is indeed one of the reasons why economists and policy-makers favor broad market-oriented frameworks such as carbon taxes, technology-neutral subsidies, or carbon trading schemes for GHG mitigation. The widespread support for such schemes is itself evidence for the impracticality of the array of regulatory mechanisms on which the ANPR seeks comment.

The diversity and complex distribution in space and time of GHG sources combine with intrinsic features of relevant climate phenomena to multiply further the obstacles to traditional regulation. Anthropogenically driven climate impacts are in nearly every case indistinguishable from naturally occurring phenomena. The anthropogenic contribution is apparent primarily in retrospective statistical analyses, and its adverse impacts cannot be readily distinguished from impacts that would have occurred in the absence of anthropogenic warming. Although few deny that anthropogenic causes underlie much of the general observed patterns, it is not the case that all “new” impacts exceeding historical means can be attributed to anthropogenic warming. The individual phenomena causing the impacts show strong regional variation and differing sensitivity to human behavior. Hurricane impacts, for example, are linked to coastal development patterns and to long term ocean circulation trends that occur with and without anthropogenic warming. Efforts to identify and evaluate specific localized adverse impacts uniquely associated with activities that lend themselves to regulation are nearly impossible under such circumstances. Tracing climate change causes to effects invariably requires simulations of the entire climate system. Such simulations are feasible for broad measures such as global and annually averaged surface temperatures, on whose link to GHG emissions there is broad agreement among scientists. The success of these simulations depends on thorough mixing of GHGs from all sources, so the individual characteristics and global distribution of different sources can be ignored. This same feature renders attribution of public welfare impacts to

specific regulated activities subject entirely to elaborate schemes for accounting and allocating emissions on a global basis. Such attributions cannot be accomplished based on U.S. data alone. And the global atmospheric CO₂ budget is not simply the sum of all emissions – the Earth “breathes” seasonally in a striking pattern whose details depend on a mix of human behaviors (e.g. deforestation) and natural causes (e.g. volcanic activity). Consequently a useful model for assessing significance and attributing share of public welfare impacts will necessarily be extremely complicated. As the ANPR authors note: “Quantifying the *exact* (emphasis added) nature and timing of impacts due to climate change over the next few decades and beyond, and across all vulnerable elements of U.S. health, society and the environment, is currently not possible.” Nor is it currently possible to quantify impacts even to a *less exact* standard that is needed to regulate GHGs through the Clean Air Act.

Overarching all these complexities is the unprecedented temporal quality of global climate change. Activities currently proposed for regulation will have no impact on public welfare for decades (except for possible beneficial side effects on traditional pollutants). Consequently, all approaches to the assessment of impacts necessarily involve forecasts. While the physical phenomena involved in anthropogenically induced global climate change are reasonably well understood, despite their complexity, the social phenomena that influence GHG producing activities are not at all well understood, which creates huge uncertainties in climate projections. All current forecasts of global warming that extend beyond roughly a decade are based on scenarios that assume a pattern of human behavior. These scenarios vary widely, but probably not widely enough given the very weak ability of science to predict how nations, markets, and individuals respond to their environments. Within its continually expanding limits, science can estimate the implications of social scenarios for anthropogenic global warming, but it has little power to assess the validity of the scenarios themselves.

Of all the effects that complicate the scientific analysis of GHG regulation, none is more profound and less tractable than the unpredictability of human behavior. Because the largest sources of anthropogenic CO₂ are linked to the use and production of energy, and because energy is an essential ingredient of all economically productive activity, GHG producing activities cannot be simply extracted from the tightly woven matrix of any economy. And economic globalization ensures that the matrix of anthropogenic climate influence is global. Regulation of specific GHG producing activities to achieve a specific target entails an analytical framework that gives some assurance that the targets can be reasonably met. No credible framework exists for this purpose. This fact seems to have been appreciated by political leaders who have endeavored to forge broad international agreements to reduce GHG emissions. As President Bush noted when launching a new U.S. policy for limiting emissions earlier this year, “The Clean Air Act, the Endangered Species Act, and the National Environmental Policy Act were never meant to regulate global climate.” Given the long-term nature and global scale of climate change and the nature of the uncertainties inherent in its associated impacts, the machinery of the Acts’ regulatory frameworks are clearly not adequate to the task.

Part II: Consequences of Proposed Remedies

Any attempt to use the Clean Air Act to regulate greenhouse gases efficiently is fraught with difficulties, for two reasons. First, the EPA, which is charged with overseeing the Clean Air Act, is unlikely to have the statutory authority to implement economically neutral approaches such as a carbon tax, a cap-and-trade with a safety valve, and/or technology-neutral subsidies. Such approaches, which are typically the centerpiece of economic mechanisms to GHG regulation, allow markets to choose the best and most cost-effective way to deal with GHGs and do the least harm to the economy. Limitations on authority are mentioned in EPA's Advanced Notice of Proposed Rule-Making (ANPR). Second, and perhaps as a consequence of such limitations, the regulations considered by the authors of the ANPR are a cumbersome set of rules and restrictions that are in some cases excessive, inadequate, redundant, inordinately burdensome to the economy, and almost certain to fail to produce the desired climate results. Because of specific limitations in the law, the Clean Air Act does not permit the EPA to attain economic efficiency while reducing GHG emissions, even in the narrow context of emissions by the United States. It is even less effective when viewed in the global context appropriate for greenhouse gases. We detail some of our concerns in what follows.

First, the Clean Air Act would result in excessive regulation. Under one likely scenario, the same standard for GHG emissions would be required from each state in the country, which might force the EPA to regulate GHGs much too stringently in some situations. To obtain economic efficiency, it is necessary to equalize marginal abatement costs across sources, which is extremely unlikely to occur if states are required to meet the same standard. Consequently, some states would be required to reduce emissions in an extremely expensive manner, while others that are better able to reduce emissions cheaply would have little incentive to do so. The consequence would be higher costs to the economy than necessary, borne disproportionately by specific industries, workers and consumers. Ann Klee, former General Counsel for the EPA, stated in her Senate testimony of April 24, 2007:

"Although the argument could be made that CO₂ meets the statutory threshold for designation and regulation as a criteria pollutant, it is evident that this would make little sense from a regulatory perspective. If the standard were set at a level intended to force reductions in emissions, i.e., at some atmospheric concentration below current levels (approximately 370-380 parts per million CO₂), then the entire country would be designated as being in nonattainment. This would trigger the regulatory mechanisms of the NAAQS program ... This should be of concern to States that face potentially significant penalties for persistent nonattainment."

An alternative scenario under the Clean Air Act would regulate GHG emissions by requiring every source to meet some average emissions standard, irrespective of costs. This means that each sector would be required to reduce emissions to a point that is considered technologically achievable rather than economically efficient.

The Clean Air Act also makes it very difficult to loosen constraints, once regulations have been promulgated. Because the inherent benefits of limiting emissions remain uncertain, it is important to retain the ability to adjust stringency up or down over time.

Second, the Clean Air Act may be inadequate. The ANPR recognizes that the Clean Air Act was designed to protect local and regional air quality by controlling emissions with a limited range of impacts. GHGs however, become relatively evenly distributed through the atmosphere, irrespective of their point of origin. The specific source of emission reduction has little or no bearing on the benefit of reduction, but the cost of reductions may vary greatly by source. However, the Clean Air Act generally precludes decision makers from considering costs, and does not permit regulations to depend on mitigation actions taken by other countries. The failure to allow for contingencies of this sort removes an important tool for inducing other countries to take actions that benefit Americans and the rest of the world.

Third, regulation of GHG through the Clean Air Act will prove inordinately burdensome. For instance, one section of the Act specifies threshold levels, which, for traditional pollutants, captures only the larger polluters. The same thresholds applied to GHGs would increase the number of affected sources by an order of magnitude, implying the regulation of sources that were not previously regulated nor intended to be regulated under the Clean air Act. The statute sets a "major source" threshold value of, at most, 100 tons per year of any air pollutant (or less in non-attainment areas.)¹ Small manufacturing facilities, schools, and shopping centers have potential emissions of 100 tons per year or more. If GHGs are regulated under the Clean Air Act, those sources will become a "major sources" and must undergo full major source permitting and would be required to adhere to EPA regulations.

Fourth, the Clean Air Act entails redundancy. The ANPR acknowledges that even if an economy-wide program were legally possible under the Clean Air Act, it would have to be accompanied by source-specific or sector-based requirements as a result of other Clean Air Act provisions. This could result in multiple, overlapping and perhaps conflicting incentives to reduce GHG emissions.

Finally, any GHG regulation imposed under the Clean Air Act is almost certain to fail. Even an economy-wide system will not be effective unless it is coupled with significant GHG reductions by all major economies. The Clean Air Act is not the appropriate vehicle to accomplish worldwide reductions in GHG emissions. Furthermore, acting in a globally uncoordinated fashion will put the United States at a competitive disadvantage, will induce economic distortions and may actually be counter productive in reducing GHGs. The most obvious example of this involves "leakage," where the U.S. imposes costs on businesses that emit greenhouse gases to which other countries are not subject. If businesses in other countries do not suffer the penalty for emitting GHGs, production has an incentive to move abroad, even when producing in the U.S. would be more economically efficient.

¹ EPA. Advanced Notice of Proposed Rulemaking. Section VII, Part B.2.

We believe that the Clean Air Act is not the appropriate statutory framework for dealing with climate change. The Clean Air Act was never intended to address issues with the global complexity of GHG emissions. Challenges in addressing climate change under the Clean Air Act are compounded by intrinsic characteristics in both its science and its economics. Instead, Congress needs to examine this issue directly, make the difficult choices that are inherent in any regulatory policy, and come up with an approach that imposes the minimum economic distortion for the maximum climate change benefit.



Edward P. Lazear
Chairman
Council of Economic Advisers



John H. Marburger, III
Director
Office of Science and Technology Policy



Advocacy: the voice of small business in government

July 8, 2008

BY ELECTRONIC MAIL

The Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

The Honorable Susan E. Dudley
Administrator, Office of Information and Regulatory Affairs
Office of Management and Budget
Eisenhower Executive Office Building
725 17th Street, N.W.
Washington, D.C. 20503

**RE: Docket ID No. EPA-HQ-OAR-2008-0318, Comments on EPA's draft
Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas
Emissions under the Clean Air Act"**

Dear Administrator Johnson and Administrator Dudley:

The Office of Advocacy of the U.S. Small Business Administration (Advocacy) respectfully submits the following comments in response to the draft Advance Notice of Proposed Rulemaking (ANPR) prepared by the U.S. Environmental Protection Agency (EPA) entitled "Regulating Greenhouse Gas Emissions under the Clean Air Act."

Congress established the Office of Advocacy under Pub. L. No. 94-305 to advocate the views of small entities before Federal agencies and Congress. Because Advocacy is an independent body within the U.S. Small Business Administration (SBA), the views expressed by Advocacy do not necessarily reflect the position of the Administration or the SBA.¹

¹ 15 U.S.C. § 634a, *et. seq.*

Advocacy has reviewed the draft ANPR, and, based on our initial reading, we have serious concerns with how EPA's regulation of greenhouse gases (GHGs) through the Clean Air Act framework would negatively impact small entities.² We believe that the regulatory approaches outlined in the ANPR, taken in part or as a whole, would impose significant adverse economic impacts on small entities throughout the U.S. economy. The draft ANPR acknowledges that using existing Clean Air Act regulatory approaches to control GHGs would subject large numbers of firms to costly and burdensome new requirements.

Expanding the Prevention of Significant Deterioration/New Source Review (PSD/NSR) program to cover carbon dioxide (CO₂) emissions, in and of itself, would make many small businesses that have not previously had to deal with the Clean Air Act subject to extensive new clean air requirements. Because relatively small facilities can generate substantial quantities of CO₂ and exceed the PSD/NSR regulatory threshold,³ small entities would be captured by the CO₂ PSD/NSR permitting requirement when they are constructed or modified. These small entities would include small businesses operating office buildings, retail establishments, hotels, and other smaller buildings. Buildings owned by small communities and small non-profit organizations like schools, prisons, and private hospitals would also be regulated. It is difficult to overemphasize how potentially disruptive and burdensome such a new regulatory regime would be to small entities. In our view, those costs would likely be imposed on large numbers of small entities with little corresponding environmental benefit in terms of reduced GHG emissions.

I. THE CLEAN AIR ACT REGULATORY FRAMEWORK

The ANPR demonstrates that the Clean Air Act regulatory framework is poorly suited as a mechanism to control GHG emissions. Several key examples illustrate this:

A. Prevention of Significant Deterioration/New Source Review (PSD/NSR). The PSD/NSR program currently requires the owners and operators of major stationary sources of air pollutants⁴ to obtain construction permits before they can build or modify their facilities. Issuance of permits to construct or modify these facilities is predicated upon the completion of measures designed to ensure that the facility will not degrade local air quality. Firms seeking PSD/NSR permits must install the most advanced emission controls, meet stringent emission standards, and provide data to show that their

² Under the RFA, small entities are defined as (1) a "small business" under section 3 of the Small Business Act and under size standards issued by the SBA in 13 C.F.R. § 121.201, or (2) a "small organization" that is a not-for-profit enterprise which is independently owned and operated and is not dominant in its field, or (3) a "small governmental jurisdiction" that is the government of a city, county, town, township, village, school district or special district with a population of less than 50,000 persons. 5 U.S.C. § 601.

³ For PSD, the thresholds are 100 tons per year of pollutant for 28 listed industrial source categories, 250 tons per year for other sources. See 40 C.F.R. §§ 51.166(b)(1) and 52.21(b)(1). For nonattainment NSR, the major source threshold is generally 100 tons per year.

⁴ A "major stationary source" for PSD meets or exceeds the annual emission thresholds listed in the note 3, *supra*.

emissions will not harm air quality. Currently, obtaining a PSD/NSR permit for a coal-powered source typically requires at least a year of preparation time and costs up to \$500,000, not including the cost of purchasing, installing, and maintaining control equipment.

Today, EPA estimates that 200 to 300 of these permits are issued each year by federal, state, and local authorities. Processing PSD/NSR permits represents a major resource commitment for these permitting authorities, as well as for the permit applicant. As EPA has noted, "there have been significant and broad-based concerns about [PSD/NSR] implementation over the years due to the program's complexity and the costs, uncertainty, and construction delays that can sometimes result from the [PSD/NSR] permitting process."⁵ This problem would be greatly exacerbated by regulating GHGs under the PSD/NSR program. EPA believes that "if CO₂ becomes a regulated NSR pollutant, the number of [PSD/NSR] permits required to be issued each year would increase by more than a factor of 10 (i.e., more than 2,000 – 3,000 permits per year) . . . the additional permits would generally be issued to smaller industrial sources, as well as large office and residential buildings,⁶ hotels, large retail establishments, and similar facilities."⁷ Not only would many more facilities become subject to PSD/NSR permitting requirements, but smaller firms that have never been subject to Clean Air Act permitting requirements would become regulated for the first time. EPA has likely greatly underestimated the large number of sources that would be required to obtain PSD/NSR permits if GHGs were included in the program. Neither EPA nor state and local permitting authorities have the resources to administer such a large volume of PSD/NSR permit applications; as a result, construction and modification activities would virtually come to a standstill. Any marginal reductions in GHGs achieved would not justify the tremendous costs and regulatory burdens imposed. Even if EPA is correct in its estimate, and the increase in businesses that must obtain PSD/NSR permits is only a tenfold increase, and even if the cost and administrative burdens associated with obtaining a PSD/NSR permit were to be dramatically reduced, a substantial number of small entities can be expected to experience a significant adverse economic impact by having to obtain CO₂ PSD/NSR permits.

B. Hazardous Air Pollutant (HAP) Standards. Section 112 of the Clean Air Act requires EPA to regulate air pollutants classified as hazardous under section 112(b).⁸ While GHGs are not currently listed as hazardous air pollutants (HAPs), EPA has solicited comments on whether GHGs should be regulated as HAPs. Based on Advocacy's experience with rules designed to regulate HAPs, particularly the area source rules that regulate non-major sources of HAPs,⁹ many of which are small entities, the section 112 framework would be a poor mechanism for regulating GHGs. Typically, HAPs are emitted at relatively low volumes and are known to have health effects, which

⁵ Draft ANPR (June 17, 2008) at 230.

⁶ "Large residential buildings" presumably means homes. According to Office of Advocacy research, 53% of all small businesses are home-based businesses.

⁷ Draft ANPR (June 17, 2008) at 225.

⁸ 42 U.S.C. § 7412(b).

⁹ Area sources are stationary sources of HAPs that emit less than 25 tons per year of any combination of HAPs and less than 10 tons per year of any single HAP. 42 U.S.C. § 112(a)(1),(2).

are generally localized, at low thresholds. HAP emission rules often require very costly technologies to eliminate relatively small amounts of HAP from being emitted to the air. Because the HAPs are recognized as causing serious health effects, HAP regulations often impose control costs that are much higher on a per ton basis than any other type of air pollutant.

By contrast, GHGs (and CO₂ in particular) are ubiquitous, are distributed uniformly throughout the atmosphere, and have no demonstrated adverse health effects at ordinary atmospheric concentrations. Using section 112 to control GHGs would not be a reasonable regulatory approach. Imposing high per-ton GHG control costs through a HAP standards-type regime would yield small reductions in GHG at enormous cost to sources, especially small entities.

C. Title V Permit Program. EPA also solicits comments on whether and how GHG requirements could be included in Title V operating permits. Based on the cost, complexity, and administrative burdens associated with obtaining Title V operating permits, Advocacy believes that Title V permits should not be required of sources on the basis of GHG emissions. Currently, federal, state, and local permitting authorities issue Title V operating permits to a limited subset of the stationary sources of air pollution in the United States. Applying for and obtaining a Title V permit is time-consuming and expensive. In the late 1990's, for example, many major stationary sources spent more than \$100,000 to obtain initial Title V permits, when the cost of hiring consultants and technical personnel is considered. Again, even if EPA were able to dramatically decrease the cost of applying for and complying with GHG Title V permits, the cost and burden would be an enormous new impact, particularly on small entities.

EPA has taken steps to ensure that Title V permits are principally required for larger stationary sources. EPA initially administratively deferred Title V applicability for non-major sources, and, more recently, EPA has allowed area sources of HAPs to satisfy Title V compliance demonstrations through less burdensome means. EPA understands that administering Title V permits is a resource-intensive process for all parties, and that forcing smaller facilities to comply imposes great burden and cost for little commensurate environmental gain. Requiring small firms that would otherwise not be subject to Title V to obtain Title V permits on the basis of GHG emissions would not be worth the cost to companies or the heavy additional load placed on permitting authorities' resources.

D. National Ambient Air Quality Standards. EPA further solicits comments on whether it should develop a National Ambient Air Quality Standard (NAAQS) for CO₂ and other GHGs. In Advocacy's view, EPA should not seek to develop a GHG NAAQS. GHGs are fundamentally different than any of the current NAAQS criteria pollutants. CO₂, for example, is distributed broadly through the atmosphere and is ubiquitous, rendering geographic determinations useless in mitigating CO₂ levels. The wide and uniform distribution of CO₂ would mean that the entire country would either be classified as in attainment or out of attainment. Either way, small entities, in turn, would become subject to rigid new "one-size-fits-all" GHG requirements, regardless of local conditions or their actual emissions of GHGs.

Therefore, rather than merely serving as a useful vehicle to administer a national GHG cap and trade program, establishing a GHG NAAQS would set in motion a number of statutory control measures that would be costly, inefficient, and ineffective. Small entities could have to contend with new barriers to construction and expansion, new restrictions on operating cars and trucks, and the potential for having to retrofit their existing buildings with GHG controls or to purchase equivalent credits. These NAAQS control measures would subject vast numbers of small entities across the country to standardized, inflexible GHG control requirements for the very first time. The full impact of these new burdens on these small entities could be devastating.

E. Mobile Source Requirements. EPA also solicits comments on using the Mobile Source provisions of the Clean Air Act to control GHGs. EPA would impose new regulatory requirements on on-highway motor vehicles, as well as non-road vehicles and equipment. These GHG requirements would be imposed in addition to the renewable fuel standards contained in the Energy Independence and Security Act of 2007 (EISA),¹⁰ which requires 36 billion gallons of renewable fuel to be blended into the nation's gasoline and diesel fuel supply by 2022. To a large degree, the goal of EISA was to address GHGs from mobile sources.

In Advocacy's view, using the mobile source provisions of the Clean Air Act to further impose new GHG requirements are likely to have serious adverse impacts on small entities that rely on vehicles and equipment. On-board GHG control measures such as speed limiters would have a major impact on small entities that operate trucks or other vehicle fleets. Other requirements designed to limit the use of vehicles will similarly impact small businesses that depend on being able to pick up and deliver goods, or to travel to and from their clients. These requirements could be a particular hardship for trucking companies, and the numerous small communities that depend entirely on long-haul trucks for delivery of their food supplies and other goods.

II. DISPROPORTIONATE IMPACTS ON SMALL ENTITIES

Our concerns about the advisability of regulating GHGs under a massive and unwieldy new environmental regulatory scheme that will capture hundreds of thousands of small businesses is motivated by our knowledge of how regulations often unfairly impact small entities.

A. Advocacy's Research. An Advocacy-funded report that details the \$1.1 trillion cumulative regulatory burden on enterprise in the United States shows how the smallest businesses bear a 45 percent greater burden than their larger competitors.¹¹ The annual cost per employee for firms with fewer than 20 employees is \$7,747 to comply with all

¹⁰ Pub. L. No. 110-140 (2007).

¹¹ W. Mark Crain, *The Impact of Federal Regulations on Small Firms*, funded by the U.S. Small Business Administration, Office of Advocacy (2005).

federal regulations.¹² That cost is more, on a per-household basis, than what Americans pay for health insurance. When it comes to compliance with environmental requirements, small firms with fewer than 20 employees spend four times more, on a per-employee basis, than do businesses with more than 500 employees.¹³

B. Any GHG Rule Must Be Subject to a SBAR Panel. The owners of small businesses want to comply with applicable environmental rules. However, the growing thicket of clean air, solid waste, water quality, and other environmental requirements emanating from local, state, federal, and global authorities is daunting. If EPA chooses to go forward with plans to use the Clean Air Act to address climate change, the Office of Advocacy will insist that the views of small entities be considered in the pre-proposal stage as required by the Small Business Regulatory Enforcement Fairness Act (SBREFA).¹⁴ The direct involvement of small entities has benefited over 30 EPA rulemakings since President Clinton signed SBREFA in 1996. The "Small Business Advocacy Review" (SBAR) panels required by SBREFA provide EPA with on-the-ground, real world, experienced views from small business representatives who are relied upon to provide practical solutions for regulatory challenges faced by EPA. Nine prior SBAR panels have dealt with planned EPA rules issued under the Clean Air Act and, because small entities were involved, the final rules reflect a better understanding of how the regulations would impact small business. Millions of dollars have been saved because poorly designed approaches and unintended consequences are filtered out of proposed regulations with the help of small entities and government officials.¹⁵ These changes are accomplished without compromising valuable protections for human health and the environment.¹⁶

C. EPA Should Not Ignore the Impact of GHG Regulation on Small Entities. Unfortunately, EPA has ignored small business input when issuing Clean Air Act regulations in the past. In 1997, for example, EPA determined that the revision of the NAAQS for ozone and particulate matter did not "directly regulate" small entities and was, therefore, exempt from the SBAR panel requirement to consider small entity input. In Advocacy's view, any movement forward by EPA to capture small entities in a reinterpretation of the Clean Air Act designed to address climate change will properly constitute direct EPA regulatory action. Even if EPA were to construct a legal argument that claims GHG regulations do not significantly impact a substantial number of small entities,¹⁷ EPA would be better served by carefully considering the impact of GHG regulations on small businesses, small organizations, and small communities.

¹² *Id.*

¹³ *Id.*

¹⁴ 5 U.S.C. § 609.

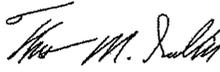
¹⁵ See the annual reports of the Regulatory Flexibility Act at: <http://www.sba.gov/advo/laws/flex/>

¹⁶ 5 U.S.C. § 603 (c) explicitly requires that any alternatives to a regulatory proposal that would minimize the impact on small entities must "accomplish the stated objectives of applicable statutes."

¹⁷ Under 5 U.S.C. § 605(b), EPA is not required to convene a SBAR panel if it certifies that the regulation will not have a significant economic impact on a substantial number of small entities.

We look forward to working with you to ensure that the impact on small entities is seriously considered prior to EPA moving ahead on regulating greenhouse gas emissions. Please do not hesitate to call me or Assistant Chief Counsel Keith Holman (keith.holman@sba.gov or (202) 205-6936) if we can be of further assistance.

Sincerely,



Thomas M. Sullivan
Chief Counsel for Advocacy

BILLING CODE 6560-50-C

General Information

What Should I Consider as I Prepare My Comments for EPA?

A. Submitting CBI

Do not submit this information to EPA through www.regulations.gov or e-mail. Clearly mark the part or all of the information that you claim to be confidential business information (CBI). For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

B. Tips for Preparing Your Comments

When submitting comments, remember to:

- Explain your views as clearly as possible.
- Describe any assumptions that you used.
- Provide any technical information and/or data you used that support your views.
- If you estimate potential burden or costs, explain how you arrived at your estimate.
- Provide specific examples to illustrate your concerns.
- Offer alternatives.
- Make sure to submit your comments by the comment period deadline identified.
- To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your response. It

would also be helpful if you provided the name, date, and Federal Register citation related to your comments.

Outline of This Preamble

- I. Introduction
- II. Background Information
- III. Nature of Climate Change and Greenhouse Gases and Related Issues for Regulation
- IV. Clean Air Act Authorities and Programs
- V. Endangerment Analysis and Issues
- VI. Mobile Source Authorities, Petitions and Potential Regulation
- VII. Stationary Source Authorities and Potential Regulation
- VIII. Stratospheric Ozone Protection Authorities, Background, and Potential Regulation

I. Introduction

Climate change is a serious global challenge. As detailed in section V of this notice, it is widely recognized that greenhouse gases (GHGs) have a climatic warming effect by trapping heat in the atmosphere that would otherwise escape to space. Current atmospheric concentrations of GHGs are significantly higher than pre-industrial levels as a result of human activities. Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases. Future projections show that, for most scenarios assuming no additional GHG emission reduction policies, atmospheric concentrations of GHGs are expected to continue climbing for most if not all of the remainder of this century, with associated increases in average temperature. Overall risk to human health, society and the environment increases with increases in

both the rate and magnitude of climate change.

Today's notice considers the potential use of the CAA to address climate change. In April 2007, the Supreme Court concluded in *Massachusetts v. EPA*, 127 S. Ct. 1438 (2007), that GHGs meet the CAA definition of "air pollutant," and that section 202(a)(1) of the CAA therefore authorizes regulation of GHGs subject to an Agency determination that GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. The Court also ruled that in deciding whether to grant or deny a pending rulemaking petition regarding section 202(a)(1), EPA must decide whether new motor vehicle GHG emissions meet that endangerment test, or explain why scientific uncertainty is so profound that it prevents making a reasoned judgment on such a determination. If EPA finds that new motor vehicle GHG emissions meet the endangerment test, section 202(a)(1) of the CAA requires the Agency to set motor vehicle standards applicable to emissions of GHGs.

EPA is also faced with the broader ramifications of any regulation of motor vehicle GHG emissions under the CAA in response to the Supreme Court's decision. Over the past several months, EPA has received seven petitions from states, localities, and environmental groups to set emission standards under Title II of Act for other types of mobile sources, including nonroad vehicles such as construction and farm equipment, ships and aircraft. The Agency has also received public comments seeking the addition of GHGs to the pollutants covered by the new source performance standard (NSPS) for several industrial sectors under section 111 of the CAA. In addition, legal challenges have been brought seeking controls for GHG emissions in

THE WHITE HOUSE

WASHINGTON

July 11, 2008

POLICY MEMORANDUM

SUBJECT: Environmental Protection Agency Advance Notice of Proposed Rulemaking Regarding Greenhouse Gas Emissions and the Clean Air Act

Today the Environmental Protection Agency (EPA) is releasing an advance notice of proposed rulemaking (ANPR) in response to the U.S. Supreme Court's decision in *Massachusetts v. EPA* and numerous petitions related to the potential regulation of greenhouse gas emissions under the Clean Air Act.

As President Bush made clear in a Rose Garden speech on April 16, 2008, there is "a right way and a wrong way to reduce greenhouse gas emissions." The right way includes an economy-wide strategy that builds on policies and priorities already in place, such as the new fuel economy standards and the use of renewable fuels as mandated in the Energy Independence and Security Act of 2007. The President also highlighted the importance and need for major new incentives and technology research and development.

The President expressed concern with taking "laws written more than 30 years ago to primarily address local and regional environmental effects and applying them to global climate change." The Clean Air Act is one of these laws. If stretched beyond its original intent, it would override legislation just enacted by Congress, requiring the government to regulate far more than merely power plant emissions or cars. This would turn the Federal government, in effect, into the Nation's local planning and zoning board, regulating countless smaller users and producers of energy -- *from schools and stores to hospitals and apartment buildings* -- with crippling effects on our economy.

Trying to address greenhouse gas emissions through the existing provisions of the Clean Air Act will not only greatly harm the U.S. economy but also will fail to provide an effective response to the problem of climate change. As the President observed in April:

"Decisions with such a far-reaching impact should not be left to unelected regulators and judges, but should be debated openly and made by the elected representatives of the people they affect."

The June 17, 2008, EPA draft Advance Notice of Proposed Rulemaking (the staff draft), sent to the Office of Management and Budget (OMB) for review under Executive Order 12866, sets out a hypothetical roadmap outlining ways in which different provisions of the Clean Air Act could be applied to address greenhouse gas emissions.

OMB has waived review of this staff draft, due to the extraordinary circumstances involved, and EPA is publishing it for public comment as part of a larger Advance Notice of Proposed Rulemaking that includes comments from the Department of Agriculture (USDA), the Department of Commerce (DOC), the Department of Transportation (DOT), the Department of

Energy (DOE), the Chairman of the White House Council on Environmental Quality, the Director of the White House Office of Science and Technology Policy, the Chairman of the White House Council of Economic Advisers, and the Small Business Administration, Office of Advocacy. This longer notice will give the public an opportunity to comment on this matter's many complexities and the multiple points of view among the Agencies, providing for a more robust public record.

EPA's larger ANPR will be published in the Federal Register with a 120-day comment period. An ANPR is an "advance" notice. Prior to issuing a final regulation, EPA would need to publish a proposed regulation and subject that proposal to interagency review and notice and comment.

The EPA Staff Draft Does Not Represent Administration Policy:

EPA Administrator Steve Johnson:

"One point is clear: the potential regulation of greenhouse gases under any portion of the Clean Air Act could result in an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land."

"I believe the ANPR demonstrates the Clean Air Act, an outdated law originally enacted to control regional pollutants that cause direct health effects, is ill-suited for the task of regulating global greenhouse gases. Based on the analysis to date, pursuing this course of action would inevitably result in a very complicated, time-consuming and, likely, convoluted set of regulations."

USDA, DOC, DOT, and DOE, Secretaries Schafer, Gutierrez, Peters, and Bodman:

"[While] acknowledging that 'the complexity and interconnections inherent in [Clean Air Act] regulation of GHGs' has caused EPA staff to 'not believe that all aspects of the Act are well designed for establishing the kind of comprehensive GHG regulatory program that could most effectively achieve the GHG emission reductions that may be needed over the next several decades,' the draft nevertheless suggests that regulating GHGs under the Clean Air Act would be workable. We disagree. The draft offers a number of legal constructs to support its position, but there is no certainty of how those theories will work in actuality, or whether they would be upheld by the courts. Such legal uncertainty simply emphasizes the risk to the Nation's energy, economic, and environmental security of seeking to shoehorn GHG regulatory program into the Clean Air Act."

"Applying Clean Air Act regulations to U.S. businesses in order to address global climate change -- outside of any international framework that brings together all of the world's major economies, both developed and developing -- would simply export economic activity and emissions to less-regulated countries and might not generate any net reduction in worldwide GHG emissions."

"Finally, the draft suggests approaches to control GHG emissions that would needlessly duplicate newly passed laws and effectively ignore regulatory initiatives currently underway."

For example, the Department of Transportation is already conducting a rulemaking to update fuel economy standards for light trucks and automobiles, pursuant to the recently enacted Energy Independence and Security Act of 2007. The draft suggests the possibility of an overlapping regulatory mandate using the Clean Air Act, potentially creating inconsistent regulatory mandates and uncertainty for U.S. industries and consumers, with minimal if any improvements in U.S. greenhouse gas emissions."

U.S. Department of Commerce:

"The U.S. Department of Commerce's fundamental concern with the draft's approach to using the CAA to regulate GHGs is that it would impose significant costs on U.S. workers, consumers, and producers and harm U.S. competitiveness without necessarily producing meaningful reductions in global GHG emissions."

"The issue of emissions leakage and the potential erosion of the U.S. industrial base are real concerns with any domestic GHG regulation proposal outside of an international framework. Accordingly, the proper way to address this concern is through an international agreement that includes emission reduction commitments from all the major emitting economies, not by unilaterally erecting higher barriers to trade."

"Although the ANPR does not 'make any judgment regarding what an appropriate [greenhouse gas] stabilization goal may be,' the document cites, as an example, the Intergovernmental Panel on Climate Change's projection that global CO2 emissions reductions of up to 60 percent from 2000 levels by 2050 are necessary to stabilize global temperatures slightly above pre-industrial levels. To provide context, it is useful to note that a 60 percent reduction in U.S. emissions from 2000 levels would result in emissions levels that were last produced in the United States during the 1950s. In 1950, the population in the United States was 151 million people -- about half the current size -- and the Gross Domestic Product was \$293 billion. Without the emergence of technologies that dramatically alter the amount of energy necessary for U.S. economic output, the reduction of energy usage necessary to achieve this goal would have significant consequences for the U.S. economy."

"As the draft states, 'the mass emissions [of CO2] from many source types are orders of magnitude greater than for currently regulated pollutants,' which could result in the application of the CAA's preconstruction permitting requirements for modification or new construction to large office buildings, hotels, apartment building and large retail facilities. The draft also notes the potential time impacts (i.e., the number of months necessary to receive a CAA permit) of applying new permit requirements to projects and buildings like those noted above that were not previously subject to the CAA. The potential economic costs of applying the CAA permitting regimes to these areas of the economy; such as small businesses and commercial development, merit a complete assessment of the costs and benefits of such an approach."

U.S. Department of Energy:

"[The] draft Advance Notice of Proposed Rulemaking prepared by the staff of the Environmental Protection Agency... seeks to address global climate change through an enormously elaborate,

complex, burdensome and expensive regulatory regime that would not be assured of significantly mitigating global atmospheric GHG concentrations and global climate change. DOE believes that once the implications of the approach offered in the draft are fully explained and understood, it will make one thing clear about controlling GHG emissions and addressing global climate change -- unilaterally proceeding with an extraordinarily burdensome and costly regulatory program under the Clean Air Act is not the right way to go."

"The Department believes that an effective and workable approach to controlling GHG emissions and addressing global climate change should not simply consist of a unilateral and extraordinarily burdensome Clean Air Act (CAA or the Act) regulatory program being layered on top of the U.S. economy, with the Federal Government taking the position that energy security and indeed the American economy will just have to live with whatever results such a program produces. Rather, the United States can only effectively address GHG emissions and global climate change in coordination with other countries, and by addressing how to regulate GHG emissions while considering the effect of doing so on the Nation's energy and economic security."

"The CAA simply was not designed for establishing the kind of program that might effectively achieve global GHG emissions controls and emissions reductions that may be needed over the next decades to achieve whatever level of atmospheric GHG concentration is determined to be appropriate or necessary."

"If CAA regulation of GHG emissions from stationary sources forces or encourages a continued move toward natural gas fired electric generating units, there will be significantly increased demand for natural gas."

"Among other effects, a large policy forced shift towards increased reliance on imported LNG would raise energy security and economic concerns by raising domestic prices for consumers (including electricity prices) and increasing U.S. reliance on foreign sources of energy."

U.S. Department of Transportation:

"It is an illusion to believe that a national consensus on climate policy can be forged via a Clean Air Act rulemaking. Guided by the provisions of a statute conceived for entirely different purposes -- and unconstrained by any calculation of the costs of the specific regulatory approaches it contemplates -- such a rulemaking is unlikely to produce that consensus."

"If implemented, the actions that the draft contemplates would significantly increase energy and transportation costs for the American people and U.S. industry with no assurance that the regulations would materially affect global greenhouse gas atmospheric concentrations or emissions."

"At this point, regulations could provide no more powerful incentive for commercial operators than that already provided by fuel prices. Badly designed performance standards would be at best non-binding (if private markets demand more efficiency than the regulatory standard) or

would actually undermine efficient deployment of fuel efficient technologies (if infeasible or non-cost-effective standards are required)."

In reference to DOT regulation under the Energy Independence and Security Act (EISA) instead of EPA regulation under the Clean Air Act: *"The public interest is ill-served by having two competing proposals, put forth by two different agencies, both purporting to regulate the same industry and the same products in the same ways but with differing stringencies and enforcement mechanisms, especially during a time of historic volatility in the auto industry and mere months after Congress passed legislation tasking another agency with regulation in this area."*

U.S. Department of Agriculture:

"If EPA were to exercise a full suite of the Clean Air Act ("CAA") regulatory programs outlined in the draft ANPR, we believe that input costs and regulatory burden would increase significantly, driving up the price of food and driving down the domestic supply."

"If agricultural producers were covered under such complex regulatory schemes, most (except perhaps the largest operations) would be ill-equipped to bear the costly burdens of compliance, and many would likely cease farming altogether."

Edward Lazear, Chairman, Council of Economic Advisers, and John H. Marburger, Director, Office of Science and Technology Policy:

"The ability to assess potential costs and benefits of a particular regulatory mechanism is critical to informed policy-making. However, the long-term nature and global scale of climate change and the nature of the associated uncertainties... is such as to overwhelm the capability of existing technical means to trace public welfare impacts to specific regulated activities."

"As President Bush noted when launching a new U.S. policy for limiting emissions earlier this year, 'The Clean Air Act, the Endangered Species Act, and the National Environmental Policy Act were never meant to regulate global climate.' Given the long-term nature and global scale of climate change and the nature of the uncertainties inherent in its associated impacts, the machinery of these Acts' regulatory frameworks are clearly not adequate to the task."

"Furthermore, acting in a globally uncoordinated fashion will put the United States at a competitive disadvantage, will induce economic distortions and may actually be counterproductive in reducing GHGs. The most obvious example of this involves 'leakage,' where the U.S. imposes costs on businesses that emit greenhouse gases to which other countries are not subject. If businesses in other countries do not suffer the penalty for emitting GHGs, production has an incentive to move abroad, even when producing in the U.S. would be more economically efficient."

James Connaughton, Chairman, Council on Environmental Quality:

"The EPA staff draft ANPR demonstrates why unaccountable new regulation under the existing Clean Air Act is the wrong way to accomplish our goals."

"The staff draft employs a kitchen sink approach to the innumerable ways in which EPA would use the Clean Air Act to automatically or discretionarily regulate an unprecedented range of activities giving rise to greenhouse gas emissions. Yet the staff draft provides little or no discussion of the extent to which new EPA regulations would duplicate, contradict, or effectively countermand the numerous mandates, incentives, and public-private partnerships that are already underway and producing real results in addressing greenhouse gas emissions. This concern is particularly acute to the extent EPA action would effectively override the deliberate, bipartisan decisions of elected Federal and state legislatures on certain policies, as well as overriding some of EPA's own successful programs."

"[The] novel, case-by-case application of old regulations to an entirely new set of circumstances and parties foreshadows unrelenting confusion, conflicts over compliance, and decades-long litigation windfall for attorneys, consultants, and activists, as communities and the courts strive to sort it all out."

Susan E. Dudley, Administrator, Office of Information and Regulatory Affairs, OMB:

"The draft relies on untested legal theories to suggest that some Clean Air Act provisions could be adapted to provide economic incentives to reduce greenhouse gas emissions. For example, it suggests that a regulatory program based on National Ambient Air Quality Standards might permit the adoption of a nationwide cap-and-trade program. Even if this regulatory approach legally could support economic incentives, it would likely be narrowly focused to cover a limited set of activities, and would not successfully engage the ingenuity and creativity of American citizens so that future generations can continue to enjoy both prosperity and environmental quality."

Thomas M. Sullivan, Chief Counsel for Advocacy, Small Business Administration Office of Advocacy:

"We believe that the regulatory approaches outlined in the ANPR, taken in part or as a whole, would impose significant adverse economic impacts on small entities throughout the U.S. economy. The draft ANPR acknowledges that using existing Clean Air Act regulatory approaches to control GHGs would subject large numbers of firms to costly and burdensome new requirements."

Possible Actions for Reducing Greenhouse Gas Emissions Discussed in the EPA Staff Draft

Technologies to control the speed of the U.S. trucking industry. "Vehicle speed is the single largest operational factor affecting CO₂ emissions from large trucks. Generally, every mph [mile per hour] increase above 55 mph increases CO₂ emissions by more than 1 percent. Speed limiters are generally available on new trucks or as a low-cost retrofit...."

Ways to manage the railroad industry, including decisions on when to scrap their physical assets. Opportunities for Rail GHG reduction identified by the staff draft include higher speed railroad crossings and micromanagement of the railroad industry, such as: “optimized matching of locomotives with train load for every route (including optimized placement of each locomotive along the train)” and “early scrappage of higher-GHG locomotives.”

Setting “grass mileage standards” for household lawnmowers. “For the freight locomotive example given above, a gram per ton-mile emissions standard measured over a designated track route might be a suitable way to express a GHG standard, but such a metric would not necessarily be appropriate for other applications. Instead each application could require a different unit of measure tied to the machine’s mission or output -- such as grams per kilogram of cuttings from a ‘standard’ lawn for lawnmowers....”

Changes in how freight is shipped that could put truckers out of business. “For example, intermodal shipping moving freight from trucks and onto lower GHG rail or marine services, provides a means of reducing these emissions for freight shipments that can accommodate the logistical constraints of intermodal shipping” The staff draft notes that “[g]oods shipped solely by truck account for 74 percent of the value of all commodities shipped within the US. Trucked freight is projected to double again over the next 2 decades....”

Use of certain technologies such as GPS and the need to monitor individual use in the name of regulating the “human element.” “Credit for such operational measures could conceivably be part of a nonroad GHG control program and could be calculated and assigned using the same ‘with and without’ approach to credit generation described above for equipment-based changes. However, some important implementation problems arise from the greater human element involved. This human element becomes increasingly significant as the scope of creditable measures moves further away from automatic technology-based solutions. Assigning credits to such measures must involve good correlation between the credits generated and the GHG reductions achieved in real world applications. It therefore may make sense to award these credits only after an operational measure has been implemented and verified as effective.”

Redesigning ships. “Innovative strategies for reducing hull friction include coatings with textures similar to marine animals and reducing water/hull contact by enveloping the hull with small air bubbles released from the sides and bottom of the ship.”

“Both the wetted surface area and amount of water displaced by the hull may be reduced by lowering the weight of the vessel. This may be accomplished through the use of lower weight materials such as aluminum or fiberglass composites or by simply using less ballast in the ship when not carrying cargo. Other options include ballast-free ship designs such as constantly flowing water through a series of pipes below the waterline or a pentamaran hull design in which the ship is constructed with a narrow hull and four sponsons which provide stability and eliminate the need for ballast water.”

Changes to how many ships operators should own and how fast they should go. “In general, the power demand of a vessel increases with at least the square of the speed; therefore, a 10 percent reduction in speed could result in more than a 20 percent reduction in fuel consumption,

and therefore in GHG emissions. An increased number of vessels operating at slower speeds may be able to transport the same amount of cargo while producing less GHGs.”

Ship route and fleet planning. GHG reduction measures contemplated include improved route and fleet planning. The staff draft suggests that for example, “GHG reductions could be achieved through improved route planning, coordination between ports, and weather routing systems. GHG reductions may also be achieved by using larger vessels and through better fleet planning to minimize the time ships operate at less than full capacity.”

Substantial changes to management and operational of air traffic. GHG reduction measures contemplated by the staff draft include requiring continuous descent approach rather than the staggered or staged approach when landing, requiring single engine taxiing, reducing aircraft weight by reducing the amount of excess fuel carries, and requiring “more efficient routes and aircraft speeds.”

Replacing the will of Congress with that of EPA. The staff draft notes that neither the Energy Policy Act of 2005 RFS program nor the forthcoming program under EISA directly addresses the varying GHG emission reduction potential of each fuel type and production pathway. It requests comment on whether EPA could have the authority under the CAA to design and implement a program for renewable and other alternative fuels that considers the GHG emissions from the petroleum portion of the fuel pool and reflects differences in fuel production not captured by the GHG thresholds established under EISA, including differences in technology at the fuel production facility.

Regulation of boilers for an extra *ten minutes* of use. “For example, consider a hypothetical 500-MW electric utility boiler firing a bituminous coal that is well-controlled for traditional pollutants. Such a boiler, operating more than 7000 hours per year (out of a possible 8760) can emit approximately 4 million tons of CO₂ per year, or more than 580 tons per hour. Assuming a 100 [tons per year (tpy)] significance level (rather than the current zero level for GHG), any change resulting in just 10 additional minutes of utilization over the course of a year at such a source would be enough to result in an increase of 100 tons and potentially subject the change to [Prevention of Significant Deterioration (PSD)].”

Increasing building permits by at least a factor of *ten* -- including residential buildings and hotels. “Currently, EPA estimates that EPA, state, and local permitting authorities issue approximately 200-300 PSD permits nationally each year for construction of new major sources and major modifications at existing major sources. Under existing major source thresholds, we estimate that if CO₂ becomes a regulated [New Source Review (NSR)] pollutant (either as an individual GHG or as a group of GHGs), the number of PSD permits required to be issued each year would increase by more than a factor of 10 (i.e., more than 2000-3000 permits per year) -- unless action were taken to limit the scope of the PSD program.... The additional permits would generally be issued to smaller industrial sources, as well as large office and residential buildings, hotels, large retail establishments, and similar facilities.”

Requiring permits and the associated permit fees for over *half a million* sources.

“Title V requires permitting for several types of sources subject to Clean Air Act requirements including all sources that are required to have PSD permits. However, it also applies to all sources that emit or have the potential to emit 100 tpy of an air pollutant. As discussed above for the PSD program, the addition of GHG sources to the program would trigger permitting requirements for numerous sources that are not currently subject to Title V because their emissions of other pollutants are too small. The Title V cutoff would bring in even more sources than PSD because the 100 tpy (rather than 250 tpy) cutoff applies to all source categories, not just the ones specified in the Act’s PSD provisions.”

“Using available data, which we acknowledge are limited, and engineering judgment in a manner similar to what was done for PSD, EPA estimates that more than 550,000 additional sources would require Title V permits, as compared to the current universe of about 15,000-16,000 Title V sources. If actually implemented, this would be more than a tenfold increase, and many of the newly subject sources would be in categories not traditionally regulated by Title V, such as large residential and commercial buildings.”

Regulation of sources that emit only 10 or 25 tons per year. Regulation of single family residences, with only a few years to comply. “If GHGs were listed as hazardous air pollutants (HAP), EPA would be required to regulate a very large number of new and existing stationary sources, including smaller sources than if alternative CAA authorities were used to regulate GHG.”

“For example, in calculating CO₂ emissions based on fossil-fuel consumption, we believe that small commercial or institutional establishments and facilities with natural gas-fired furnaces would exceed this major source threshold; indeed, a large single-family residence could exceed this threshold if all appliances consumed natural gas.”

Only a few years to comply. “A further consideration is that the short compliance timetables -- immediate for most new sources and within 3-4 years for existing sources -- appear to preclude setting longer compliance timeframes to allow for emerging GHG technologies to be further developed or commercialized.”

Potential Effects of Actions Discussed in the Staff Draft

Effects on families:

- “...could result in the regulation of ‘small commercial or institutional establishments and facilities with natural gas-fired furnace.’ This could include large single family homes, small businesses, schools, or hospitals heated by natural gas.” (Commerce)
- “The resulting impact to the consumer of higher energy prices will be much higher grocery bills.” (USDA)

Effects on industry:

- “...recent analysis of emissions targets similar to those cited in the draft provides a guide to the estimated level of impacts. In April 2008, the Energy Information Administration (EIA) released an analysis of legislation that set emission reduction targets of 30 percent below 2005 levels by 2030 and 70 percent below 2005 levels by 2050. The EIA

estimated that in the absence of international offsets and with limited development of alternatives, achieving those emission targets would reduce manufacturing employment by 10 percent below currently projected levels in 2030. Under the same scenario, the EIA estimate indicated the emission targets would reduce the output of key energy-intensive manufacturing industries, such as food, paper, glass, cement, steel, and aluminum, by 10 percent and the output of non-energy intensive manufacturing industries by nine percent below currently projected levels in 2030.” (Commerce)

- “...[u]nder the traditional SIP approach, emissions controls on specific source categories would flow from independent state-level decisions, and could result in a patchwork of regulations requiring different types and levels of controls in different states.’ If this were the result, it could undermine the benefit of having a national standard and significantly raise compliance costs.” (Commerce)
- “The draft notes that some of the authorities in the CAA could impose requirements to use technology that is not commercially viable. For example, when discussing Standards of Performance for New and Existing Sources, the draft notes that ‘the systems on which the standard is based need only be “adequately demonstrated” in EPA’s view..... The systems, and corresponding emission rates, need not be actually in use or achieved in practice at potentially regulated sources or even at a commercial scale.’ If CAA requirements such as these were used to regulate GHGs, it would impose significant costs on those required to adopt the technology.” (Commerce)

Effects on buildings, commercial institutions:

- “CAA regulation of GHG emissions from stationary sources would significantly increase costs associated with the operation of power plants and industrial sources, as well as increase costs associated with direct energy use (e.g., natural gas for heating) by sources such as schools, hospitals, apartment buildings, and residential homes. Furthermore, in many cases the regulatory regime envisioned by the draft would result in emission controls, technology requirements, and compliance costs being imposed on entities that have never before been subject to direct regulation under the CAA.” (Energy)
- “For example, the draft states that the use of one authority under the CAA could result in the regulation of ‘small commercial or institutional establishments and facilities with natural gas-fired furnace.’” (Commerce)
- “To put this potential expansion in context, in 2003 there were 2.4 million commercial non-mall buildings in the United States that used natural gas, and an estimated 54 percent of these buildings were larger than 5,000 square feet. According to the EIA’s 2003 Commercial Building Energy Consumption Survey, a building between 5,001 to 10,000 square feet consumes 408,000 cubic feet of natural gas per year. Based on preliminary calculations using the EPA’s Greenhouse Gas Equivalencies Calculator, this translates into annual CO₂ emissions of 21 metric tons, which would exceed the allowable threshold under one provision of the CAA.” (Commerce)
- “Based on the estimate of 21 metric tons of annual emissions from a building 5,000 - 10,000 square feet in size, it is likely that schools, churches, hospitals, hotels, and police stations heated by natural gas could be subject to the CAA.” (Commerce)

Effects on farmers:

- “Depending on the extent to which the Clean Air Act puts further pressure on energy prices, input costs for indispensable items such as fuel, feed, fertilizer, manufactured products, and electricity will continue to rise.” (USDA)
- “...changes in energy prices would most affect producers in regions where irrigation is indispensable for crop production. Less use of irrigation could mean fewer planted acres or lower crop yields, resulting in a loss of production.” (USDA)
- “In addition to potential financial difficulties, farmers fear that future tillage practices could be mandated and livestock methane management regulated.” (USDA)
- “EPA contemplates regulating agricultural greenhouse gas (GHG) emissions under the three primary CAA programs.... If agricultural producers were covered under such complex regulatory schemes, most (except perhaps the largest operations) would be ill-equipped to bear the costly burdens of compliance, and many would likely cease farming altogether.” (USDA)
- “Operators who are subject to Title V permitting requirements...are required to obtain a permit in order to operate. These Title V permits are subject to a public notice and comment period and contain detailed requirements for emission estimation, monitoring, reporting, and recordkeeping. Title V permits may also contain control requirements that limit the operation of a facility. If a producer desired, or were compelled by changed circumstances (e.g., changing market demand, weather events, or pest infestation) to modify his operational plans, he would be required to first seek a permit modification from EPA or the State.” (USDA)
- “If GHG emissions from agricultural sources are regulated under the CAA, numerous farming operations that currently are not subject to the costly and time-consuming Title V permitting process would, for the first time, become covered entities. Even very small agricultural operations would meet a 100-tons-per-year emissions threshold. 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 Title V permit.” (USDA)
- “... agricultural emissions of greenhouse gases are diffuse and most often distributed across large open areas. ... For instance, technology does not currently exist to prevent the methane produced by enteric fermentation associated with the digestive processes in cows and the cultivation of rice crops; the nitrous oxide produced from the tillage of soils used to grow crops; and the carbon dioxide produced by soil and animal respiratory processes. The only means of controlling such emissions would be through limiting production, which would result in decreased food supply or radical changes in human diets.” (USDA)
- “If EPA were to exercise a full suite of the Clean Air Act (“CAA”) regulatory programs outlined in the draft ANPR, we believe that input costs and regulatory burden would increase significantly, driving up the price of food and driving down the domestic supply.” (USDA)

Effects on power production:

- “...CAA regulation of GHG emissions from stationary sources would significantly increase costs associated with the operation of power plants and industrial sources, as well as increase costs associated with direct energy use (e.g., natural gas for heating) by sources such as schools, hospitals, apartment buildings, and residential homes.

Furthermore, in many cases the regulatory regime envisioned by the draft would result in emission controls, technology requirements, and compliance costs being imposed on entities that have never before been subject to direct regulation under the CAA.”
(Energy)

- “However, complying with [Maximum Available Control Technology (MACT)] standards with respect to GHG emission controls likely would place a significant burden on States and localities, manufacturing and industrial facilities, businesses, power plants, and potentially thousands of other sources throughout the United States. As the draft explains, ... ‘we believe that small commercial or institutional establishments and facilities with natural gas-fired furnaces would exceed this major source threshold; indeed, a large single-family residence could exceed this threshold if all appliances consumed natural gas.’” (Energy)
- “The effects of broad based, economy-wide regulation of GHGs under the CAA would have significant adverse effects on U.S. energy supplies, energy reliability, and energy security.” (Energy)
- “[T]he effect of regulating emissions of GHGs from stationary sources under the CAA could force a drastic shift in the U.S. power sector.” (Energy)
- “If CAA regulation of GHG emissions from stationary sources forces or encourages a continued move toward natural gas fired electric generating units, there will be significantly increased demand for natural gas. Given the limitations on domestic supplies, including the restrictions currently placed on the production of natural gas from public lands or from areas on the Outer Continental Shelf, much of the additional natural gas needed likely would have to come from abroad in the form of liquefied natural gas (LNG). ... Among other effects, a large policy-forced shift towards increased reliance on imported LNG would raise energy security and economic concerns by raising domestic prices for consumers (including electricity prices) and increasing U.S. reliance on foreign sources of energy.” (Energy)

Effects on construction:

- “...which could result in the application of the CAA’s preconstruction permitting requirements for modification or new construction to large office buildings, hotels, apartment building and large retail facilities. The draft also notes the potential time impacts (i.e., the number of months necessary to receive a CAA permit) of applying new permit requirements to projects and buildings like those noted above that were not previously subject to the CAA. The potential economic costs of applying the CAA permitting regimes to these areas of the economy, such as small businesses and commercial development, merit a complete assessment of the costs and benefits of such an approach.” (Commerce)
- “Similarly, in examining the potential application of the New Source Review program to nonattainment areas, the draft outlines the program’s required use of the Lowest Available Emissions Rate (LAER) technology which ‘does not allow consideration of the costs, competitiveness effects, or other related factors associated with the technology.... New and modified sources would be required to apply the new technology even if it is a very expensive technology that may not necessarily have been developed for widespread application at numerous smaller sources, and even if a relatively small emissions improvement came with significant additional cost.’ If CAA requirements such as these

were used to regulate GHGs, it would impose significant costs on those required to adopt the technology.” (Commerce)

Effects on infrastructure:

- “The draft describes a scenario in which *the entire country* is determined to be in nonattainment. Such a finding would reach beyond power plants and other installations to include vital transportation infrastructure such as roads, bridges, airports, ports, and transit lines. At a time when our country critically needs to modernize our transportation infrastructure, the NAAQS that the draft would establish -- and the development of the implementation plans that would follow -- could seriously undermine these efforts.” (Transportation)
- “Indeed, needed improvements to airports, highways and transit systems that would make the transportation system more efficient could be precluded due to difficulties in demonstrating conformity.” (Transportation)

Effects on trucking & railroads:

- “The draft contemplates establishing a greenhouse gas emissions standard for heavy duty vehicles such as tractor-trailers. ... DOT believes that it is premature to review potential greenhouse gas emission standards for medium- and heavy-duty trucks in light of this study and anticipated future standard-setting action under EISA, and, in any event, that it is problematic to do so with no accounting of the costs that these standards might impose on the trucking industry.” (Transportation)
- “The medium and heavy truck market is more complex and diverse than the light duty vehicle market, incorporating urban delivery vans, on-road construction vehicles, work trucks with power-using auxiliaries, as well as the ubiquitous long-haul truck-trailer combinations. Further, a poorly designed performance standard that pushes operators into smaller vehicles may result in greater and not fewer of the emissions the draft intends to reduce.” (Transportation)
- “The text of the draft suggests that EPA may consider such standards to include hybrid diesel/electric locomotives and the application of dynamic braking.” (Transportation)

Effects on aviation:

- “Fourth, the draft invites comments on potential aviation operational controls that might have emissions benefits. But proposals for changes to airspace or air traffic operational procedures usurp the FAA’s responsibility as the Nation’s safety regulator and air traffic manager.” (Transportation)

Effects on trade:

- “Applying tariffs to imports from countries without carbon regulations would have a number of significant repercussions. In addition to exposing the United States to World Trade Organization challenges by our trading partners, unilateral U.S. carbon tariffs could spark retaliatory measures against U.S. exporters, the brunt of which would fall on U.S. workers, consumers, and businesses. For example, a World Bank study found that carbon tariffs applied to U.S. exports to Europe ‘could result in a loss of about 7 percent in U.S. exports to the EU. The energy intensive industries, such as steel and cement...could suffer up to a 30 percent loss.’” (Commerce)

- “Moreover, carbon tariffs would actively undermine existing U.S. trade policy. ... Introducing new tariffs or export subsidies for carbon or energy content would undermine those efforts with respect to clean energy technologies specifically and U.S. goods and services more broadly, as well as invite other countries to expand their use of tariffs and subsidies to offset costs created by domestic regulations.” (Commerce)



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Testimony for the Hearing,
 “Healthy Planet, Healthy People: Global Warming and Public Health”
 Select Committee on Energy Independence and Global Warming
 United States House of Representatives
 The Honorable Ed Markey, Chair
 The Honorable F. James Sensenbrenner Jr., Ranking Member
 April 9, 2008, 10:00 a.m.

By Mark Z. Jacobson

I would like to thank the Honorable Chairman and Ranking Member and the committee for inviting me to testify today. I will discuss scientific findings on the effects of carbon dioxide, emitted during fossil-fuel combustion in California, the U.S., and the world, on air pollution and health in California relative to the U.S.. I will then discuss how these scientific findings differ from the two main assumptions made by Environmental Protection Agency (EPA) Administrator Stephen L. Johnson that formed the basis of his decision to deny California’s request for a waiver of Clean Air Act Preemption on March 6, 2008 (Johnson, 2008). These assumptions were (a) there is no difference in the impact of globally-emitted carbon dioxide on California versus U.S. health and (b) locally-emitted carbon dioxide does not affect California’s air pollution any more than does carbon dioxide emitted anywhere else in the world.

Summary

On March 6, 2008, EPA Administrator Stephen L. Johnson published a summary of his decision to deny the California Air Resources Board request for “a waiver of the Clean Air Act’s Prohibition on adopting and enforcing its greenhouse gas emission standards as they affect 2009 and later model year new motor vehicles” (Johnson, 2008). The decision was made following consideration of two issues:

“The appropriate criteria to apply therefore is whether the emissions of California motor vehicles, as well as California’s local climate and topography, are the fundamental causal factors for the air pollution problem of elevated concentrations of greenhouse gases, and in the alternative whether the effect in California of this global air pollution problem amounts to compelling and extraordinary conditions (Johnson, 2008, p. 12162).”

With regard to the first issue, Mr. Johnson decided that

“GHG (greenhouse gas) emissions from California cars are not a causal factor for local ozone levels any more than GHG emissions from other sources of GHG emissions in the world (Johnson, 2008, p. 12163).”

In other words, Mr. Johnson believes that because GHGs emitted in California eventually mix globally, California’s GHG emissions do not affect California ozone any more than another state

or country's GHG emissions affect California's ozone. With regard to the second issue, Mr. Johnson ruled,

"While I find that the conditions related to global climate change in California are substantial, they are not sufficiently different from conditions in the nation as a whole to justify separate state standards. As the discussion above indicates, global climate change has affected and is expected to affect, the nation, indeed the whole world, in ways very similar to the conditions noted in California. While proponents of the waiver claim that no other state experiences the impacts in combination as does California, the more appropriate comparison in this case is California compared to the nation as a whole, focusing on averages and extremes, and not a comparison of California to the other states individually. These identified impacts are found to affect other parts of the United States and therefore these effects are not sufficiently different compared to the nation as a whole. (Johnson, 2008, p. 12168).

The two questions raised by Mr. Johnson are questions of scientific fact. Because no publicly-available scientific paper(s) on these specific issues (namely the effects of global carbon dioxide on California versus U.S. air pollution health and the effects of California versus global carbon dioxide emissions on California air pollution health), were available prior to 2008 and no such study was cited in Johnson (2008), it appears reasonable to conclude that Mr. Johnson made his decision based on his own assumption that what he stated was scientific fact. The appearance that the decision was made on his assumption rather than scientific information is relevant since Johnson (2008, p. 12159) states, "As the court in MEMA I stated, 'here, too, if the Administrator ignores evidence demonstrating that the waiver should not be granted, or if he seeks to overcome that evidence with unsupported assumptions of his own, he runs the risk of having his waiver decision set aside as 'arbitrary and capricious.'"

The purpose of this document is to address the questions Mr. Johnson raised from a scientific approach. In particular, I report results from a recent peer-reviewed scientific study submitted for publication on June 22, 2007 and published on February 12, 2008 (Jacobson, 2008) and funded in part by the EPA, additional analysis of data from that study, and results from a follow up study that have not yet been published. Research published in this paper commenced about two years ago, before the waiver question became an issue and before EPA funding commenced on the project. It was also the culmination of research on the effect of climate change on air pollution that I started eight years ago and of research on the causes and effects of air pollution that I started 18 years ago.

Results from the studies and analyses are as follows

(a) Global warming due specifically to carbon dioxide currently increases the air-pollution-related death rate of people in California more than it increases the death rate of people in the United States as a whole, relative to their respective populations. Specifically, for every 1 degree Celsius (1.8 degrees Fahrenheit) temperature rise due to carbon dioxide, the U.S. death rate due to ozone and particle pollution increases above the baseline air pollution death rate of about 50,000-100,000 per year by approximately 1000 (350-1800) per year. Of these additional deaths, more than 30% occur in California. Since California has only 12 percent of the U.S. population, California suffers disproportionately (2.5 times) more deaths per person than the U.S. as a whole due to carbon-dioxide-induced global warming. The reason is that higher temperatures and water vapor due to carbon dioxide increase pollution the most where it is already high (Jacobson, 2008), and California has six of the ten most-polluted cities in the United States. The deaths are currently occurring and will occur more as temperatures increase in the future.

(b) Any emissions of carbon dioxide, whether in California or elsewhere, increase air pollution health problems in California at a rate 2.5 times higher than in the United States as a whole, even if the carbon dioxide becomes well-mixed in the atmosphere immediately after emissions, which it does not. Conversely, controlling carbon dioxide from California will reduce the air-pollution-

related death and illness rate in California at a rate 2.5 times faster than it will reduce the death rate of the U.S. as a whole.

(c) Emissions of carbon dioxide do not mix immediately to the global atmosphere. Instead, carbon dioxide mixing ratios in polluted cities are higher than are those in surrounding areas. Although carbon dioxide in cities disperses to the global atmosphere, their continuous emissions from vehicles and power plants keep their levels high over cities. It is shown here that such elevated levels of carbon dioxide increase air pollution, particularly ozone. As such, locally-emitted carbon dioxide is a causal factor in increasing local air pollution.

The three conclusions here – that (a) carbon-dioxide-induced global warming increases air pollution health problems more in California per capita than it does in the U.S. as a whole, (b) controlling California carbon dioxide emissions will decrease the California death rate at more than 2.5 more per capita than it will decrease the death rate of the U.S. as a whole, and (c) local carbon dioxide emissions from vehicles in California causally increase local air pollution and health problems in California contradict both assumptions made by Mr. Johnson in his stated decision, namely (a) there is no difference in the impact of globally-emitted carbon dioxide on California versus U.S. health and (b) locally-emitted carbon dioxide does not affect California's air pollution any more than does carbon dioxide emitted anywhere else in the world.

Discussion

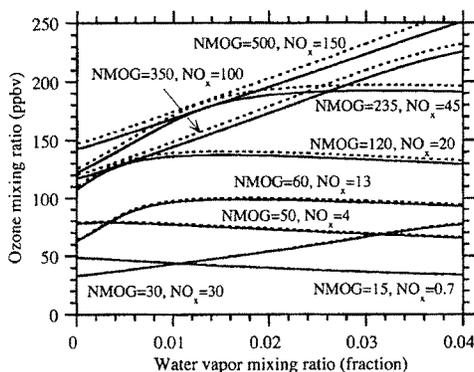
The effects of carbon dioxide on air pollution and the resulting effects on health can be determined only from large-scale computer model simulations, where the model treats the physics, chemistry, and meteorology of the atmosphere and has been evaluated thoroughly. Data measured in the atmosphere (e.g., from surface measurements, radiosonde, aircraft, satellite) can be used to show correlation only, not cause and effect. As such, it is not possible to use data alone to answer the question of the effects of carbon dioxide on air pollution. A computer model can show cause and effect when one input parameter at a time is changed. In the present case, the input parameter is carbon dioxide, and the goal is to determine the effect of carbon dioxide emissions on air pollution-related health problems in California and the United States.

Prior to 2008, many computer modeling studies had examined the sensitivity of near-surface ozone to temperature (Sillman and Samson, 1995; Zhang et al., 1998), the regional or global effects of climate change from all greenhouse gases on near-surface ozone (Thompson et al., 1989; Evans et al., 1998; Dvortsov et al., 2001; Mickley et al., 2004; Stevenson et al., 2005; Brasseur et al., 2006; Murazaki and Hess, 2006; Steiner et al., 2006; Racherla and Adams, 2006) or near-surface aerosol particles (Aw and Kleeman, 2003; Liao et al., 2006; Unger et al., 2006), and the effects of future global warming on regional ozone-related health problems (Knowlton et al., 2004; Bell et al., 2007). These studies generally found that higher temperatures increased ozone. However, no study had isolated the effect of carbon dioxide alone, emitted to date, on ozone, particles, or carcinogens, applied population and health data to the pollution changes over the U.S. as a whole, or examined the problem with a global-through-regional climate/air pollution model that treated feedback of gases and particles to clouds and meteorology. Jacobson (2008) performed a study accounting for these factors. The study used the computer model GATOR-GCMOM, which is a model developed over the last 18 years. It is described by Zhang (2008) as the first and still only unified, consistent global-to-urban scale air-quality-climate model worldwide and the “first fully-coupled online model to account for all major feedbacks among major atmospheric processes based on first principles (p. 1844).” As such, it was the most appropriate model for the type of study described here. The model had been evaluated against data in several published papers (e.g., Jacobson, 2001, 2004, 2007).

The model was first used to examine the effects of temperature alone and, separately, water vapor alone on ozone due to chemical reactions in the atmosphere. For this calculation, an exact numerical solver of chemical equations was used. No other process aside from photochemistry was solved. Figure 1 shows the resulting ozone predictions for a variety of initial levels of oxides of nitrogen (NO_x) and nonmethane organic gases (NMOGs). **A comparison of the solid lines (base temperature) with the dashed lines (higher temperature) in the figure**

shows that a 1 degree Kelvin or Celsius (≈ 1.8 degrees Fahrenheit) increase in temperature increases ozone when ozone is already high but has little or no effect on ozone when ozone is low. The figure also shows that water vapor (horizontal axis) independently increases ozone when ozone is high but generally has little effect or slightly decreases ozone when ozone is low.

Figure 1. Mixing ratio of ozone and several other gases as a function of water vapor mixing ratio after 12 hours of a box-model chemistry-only simulation initialized at 0430 under several NO_x and nonmethane organic gas (NMOG) mixing ratio combinations (ppbv) at 298.15 K (solid lines) and 299.15 K (dashed lines). The simulations assumed sinusoidally varying photolysis between 0600 and 1800.



The next step was to apply the numerical solution to chemical equations with solutions to equations for meteorological, aerosol microphysical, cloud, radiative, ocean, and surface processes within GATOR-GCMOM to examine the effect of carbon dioxide on ozone, particulate matter, and carcinogens. For this calculation, the model was set up in 'nested' mode whereby a high-resolution regional grid over the United States was fit within a coarser-resolved global grid. Both grids were three-dimensional and consisted of vertically-stacked layers of horizontally-adjacent boxes. Predicted meteorological, gas and aerosol variables from the global grid fed into the regional grid at the latter's boundaries. As such, it was possible to simulate the current global climate and the global climate with preindustrial levels of carbon dioxide emissions in both grids simultaneously and have the global-scale climate and air pollution variables from the global grid feed into the regional grid. Emissions for the simulations were spatially distributed. Thus, separate emissions occurred in each surface grid box in both grids.

Figure 2 shows results over the U.S. after taking the difference between the two simulations (e.g., one simulating present-day climate/air pollution and another simulating climate/air pollution at preindustrial carbon dioxide emission levels). It shows that human-emitted carbon dioxide caused an increase in near-surface temperatures and water vapor (Figures 2a,b). Increases in both thereby increased near-surface ozone (Figure 2c), as expected from Figure 1.

More specifically, Figure 2c indicates that carbon dioxide increased ozone by 0.12 ppbv over the U.S., with increases of 1-5 ppbv in the southeast and up to 2 ppbv along the northeast coast. In Los Angeles, the average temperature increase of 0.75 K (Figure 2a) and water vapor increase of 1.3 ppbv increased ozone by up to 5 ppbv.

Figure 2. Four-month (mid-July to mid-November) grid-averaged near-surface differences in (a) temperature, (b) water vapor, and (c) ozone between the present-day and preindustrial-carbon dioxide simulations. The grid-averaged (over land and water) change for each surface plot is given in parentheses.

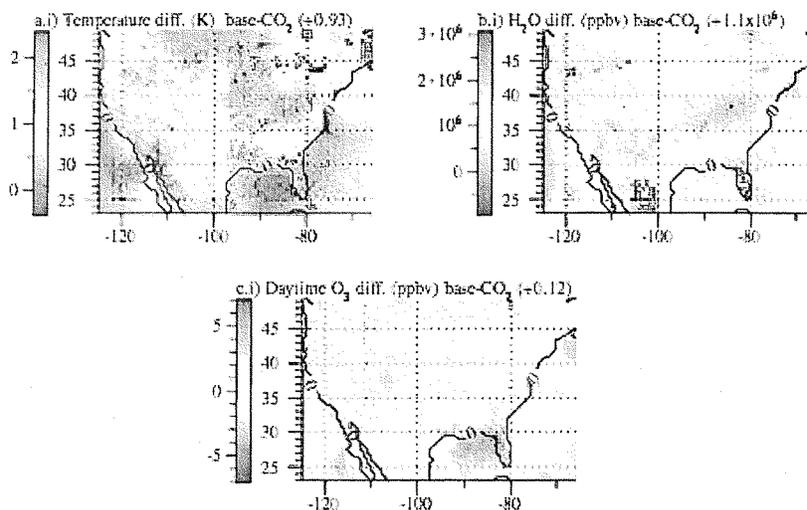


Table 1 indicates that the population-weighted ozone increase due to carbon dioxide was +0.72 ppbv, which compares with the land-averaged increase of 0.12 ppbv (Figure 2c), indicating a greater ozone increase over populated areas than less-populated areas. This result supports the hypothesis from the chemistry-only calculation that higher temperatures and water vapor due to carbon dioxide increase ozone the most where ozone is already high.

Carbon dioxide similarly increased particles in populated areas (Table 1) by warming the air more than the ground, decreasing vertical and horizontal pollution dispersion, increasing particle buildup near sources. The water vapor increase due to carbon dioxide also increased the relative humidity, swelling aerosol particles, increasing absorption of these particles by other gases, increasing the size of these particles. Carbon dioxide warming also increased land precipitation increasing aerosol removal, offsetting some of the increases in particle mass due to other processes, but not nearly enough to cause a decrease in particle levels.

The spatially-resolved changes in ozone, particles, and carcinogens (benzene, butadiene, formaldehyde, acetaldehyde) from Figure 2 and similar results were combined with population and health-effects data to produce estimates of the U.S. health effect changes due to enhanced air pollution from anthropogenic carbon dioxide. Table 1 provides resulting statistics. Mortality increases due to carbon dioxide were +415 (+207 to +620)/yr for ozone and +640 (+160 to +1280)/yr for particles per 1.07 K (Table 1) or a total of near +1000 (+350 to +1800) per 1.00 K (a 1.1% increase relative to the baseline death rate - Table 1), with about 40% due to ozone.

A simple extrapolation from U.S. to world population (301.5 to 6600 million) gives 21,600 (7400-39,000) deaths/yr worldwide per 1 K due to carbon dioxide above the baseline air pollution death rate (2.2 million/yr). The ozone portion of this (8,500 deaths/yr) is conservative compared with 15,500 deaths/yr, calculated from *West et al.* (2006), who examined the global

health effects of ozone changes, but with a lower threshold for ozone health effects (25 ppbv versus 35 ppbv here).

Carbon dioxide increased carcinogens, but the increase was small. Isoprene increases due to higher temperatures increased formaldehyde and acetaldehyde. Reduced dispersion increased exposure to these carcinogens as well as benzene and 1,3-butadiene.

Table 1. Summary of CO₂'s effects on cancer, ozone mortality, ozone hospitalization, ozone emergency-room (ER) visits, and particulate-matter mortality. Results are shown for the present-day ("Base") and present-day minus preindustrial ("no-fCO₂") 3-D simulations. All mixing ratios and concentrations are near-surface values averaged over four months (mid-July to mid-November) and weighted by population (!). Divide the last column by 1.07 K (the population-weighted CO₂-induced temperature change from Table S4) to obtain the health effect per 1 K.

	Base	Base minus no fCO ₂
Carcinogens		
Formaldehyde (ppbv)	3.61	+0.22
Acetaldehyde (ppbv)	2.28	+0.203
1,3-Butadiene (ppbv)	0.254	+0.00823
Benzene (ppbv)	0.479	+0.0207
USEPA cancers/yr*	389	+23
OEHHA cancers/yr*	789	+33
Ozone		
8-hr ozone (ppbv) in areas ≥ 35 ppbv%	42.3	+0.724
Pop (mil.) exposed in areas ≥ 35 ppbv#	184.8	184.8
High ozone deaths/yr*	6230	+620
Med. ozone deaths/yr*	4160	+415
Low ozone deaths/yr*	2080	+207
Ozone hospitalizations/yr*	24,100	+2400
Ozone ER visits/yr*	21,500	+2160
Particulate matter		
PM2.5 ($\mu\text{g}/\text{m}^3$) in areas $> 0 \mu\text{g}/\text{m}^3$ \$	16.1	+0.065
Pop (mil.) exposed in areas $\geq 0 \mu\text{g}/\text{m}^3$	301.5	301.5
High PM2.5 deaths/yr^	191,000	+1280
Medium PM2.5 deaths/yr^	97,000	+640
Low PM2.5 deaths/yr^	24,500	+160

(!) A population-weighted value is defined in the footnote to Table S4.

(+) USEPA and OEHHA cancers/yr were found by summing the product of individual CUREs (cancer unit risk estimates=increased 70-year cancer risk per $\mu\text{g}/\text{m}^3$ sustained concentration change) by the population-weighted mixing ratio or mixing ratio difference of a carcinogen, by the population, and air density, over all carcinogens, then dividing by 70 yr. USEPA CUREs are 1.3×10^{-5} (formaldehyde), 2.2×10^{-6} (acetaldehyde), 3.0×10^{-5} (butadiene), 5.0×10^{-6} (=average of 2.2×10^{-6} and 7.8×10^{-6}) (benzene) (www.epa.gov/IRIS/). OEHHA CUREs are 6.0×10^{-6} (formaldehyde), 2.7×10^{-6} (acetaldehyde), 1.7×10^{-4} (butadiene), 2.9×10^{-5} (benzene) (www.ochha.ca.gov/risk/ChemicalDB/index.asp).

(%) 8-hr ozone ≥ 35 ppbv is the highest 8-hour-averaged ozone during each day, averaged over all days of the four-month simulation in areas where this value ≥ 35 ppbv in the base case. When base O₃ >35 ppbv and no-fCO₂ O₃ <35 ppbv, the mixing ratio difference was base O₃ minus 35 ppbv.

(#) The 2007 population exposed to ≥ 35 ppbv O₃ is the population exposed to a four-month-averaged 8-hour averaged ozone mixing ratio above 35 ppbv and was determined from the base case.

(*) High, medium, and low deaths/yr, hospitalizations/yr, and emergency-room (ER) visits/yr due to short-term O₃ exposure were obtained from Eq. 2 applied to each model cell, summed over all cells. The baseline 2003 U.S. death rate (γ_0) was 833 deaths/yr per 100,000 [*Hoyert et al.*, 2006]. The baseline 2002 hospitalization rate due to respiratory problems was 1189 per 100,000 [*Merrill and Elixhauser*, 2005]. The baseline 1999 all-age emergency-room visit rate for asthma was 732 per 100,000 [*Mannino et al.*, 2002]. These rates were assumed to be the same in each U.S. county although they vary slightly by county. The fraction increases (β) in the number of deaths from all causes due to ozone were 0.006, 0.004, and 0.002 per 10 ppbv increase in daily 1-hr maximum ozone [*Ostro et al.*, 2006]. These were multiplied by 1.33 to convert the risk associated with 10 ppbv increase in 1-hr maximum O₃ to that associated with a 10 ppbv increase in 8-hour average O₃ [*Thurston and Ito*, 2001]. The central value of the increased risk of hospitalization due to respiratory disease was 1.65% per 10

ppbv increase in 1-hour maximum O₃ (2.19% per 10 ppbv increase in 8-hour average O₃), and that for all-age ER visits for asthma was 2.4% per 10 ppbv increase in 1-hour O₃ [Ostro *et al.*, 2006] (3.2% per 10 ppbv increase in 8-hour O₃). All values were reduced by 45% to account for the mid-July to mid-November and year-around O₃ >35 ppbv ratio, obtained from detailed observations [H. Tran, *pers. comm.*].

(§) This is the simulated 24-hr PM_{2.5}, averaged over four months, in locations where PM_{2.5} ≥ 0 µg/m³.

(^) The death rate due to long-term PM_{2.5} exposure was calculated from Eq. 2. Pope *et al.*, [2002] provide increased death risks to those ≥30 years of 0.008 (high), 0.004 (medium), and 0.001 (low) per 1 µg/m³ PM_{2.5} >8 µg/m³ based on 1979-1983 data. From 0-8 µg/m³, the increased risks were conservatively but arbitrarily assumed =¼ those >8 µg/m³ to account for reduced risk near zero PM_{2.5}. Assuming a higher risk would strengthen the conclusion found here. The all-cause 2003 U.S. death rate of those ≥30 years was 809.7 deaths/yr per 100,000 total population. No scaling of results from the 4-month model period to the annual average was performed to be conservative, since PM_{2.5} concentrations from July-November are lower than in the annual average based on California data [H. Tran, *pers. comm.*].

Impacts of Carbon Dioxide on California Versus U.S. Air Pollution Health

In sum, Jacobson (2008) showed by cause and effect that carbon dioxide emitted regionally around the globe increases ozone, particle, and carcinogen air pollution health problems in the United States. The study also found that pollution increases the most where air pollution is already high. Subsequently, data from the study have been extracted to calculate the portion of air pollution health problems that occurred in California. The result was that, of the additional 1000 (+350 to +1800) deaths per year in the United States due to carbon dioxide, more than 30% (>300) occurred in California, which has only 12% of the U.S. population. As such, the death rate per capita in California was over 2.5 times the national average death rate per capita due to carbon dioxide-induced air pollution. This result is not a surprise since 6 of the 10 most polluted cities in the United States, with respect to photochemical smog, are in California: Los Angeles, Visalia-Porterville, Bakersfield, Fresno, Merced, and Sacramento (e.g., www.citymayors.com/environment/polluted_uscities.html).

The disproportionate effect of carbon-dioxide-induced global warming on California compared with the rest of the United States found in this analysis contradicts a major assumption by Mr. Johnson in his decision to deny California a waiver, namely that there is no difference in the impact of globally-emitted carbon dioxide on health in California versus the U.S. as a whole. (Johnson, 2008, p. 12168).

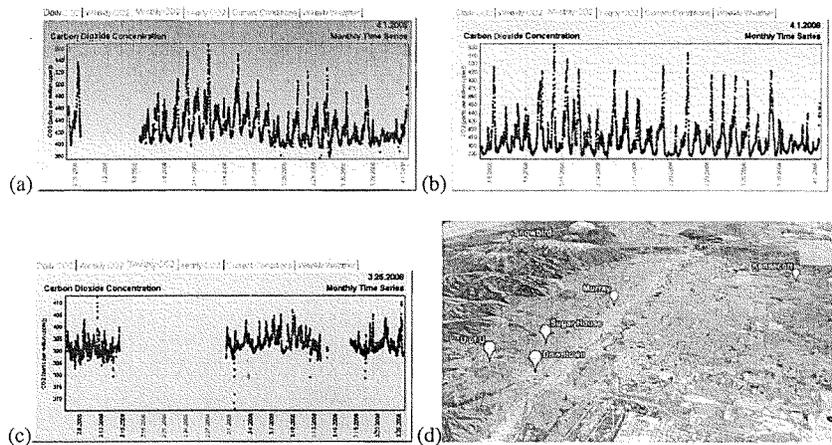
Impacts of California-Emitted Carbon Dioxide on California Health.

The results from Jacobson (2008) and the subsequent analysis of the disproportionate death rate in California versus the U.S. as a whole due to carbon dioxide provide further insight into the effect of locally-emitted carbon dioxide on local California air pollution health.

First, let's examine the effect of carbon dioxide as if local emissions were instantaneously mixed globally, which is not the case in reality. In such a case, the carbon dioxide emitted from California or the United States has the effect of increasing the death rate more in California than the rest of the United States because increases in global-scale carbon dioxide increase air pollution health problems more per capita in California than in the United States as a whole (analysis above). As such, controlling local carbon dioxide in California alone would reduce the air-pollution-related death and illness rate in California at a rate 2.5 times greater per capita than it would reduce such rates in the U.S. as a whole.

The above discussion assumed that carbon dioxide emissions mix quickly to the global atmosphere, as Mr. Johnson assumed in his waiver denial (Johnson, 2008, p. 12160). However, emissions of carbon dioxide do not mix immediately to the global atmosphere. Instead, carbon dioxide mixing ratios in polluted cities are much higher than are those in surrounding areas, as shown with data in Figure 3. Although the global background mixing ratio of carbon dioxide is currently about 385 ppmv (<http://www.esrl.noaa.gov/gmd/ccgg/trends/>), the data in Figure 3 indicate that the average mixing ratios in a medium-sized city's downtown area (Fig. 3a) or nearby (Fig. 3b) can be 420-440 ppmv and can peak at over 500 ppmv. Even just outside of a city, mixing ratios can average about 395 ppmv (Fig. 3c).

Figure 3. Measured mixing ratios (ppmv) of carbon dioxide in (a) downtown Salt Lake City, (b) the Sugar House monitoring site in Salt Lake City, and the Kennecott monitoring site in Salt Lake City over a month or more preceding April 1, 2008. (d) Map of the locations. Data and maps from the Ehleringer Lab at the University of Utah (<http://co2.utah.edu>).



Although carbon dioxide in cities disperses to the global atmosphere, its continuous emissions from vehicles, power plants, and other sources keep its levels high over cities. It is shown here that such elevated levels of carbon dioxide can increase ozone. Figure 4a shows the computer-modeled changes in carbon dioxide in California for the month of August when two simulations were run: one with fossil-fuel emissions of carbon dioxide (fCO_2) and one without such emissions. The elevated carbon dioxide over the urban areas (Los Angeles, San Francisco, Central Valley) is consistent with the expectations of elevated carbon dioxide in a city, as determined from data (e.g., Figure 3). It should be noted that the model grid cells for the simulations had resolution of around 15 km. A more highly-resolved domain results in higher peaks in carbon dioxide. For example, with a 5 km domain, the peak carbon dioxide above the background in Los Angeles is about 90 ppmv.

Figure 4. Modeled difference in the mixing ratios (all ppbv) of (a) carbon dioxide, (b) water vapor, and (c) daytime ozone in California during August when two simulations were run: one with fossil-fuel emissions of carbon dioxide (fCO_2) and one without such emissions. For both simulations, two nested grids were used: a global and California grid. Initial ambient levels of carbon dioxide were the same in both simulations on the California grid. Both emissions and ambient levels of carbon dioxide were the same in the global and grids in both simulations in order to ensure that local effects of carbon dioxide in California were isolated. This differs from Jacobson (2008), where both ambient and emission levels of carbon dioxide were set to preindustrial values in all grids to test whether global and local carbon dioxide would impact local pollution. The numbers in parentheses are average changes over all land points in the figure.

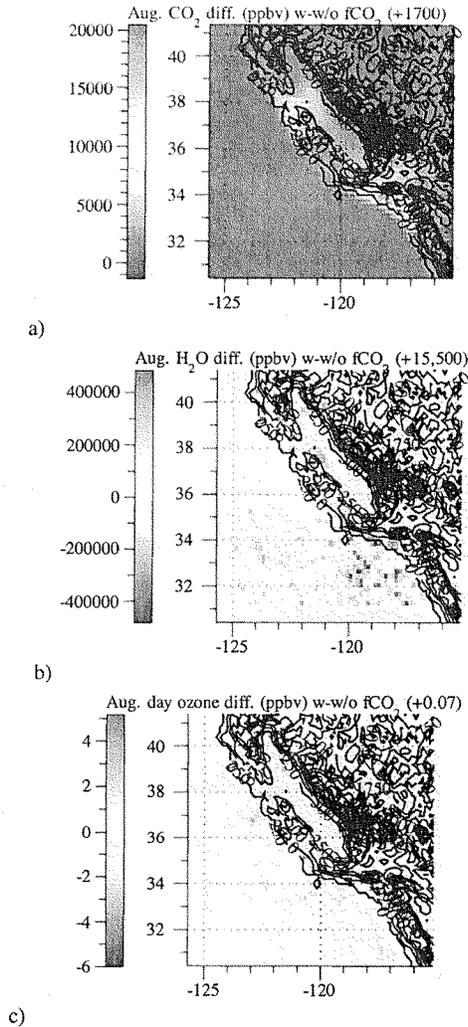


Figure 4b shows that the increases in carbon dioxide in California led to an increase in water vapor, and this resulted in a net increase in ozone over all land in California, with increases in the Central Valley of up to 2 ppbv and in Los Angeles of up to 4-5 ppbv. These changes compare with polluted-air mixing ratio of above 100 ppbv and California-average daytime ozone mixing ratios in August of around 55 ppbv. Decreases also occurred in some location, but ozone increased on average over land (Figure 4c). The increases should be larger over a longer simulation period as the carbon dioxide changes from Figure 4a spread to a greater extent horizontally and vertically over California. Nevertheless, since carbon dioxide emissions outside

of the grids shown were not perturbed for the simulations, the simulations during the limited time simulated demonstrate that the effects on ozone found here were due solely to locally-emitted carbon dioxide. The figures thus demonstrate by cause and effect (since carbon dioxide emission in California was the only variable changed) that increases in locally-emitted carbon dioxide increase local ozone in California.

In sum, locally-emitted carbon dioxide is a fundamental causal factor of air pollution in California. This result contrasts with Mr. Johnson's assumption that "GHG emissions from California cars are not a causal factor for local ozone levels any more than GHG emissions from other sources of GHG emissions in the world (Johnson, 2008, p. 12163)."

Conclusions

This analysis finds the following:

- 1) Globally-emitted carbon dioxide increases air pollution-related mortality and other health problems in California at a rate at least 2.5 times that of the United States as a whole. The main reason is that higher temperatures and water vapor due to carbon dioxide increase pollution the most where pollution is already bad, and California has the highest levels of air pollution in the United States.
- 2) If emitted carbon dioxide were mixed instantaneously to the globe, which it doesn't, a decrease in California-emitted carbon dioxide would decrease the local air pollution death rate in California by at least a factor of 2.5 times more than it would decrease the death rate of the U.S. as a whole. Similarly, decreases in U.S.-emitted carbon dioxide would decrease the air pollution death rate in California at a rate at least 2.5 times higher than it would decrease the death rate of the U.S. as a whole.
- 3) Continuous local carbon dioxide emissions cause an increase in local outdoor carbon dioxide relative to the global average, particularly in cities. The higher carbon dioxide in cities, increasing ozone. As such, carbon dioxide is a fundamental causal factor of local air pollution.
- 4) Scientific findings 1-3 contradict the two assumptions that served as the basis for Mr. Johnson's decision to deny California a waiver – namely that (a) there is no difference in the impact of globally-emitted carbon dioxide on California versus U.S. health and (b) the effect of locally-emitted carbon dioxide emissions on California air pollution is no greater than the effect of U.S. or worldwide carbon dioxide emissions on California air pollution. I am unaware of any scientific publication or unpublished study that supports either assumption.

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The Alliance for Industrial Efficiency

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Testimony of David Gardiner,
Executive Director, Alliance for Industrial Efficiency

Hearing on “Energy Tax Prevention Act of 2011”
House Committee on Energy and Commerce
Subcommittee on Energy and Power

February 9, 2011

Chairman Upton, Subcommittee Chairman Whitfield, Ranking Member Waxman, and other members of the Committee, thank you for the opportunity to testify on this important topic. The focus of my testimony will be on the prominent role energy efficiency plays in the Environmental Protection Agency’s (EPA) approach to regulating greenhouse gas emissions and the advantages of this approach for US manufacturers.

I am the Executive Director of the Alliance for Industrial Efficiency, a diverse coalition that includes representatives from the business, environmental, labor and contractor communities. The Alliance is committed to enhancing manufacturing competitiveness, reducing emissions, and creating jobs through industrial energy efficiency, especially through the use of Waste Heat Recovery (WHR) and Combined Heat and Power (CHP).

As McKinsey and Company has recognized: “Energy efficiency offers a vast, low-cost energy resource for the U.S. economy – but only if the nation can craft a comprehensive and innovative approach to unlock it.”¹ EPA’s GHG Guidance provides this innovative approach. The EPA rules will create opportunities for the largest factories and power plants to identify ways to become more efficient – and save money over their operating lifetimes. The rules will drive installation of proven technology that will enhance America’s manufacturing competitiveness.

Waste Heat Recovery and Combined Heat and Power will Make American Manufacturing More Competitive

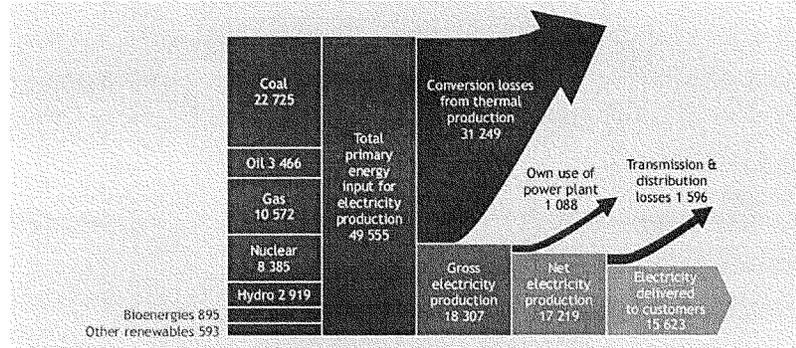
Conventional power generation is incredibly inefficient and has changed little since the days of Thomas Edison. As the following graphic illustrates, roughly two-thirds of energy inputs (68 percent) are simply emitted into the air under conventional approaches, with a mere 32 percent actually delivered to customers:

¹ McKinsey & Company, July 2009, “Unlocking Energy Efficiency in the U.S. Economy,” at 1 (http://www.mckinsey.com/client-service/electric-power/natural-gas/downloads/us_energy_efficiency_full_report.pdf).

The Alliance for Industrial Efficiency

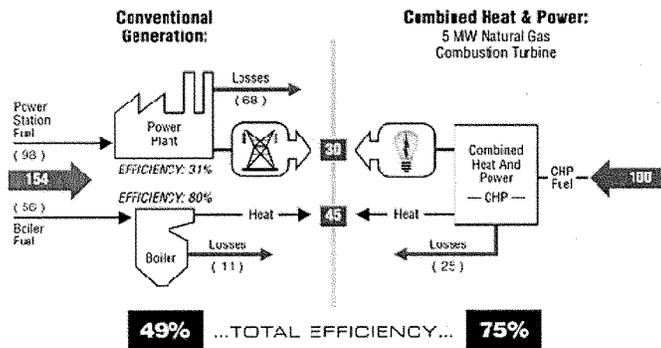
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FIGURE 1: Losses from Conventional Power Generation² (TWh)



Perpetuating energy waste is a mistake. By capturing and reusing this waste heat, Waste Heat Recovery (WHR) and Combined Heat and Power (CHP) convert what would otherwise be wasted energy into additional electricity and thermal energy (heat). This dramatically increases fuel efficiency - allowing utilities and companies to effectively “get more with less.” As Figure 2 illustrates, total fuel use is significantly greater with conventional separate heat and power generation (here 154 units) than it is under Combined Heat and Power (here 100 units).

FIGURE 2: CHP System



Efficiency³

² International Energy Agency, 2008, “Combined Heat and Power: Evaluating the benefits of greater global investment,” at 6 (Figure 3) (http://www.iea.org/papers/2008/chp_report.pdf).

³ US EPA, “Output-Based Environmental Regulations Fact Sheet” (http://www.epa.gov/chp/state-policy/obr_factsheet.html) (Note that this figure is for illustration only. CHP performance relative to separate heat and power depends on numerous site- and project-specific factors).

WHR and CHP offer a scalable, off-the-shelf technology that can provide enormous amounts of clean, low cost power. According to the U.S. Department of Energy's Oak Ridge National Laboratory, CHP could supply 20 percent of U.S. electric capacity by 2030, thereby helping to create jobs and save industry money. Under this scenario, WHR and CHP can produce 156 gigawatts (GW) of new, clean power by 2030 – equal to the capacity of more than 300 conventional power plants.⁴ Moreover, full deployment of these technologies could reduce CO₂ emissions by more than 800 million metric tons per year – the equivalent of removing more than half of the current passenger vehicles from the road.⁵ These reductions not only have obvious environmental benefits, but also enhance manufacturing competitiveness by reducing costs.

The economic savings of energy efficiency are evident at ArcelorMittal's Northern Indiana steel plant where Waste Heat Recovery projects capture and harness the manufacturer's waste heat to generate 220 megawatts of power⁶ – more clean electricity than all the solar panels connected to the U.S. electric grid. Recycling energy saves the plant \$100 million annually,⁷ while reducing carbon emissions by the equivalent of removing 166,000 cars from the road.⁸ In part because of these savings, this was the only ArcelorMittal facility to remain in full operation throughout the recession.

WHR and CHP facilities can use the money they save on energy to expand labor and production. Take, for example, West Virginia Alloy, the country's largest silicon producer. For more than 75 years, West Virginia Alloys has melted quartz rock, converting it into silicon metal while venting its 1,400° F waste heat into the atmosphere. Their new project will recycle this heat to create 65 megawatts of pollution-free power, saving the company millions each year. West Virginia Alloys plans to use the savings to build a new (sixth) furnace, increasing both production and employment by 20 percent – and taking a key step to help bring silicon manufacturing back from overseas.⁹

Indeed, WHR and CHP can fuel job creation nationwide. The Oak Ridge National Laboratory finds that a robust investment in CHP could create nearly 1 million new, highly-skilled technical jobs across the country.¹⁰ These workers would be responsible for the construction, installation and maintenance of CHP equipment – as energy recycling equipment is manufactured right here in the United States. By identifying WHR and CHP as available control options, EPA's GHG

⁴ Estimate assumes typical power generation of 500 MW from a traditional coal-fired power plant.

⁵ Oak Ridge National Laboratory (ORNL), Dec. 1, 2008, *Combined Heat and Power: Effective Energy Solutions for a Sustainable Future*, at 4 (http://www1.eere.energy.gov/industry/distributedenergy/pdfs/chp_report_12-08.pdf).

⁶ Primary Energy Recycling Corp (PERC) website (reporting a combined 220 megawatts of installed capacity; calculation of thermal energy based on energy content of reported steam capacity) (<http://www.primaryenergyrecycling.com/projects.htm>).

⁷ Chris Steiner, "Gray is the New Green," *Forbes*, Sept. 15, 2008 (http://www.forbes.com/forbes/2008/0915/054_2.html).

⁸ Thomas R. Casten, Aug. 2008, "Profitably Reducing Greenhouse Gas Emissions," at 3 (<http://www.recycled-energy.com/documents/media-kit/REID-ReducingBroch.pdf>).

Guidance helps jumpstart this investment, reducing energy costs and creating employment opportunities for America's manufacturing sector.

EPA's Greenhouse Gas Rules

The Alliance for Industrial Efficiency has applauded EPA's PSD and Title V Permitting Guidance for Greenhouse Gases (hereinafter "BACT Guidance"). The Guidance would provide a significant boost to energy efficiency and productivity at US manufacturing facilities. The BACT Guidance reflects EPA's pragmatic, common-sense approach to regulating GHG emissions. It requires facilities to adopt Best Available Control Technology (BACT), taking economic, energy, environmental and other costs into consideration. Because regulators are explicitly told to look closely at the cost effectiveness of control technologies, burdensome requirements will not be imposed on regulated entities. To the contrary, EPA has made clear that energy efficiency is the centerpiece of its compliance strategy.

EPA has adopted reasonable standards for emitting sources. The Guidance simply requires facilities to adopt "technically feasible" and proven control options. Of note, EPA's Guidance explicitly recognizes the benefits of WHR and CHP. It mentions WHR and CHP in the Guidance itself,¹¹ the example in Appendix H (where waste heat recovery is identified as BACT); and in each of the accompanying white papers, which explicitly mention CHP/ waste heat recovery as available technologies for each of the covered sectors.¹² Indeed, as elaborated above, WHR and CHP have a significant role to play in reducing greenhouse gas emissions.

¹¹ See, e.g., US EPA, Office of Air and Radiation, EPA-HQ-OAR-2010-0841; FRL-9228-2, Nov. 2010, "PSD and Title V Permitting Guidance for Greenhouse Gases," at 31 (hereinafter "BACT Guidance") ("Furthermore, combined cycle combustion turbines, which have higher efficiencies than simple cycle turbines, should be listed as options when an applicant proposes to construct a natural gas-fired facility").

¹² See, e.g., US EPA, Office of Air and Radiation, Oct. 2010, "Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from Industrial Commercial, and Institutional Boilers," at 10 (Table 1) (identifying Combined heat and power as an "applicable" technology for all boilers) (<http://www.epa.gov/nsr/ghgdocs/icjboilers.pdf>); US EPA, Office of Air and Radiation, Oct. 2010, "Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from the Pulp and Paper Manufacturing Industry," at 11 (Table 3) ("List of Control Measures and Energy Efficiency Options" identifies various heat recovery technologies) (<http://www.epa.gov/nsr/ghgdocs/pulpandpaper.pdf>); US EPA, Office of Air and Radiation, Oct. 2010, "Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from the Iron and Steel Industry," at 9-10 (Table 1) (identifies heat recovery as a technology used in steel production) & 31 ("All steel plants require both electricity and steam to operate, which make them good candidates for combined heat and power (CHP), also known as cogeneration.") (<http://www.epa.gov/nsr/ghgdocs/ironsteel.pdf>); US EPA, Office of Air and Radiation, Oct. 2010, "Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from Coal-Fired Electric Generating Units," at 28 (Exhibit 3-1) (identifying several heat-recovery technologies as a technology being used at existing utilities) (<http://www.epa.gov/nsr/ghgdocs/electricgeneration.pdf>); US EPA, Office of Air and Radiation, Oct. 2010, "Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from the Portland Cement Industry," at 10 (Table 3) (listing "Heat recovery for power - cogeneration" as an available control measure) (<http://www.epa.gov/nsr/ghgdocs/cement.pdf>); US EPA, Office of Air and Radiation, Oct. 2010, "Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from the Petroleum Refining Industry," 14-19 (Table 1) & 27 ("The large steam requirements for refining operations and the continuous operations make refineries excellent candidates for combined heat and power (CHP) generation.") (<http://www.epa.gov/nsr/ghgdocs/refineries.pdf>); US EPA, Office of Air and Radiation, Oct. 2010, "Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from the Nitric Acid Production Industry," at 13 &

New construction of manufacturing facilities and energy efficiency modifications to existing facilities will continue under EPA's GHG rules. States and the companies they regulate are ready to begin this process. As the National Association of Clean Air Agencies (NACAA) reports, every state but one is poised to issue BACT permits.¹³ Moreover, EPA is ready to serve as a partner in implementation. The Guidance and accompanying White Papers provide examples of available control technologies. EPA has already created a database of permitted technologies for electric utilities and cement production,¹⁴ which should be expanded over time to reflect Best Available Control Technologies across different sectors. To the extent regulated entities need assistance identifying appropriate technologies, the network of DOE's Clean Energy Application Centers are well positioned to provide this guidance.¹⁵ Each of these tools reduces the purported "uncertainty" surrounding the permitting process.

While EPA's GHG regulation is in its early stages, the reasonableness of the process is evident in the recent experience of Calpine Corporation's Russell City Energy City in San Francisco, California, the first major power plant subject to federally enforceable greenhouse gas limits. Anticipating new EPA GHG regulations under the Clean Air Act, Calpine Corporation asked regulators to include GHG limits in its Prevention of Significant Deterioration (PSD) permit. During the permitting process, the local regulatory agency (Bay Area Air Quality Management District - BAAQMD) concluded that energy efficiency, particularly high-efficiency generating equipment was the only suitable set of technologies for the facility.¹⁶ BAAQMD dismissed infeasible proposed emissions controls, such as carbon capture and bio-sequestration. Nor did BAAQMD require Calpine to consider redesigning the facility to run on wind or solar power (despite requests by area environmental organizations). Rather, the regulators worked to develop fair, effective, and economical standards in granting permits. Calpine opted to install a combined cycle natural gas turbine, a type of waste heat recovery system, which reuses exhaust heat to generate additional electricity. Significantly, this approach will create 650 construction jobs and

¹⁴ ("energy recovery is a valuable resource for these facilities"; "bottoming cycle combined heat and power (CHP) could also be used for energy recovery at nitric acid plants.") (<http://www.epa.gov/nsr/ghgdocs/nitricacid.pdf>).

¹³ See National Association of Clean Air Agencies, October 28, 2010, "GHG Permitting Programs Ready to Go by January 2nd" ("[E]very state but one is poised to ensure that sources can obtain preconstruction permits under the Clean Air Act come January 2, 2011") (<http://www.4cleanair.org/Documents/NACAAGHGSIPCallletterssummaryfinal.pdf>).

¹⁴ US EPA, Greenhouse Gas Mitigation Strategies Database, Version 1.0 (visited Dec. 1, 2010) (<http://ghg.ic.unc.edu:8080/GHGMDDB/>).

¹⁵ See DOE, Industrial Distributed Energy website for more information on Clean Energy Application Center locations and contacts (<http://www1.eere.energy.gov/industry/distributedenergy/facs.html>). See also US EPA, Office of Air and Radiation, Oct 2010, "Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from the Pulp and Paper Manufacturing Industry," at 19 (highlighting available government resources: "For example, the U.S. EPA's Combined Heat and Power Partnership provides information on CHP technology basics, guidance for streamlining CHP projects, information on federal and state policies and incentives, CHP feasibility assessment tools, and a database of funding resources. The U.S. DOE's CHP Regional Application Centers provides educational assistance and project-specific support in eight different U.S. regions, including project development and screening tools; technical assistance and training; information regarding issues related to permitting, utilities, and siting; and case studies.") (<http://www.epa.gov/nsr/ghgdocs/pulpandpaper.pdf>).

¹⁶ EPA, Office of Air and Radiation, "GHG BACT Analysis Russell City Energy Center Case Study, 2010." (http://www.epa.gov/oar/caaac/pdfs/RCEC_GHG_BACT_Analysis_Case_Study.pdf).

add millions in taxable revenue for the City of Hayward.¹⁷ These job-creation benefits did not go unnoticed. In fact, Kim Huggett, president and CEO of the Hayward Chamber of Commerce, declared, “The Russell City Energy Center will be a magnet for bringing new business to Hayward.”¹⁸ Jack Fusco, president and CEO of Calpine, joined leaders from other utilities, reaffirming the economic benefits of the GHG permitting process, in a letter to the Wall Street Journal stating: “Contrary to the claims that the EPA’s agenda will have negative economic consequences, our companies’ experience complying with air quality regulations demonstrates that regulations can yield important economic benefits, including job creation, while maintaining reliability.”¹⁹

Through the tailoring rule, EPA has directed its regulation of GHGs toward the largest emitters. By focusing on these sources, EPA has limited regulation to facilities that already have experience complying with Clean Air Act rules. The Alliance for Industrial Efficiency supports this approach.

BACT compliance will create opportunities for factories and power plants to identify ways to become more efficient and save money over their operating lifetime. Indeed, potential savings in industrial energy use (and associated greenhouse gas emissions) are vast as the industrial sector is responsible for about one-third of total US energy demand.²⁰ BACT creates an opportunity for facilities to assess their processes and identify more efficient technologies to reduce emissions and save energy. This “introspection” will ultimately make regulated companies more competitive.

EPA is further advancing energy efficiency in its regulation of GHGs by “encourage[ing] permitting authorities to consider establishing an output-based BACT emissions limit, or a combination of output- and input-based limits, wherever feasible and appropriate.”²¹ Traditional “input-based” regulations set emission limits based on the amount of fuel used (e.g., pounds of pollutant per million BTUs). Output-based limits, however, are expressed as emissions per unit of useful energy output (e.g., pounds per megawatt hour). This rewards generators that have the highest “output” of megawatt hours and the lowest “output” of pollutants. EPA has adopted several output-based

¹⁷ Calpine, Russell City Energy Center Fact Sheet (<http://www.russellcityenergycenter.com/wp-content/uploads/2009/09/fact-sheet-909.pdf>).

¹⁸ Calpine Corporation, Nov. 18, 2010, Press Release: Russell City Energy Center on Track for Construction Following Decision by Federal Environmental Appeals Board (<http://plix.corporate-ir.net/phoenix.zhtml?c=103361&p=RssLanding&cat=news&id=1498689>).

¹⁹ Dec. 18, 2010, The Wall Street Journal, “We’re OK With the EPA’s New Air-Quality Regulations” (http://online.wsj.com/article/SB10001424052748703989004575653040755204932.html?mod=WSJ_Opinion_MIDDLEThirdBucket#articleTabs%3Darticle),

²⁰ See US Energy Information Administration, Aug. 19, 2010, Rep. No. DOE/EIA-0384(2009), “Annual Energy Review 2009,” (Table 2.1a Energy Consumption by Sector, Selected Years, 1949-2009); see also US Energy Information Administration, May 25, 2010, Report #: DOE/EIA-0484(2010), “International Energy Outlook 2010 - Highlights” (“The industrial sector uses more energy globally than any other end-use sector, currently consuming about 50 percent of the world’s total delivered energy.”) (<http://www.eia.doe.gov/oiaf/ieo/highlights.html>).

²¹ BACT Guidance. at 46. See also *id.* at 38 (noting that for “combustion sources, it may be more appropriate to rank control options based on output-based metrics that would fully consider the thermal efficiency of the options when determining control effectiveness”).

emissions standards,²² and has issued guidance encouraging states to adopt the same.²³ We appreciate that EPA has reaffirmed its interest in output-based standards in the Guidance,²⁴ and believe that this will further elevate energy efficiency as a compliance option.

Looking Forward

The Alliance for Industrial Efficiency is committed to making US manufacturers more competitive through industrial efficiency. We are pleased to see that EPA's GHG Guidance acknowledges the critical role that efficiency can play in reducing emissions and we believe EPA's regulation of GHG emissions can provide a valuable tool to help spur investments in industrial energy efficiency that will in turn expand American manufacturing and jobs.

Representative Upton's "Energy Tax Prevention Act of 2011" will hinder important investments in energy efficiency such as WHR and CHP. EPA's focus on energy efficiency as the primary method of reducing greenhouse gases will create new investments in manufacturing that will make America more competitive. We urge the Committee not to move forward with efforts to block these rules, but instead to focus on legislation to help manufacturers capture the tremendous opportunity from industrial energy efficiency. We urge the Committee to develop a Clean Energy Standard that includes industrial WHR and CHP. In addition, the Congress should expand existing tax incentives for these investments similar to that proposed in the last Congress by Representatives Heller, Paul, Inslee, and Tonko. In this way, Congress will complement EPA's efforts, driving new investment and job creation in America's manufacturing sector.

Thank you for the opportunity to testify.

²² EPA has used an output-based approach for the new source performance standards (NSPS) for NO_x from utility boilers, NSPS for mercury from coal-fired utility boilers, and cement kilns. For instance, the most recent *New Source Performance Standards for Stationary Gas Turbines* ([EPA-HQ-OAR-2004-0490, FRL-8033-4], RIN 2060-AM79, p. 38483) provides turbine owners with the option of using an output-based standard for calculating NO_x emitted per unit of useful recovered energy. In its final NESHAP rule for the Portland Cement Manufacturing Industry ([EPA-HQ-OAR-2007-0877], RIN 2060-AO42), EPA proposed an output-based methodology for PM, NO_x and SO₂.

²³ See US EPA, Aug. 2004, "Output-Based Regulations: A Handbook for Air Regulators" (http://www.epa.gov/chp/documents/obr_final_9105.pdf).

²⁴ See, e.g. BACT Guidance at 38 ("In particular, where the output of the facility or the affected source is relatively homogeneous, an output-based standard (e.g., pounds per megawatt hour of electricity, pounds per ton of cement, etc.) may best present the overall emissions control of an array of control options.").



1612 K Street NW, Suite 600
Washington DC 20006
202-595-9300
www.asbcouncil.org

February 2, 2011

Dear Members of Congress,

As owners, employees, and investors in sustainable businesses, we urge you to uphold the Environmental Protection Agency's (EPA) ability to regulate carbon emissions as authorized by the Clean Air Act. As determined by the EPA and further upheld by the U.S. Supreme Court, the Clean Air Act's provisions should be applied to greenhouse gas emissions.

As businesspeople we believe clean energy is an effective strategy to revitalize our economy and make our companies more competitive in a global marketplace. Over the past forty years, the Clean Air Act has proven to spur innovation, foster technological development and add, not subtract, economic value.

As businesspeople, we seek to operate our companies in socially and environmentally responsible ways. This includes reducing carbon emissions. While voluntary action by business is important to addressing climate change, federal policy is essential to addressing greenhouse gas emissions on the broad scale required.

Contrary to claims from opponents of clean energy and environmental safeguards, reducing pollution is good for businesses. The Clean Air Act has proven to be a prudent investment for the nation's long-term economic growth and the health of our communities.

The Clean Air Act provides lawmakers with an example of how responsible environmental measures can both foster new industries and send a clear market signal to investors and entrepreneurs that innovation and investment in the clean energy sector is good business.

We therefore strongly urge you to vote against any bills or amendments that weaken or delay the ability of the Clean Air Act to regulate carbon emissions. Thank you for your attention to this time-sensitive and crucial issue.

Sincerely yours,

Kate Amon	CA	Kate's Caring Gifts
David Bruce	CA	InnerSpace Engineering Corporation
Suzanne Diamond	CA	The Futon Shop
Lea Dutton	CA	Sites with Smarts
Louis Fox	CA	Free Range Studios

Amberjae Freeman	CA	RBC
David Jaber	CA	inNative
Raleigh Latham	CA	Latham Film LLC
Jeffrey Marcous	CA	Dharma Merchant Services
Jordi Quesada	CA	Green Translations
Jane Reifer	CA	Clutter Control Organizing Services
Priscilla Rich	CA	Sustainable Design/Danville CA
Claude Rowe III	CA	CleanTech Energy Solutions, Inc.
Michael Sauvante	CA	Commonwealth Group
Dorothy Simmons	CA	Simmons Natural Bodycare
Justin Sternberg	CA	Continuum Industries
Trace Wendell	CA	Dharma Merchant Services
Dale Zimmerman	CA	Harmony Mediations
Mikl Brawner	CO	Harlequin's Gardens
Jennifer Orgolini	CO	New Belgium Brewing
Katie Wallace	CO	New Belgium Brewing Co.
Robin Buck	DC	Robin Buck Eco-Design & Feng Shui
Hazel Henderson	FL	Ethical Markets Media
Annie Galindez	FL	GREENORGANNIE
Sharon DeRidder	FL	S DeRidder and Associates
Victor Johnson	GA	Broad River Watershed Association
Michael Bunnell	ID	Record Exchange
Marilee Backstrand	IL	Controlled Systems Corporation
Walter Jones	IL	Consolidated Printing Co. Printedgreen
Bryan Sheehan	MA	SymbioSus Sustainability Consulting, Inc.
Irwin Hoenig	MD	LivingCalmness
Bill Hutchins	MD	Helicon Works
Jackson Barnett	ME	The Little Farm That Could
Graham Parsons	MI	Farm Block Fest
Terry Gips	MN	Sustainability Associates
Deb Arnason	NC	Greenroots Community Volunteers
Deana Main	NC	Mainland Enterprises
Julie Mullin	NC	Fiberactive Organics, LLC
Dennis McKinley	NH	McKinley Consults
Marcia Blackwell	NJ	Blackwell's Organic Gelato
Rachel Dawn	NJ	Green Dawn Solutions, LLC
Steve Zimet	NJ	Consumer Eyes
Patrick Malone	NM	Individual Social Investor
David Milford	NM	Hewlett Packard
Jon Spar	NM	WildEarth Guardians
Catherine Barton	NY	The Pinwheel Group Inc
Ellen Fish	NY	Tilonia
Perry Goldscheim	NY	S Dialogue, LLC

Ajax Greene	NY	On Belay Business Advisors Inc
Vincent Jones	NY	Heartwood Tree Service LLC
Ally LaTourelle	NY	BioAmber, Inc
Gia Machlin	NY	EcoPlum
Sue Mcglothlin	NY	Vesta Vapore / Sanitall Green Cleaners
Sattie Clark	OR	Eleek, Inc.
Rosemarie Gerstner	OR	Sympatico
Ann Kennedy	OR	Green America Co-op
Brian Setzler	OR	TriLibrium
Jennifer Anderson	PA	Resonate
Paul Bohac	SC	Angel Oak Eye Center
Gaurav Joshi	TX	TrueCapital, USA / AUM Clean Energy, India
Paul Silver	TX	Paul Silver Inc.
KD Kidder	VA	Photoworks
Susan Precht	VA	Shop and Give Back
Sid Embree	VT	CoolClimate Holding Inc/Atmosclear
Jim Hand	VT	Hand Motors
Dave Rapaport	VT	Seventh Generation
Josie Pradella	WI	TerraSource Chocolates

This letter was initiated by the American Sustainable Business Council (www.asbcouncil.org), a national network of businesses, investors, and entrepreneurs dedicated to creating a vibrant, just, and sustainable economy. Business networks within the Council that endorse this letter as well include: B Lab, Green America, Green Chamber of Commerce, Foresight Sustainable Business Alliance, New Voice of Business, Progressive Business Leaders Network, Social Venture Network, South Carolina Small Business Chamber of Commerce, and the Sustainable Business Alliance.

**CALPINE CORPORATION**

DONALD NEAL
VICE PRESIDENT, EHS
717 TEXAS AVENUE
SUITE 1006
HOUSTON, TEXAS 77002
713-830-2004
713-830-8871 (F)

February 8, 2011

The Honorable Henry Waxman
Ranking Member
Committee on Energy and Commerce
United State House of Representatives
Washington, DC 20515

The Honorable Bobby Rush
Ranking Member
Subcommittee on Energy and Power
United State House of Representatives
Washington, DC 20515

Dear Congressmen Waxman and Rush:

On behalf of Calpine Corporation, I would like to express our support for retaining the authority of the U.S. Environmental Protection Agency (EPA) to regulate emissions of greenhouse gases (GHGs) under the Clean Air Act (CAA). Specifically, Calpine believes that EPA's approach to regulating GHGs has been reasonable and does not impose undue hardship on the electric generating sector for the following reasons:

- Regulation under the CAA does not establish a cap on emissions nor does it set up a trading program that would set a price on carbon. Therefore, regulation under the CAA does not create winners or losers depending on generating fuel and will have no impact on the price of electricity to the public.
- EPA has set the applicability thresholds for New Source Review (NSR) under the CAA's Prevention of Significant Deterioration (PSD) rules high enough that significant efficiency improvement projects in our industry would not be subject to major permitting requirements.
- EPA issued guidance to states and applicants on the GHG permitting process, including determining what constitutes best available control technology (BACT) for GHGs. This guidance will not require fossil generating units to consider alternative fuels nor will it mandate control technologies such as carbon capture and storage. Instead the guidance focuses on efficiency.

- EPA's BACT guidance clearly defines the criteria that permitting authorities should consider in evaluating efficiency in a GHG BACT analysis for the electric generating sector, including maintenance cycles, market dispatch, and generation technology. This will ensure that permit applications will be considered on a case by case basis focusing only on the efficiency of the unit proposed for construction or modification.
- EPA has stated that they will not attempt to establish a federal cap and trade program to comply with the court-ordered requirement to establish New Source Performance Standards (NSPS) for GHG emissions from electric generating units (EGUs). In Calpine's experience the NSPS program establishes a floor for emissions performance that is quickly exceeded by the NSR program.

More detail and background information on these points is provided in the attachment.

About Calpine

Calpine is a national leader in low-carbon and renewable power generation, providing nearly 27,500 megawatts (MW) of electricity generated from 91 power plants in 20 states and Canada. We operate the largest and most modern fleet of low-carbon, efficient, combined-cycle natural gas-fueled power plants. We are also the nation's largest operator of highly-efficient combined heat and power (CHP) plants which produce electricity as well as steam for industrial use. In California, we generate 725 MW of which electricity from 15 geothermal power plants located at the Geysers the country's largest geothermal resource. These plants generate baseload renewable power, making Calpine California's leading producer of renewable electricity.

Calpine has actively supported enactment of climate change legislation for many years and believes that a comprehensive legislative solution is needed to spur the transition from more carbon intensive sources of power, to low-carbon and renewable generating sources. Calpine supported the Supreme Court's decision on April 2, 2007 that the EPA has the authority to regulate GHG emissions under the CAA. Along with other representatives from the power sector, Calpine participated in the GHG BACT Working Group of the Clean Air Act Advisory Committee to help EPA establish clear and reasonable guidelines for permitting authorities and industry.

Calpine has been in the forefront of GHG regulation under the CAA. Recently, Calpine agreed to inclusion of BACT limits on GHG emissions from its Russell City Energy Center as part of the proposed federal PSD permit issued on behalf of EPA by the Bay Area Air Quality Management District. The Russell City permit will be a model for subsequent BACT determinations and it should be noted that there were no unreasonable conditions imposed by the permit.

From a pure business perspective, Calpine does not benefit from EPA's regulation of GHGs under the CAA since we are subject to the same requirements as our competitors and our new, efficient fleet is treated no differently than a company that has an old, inefficient fleet. For example, we are in the process of upgrading some of our combustion turbines to increase efficiency as well as electrical output by over 5 percent. These upgrades require an evaluation under the NSR program and to date there have been no impacts to the construction timeline as a

result of having to incorporate GHG requirements in addition to existing requirements for criteria pollutants.

Calpine appreciates the opportunity to express our support for EPA maintaining the authority to regulate GHGs under the CAA. We will continue to help EPA understand the issues related to GHG emissions from our sector so that they can continue to propose reasonable standards of performance.

If you have any questions please call me at 713-830-2004 or contact me via email at donn@calpine.com.

Sincerely,

A handwritten signature in cursive script that reads "Donald Neal".

Donald Neal
Vice President, Environmental, Health and Safety
Calpine Corporation

cc: EPA Administrator Lisa Jackson

Attachment

ATTACHMENT**Regulation Under The CAA Does Not Establish A Cap On Emissions**

The major components of regulation of GHGs under the CAA are the PSD program and the NSPS program. In making the decision to regulate GHGs under the CAA, EPA chose not to establish a National Ambient Air Quality Standard (NAAQS), which would have required additional regulation. By choosing not to establish a NAAQS, EPA avoided the requirement for states to develop plans to attain a GHG NAAQS, which could have led to a cap and trade approach similar to those in place under the Acid Rain and Clean Air Interstate Rule programs. Thus EPA has taken the least intrusive path to GHG regulation.

With no cap on GHG emissions under the CAA there is no price on carbon. Placing a price on carbon is what has the potential to change the cost of electricity generation such that the existing dispatch order would be affected. Therefore, EPA's chosen path for regulation of GHGs under the CAA preserves the status quo.

EPA Has Set The Applicability Thresholds High Enough To Not Affect Significant Efficiency Improvement Projects

When EPA proposed the Tailoring Rule to establish the regulation of GHGs under the PSD program, it significantly increased the applicability thresholds under the CAA to reduce the number of sources impacted by the program yet ensure that the majority of GHG emissions from stationary sources would be regulated. In response to comments from industry (including Calpine), EPA increased the threshold yet again to allow plants to make significant efficiency improvements without triggering NSR for GHGs. Thus, NSR would only apply to modifications to existing units that would exceed 75,000 tons per year of GHGs. For a typical 500-megawatt old coal plant emitting 2,000 pounds of GHGs per megawatt hour generated, this would allow increasing GHG emissions by approximately 10 megawatts before NSR were triggered.

Calpine has first-hand experience with the GHG threshold and has found that there is no significant impact to our ability to modify our fleet. We are currently undertaking a plant efficiency upgrade project which will also result in an increase in total unit capacity. While the improvement will result in an improved heat rate and reduced greenhouse gas emissions per megawatt hour (MWh), due to the increased capacity the facility will also increase its GHG emissions. However, with the threshold level set by EPA, this modification would not be considered major under NSR.

Even if an efficiency improvement project were a major modification under NSR, the BACT analysis would focus on efficiency as the only commercially available technology to control GHG emissions and from that standpoint the proposal to increase efficiency would be considered BACT.

EPA Guidance To States And Applicants Focuses On Efficiency And Not Alternative Fuels Or Control Technologies Such As Carbon Capture And Storage

EPA established a deliberative, open process to provide guidance to applicants and permitting authorities on how to implement the GHG permitting requirements under the CAA (*PSD and Title V Permitting Guidance for Greenhouse Gases*, U.S. EPA 2010). This guidance sets forth an appropriate focus on efficiency as the only demonstrated method for controlling

GHG emissions. EPA deemed carbon capture and storage (CCS) as “available.” EPA notes that: “a control option is “available” if it has a potential for practical application to the emissions unit and the regulated pollutant under evaluation. Thus, even technologies that are in the initial stages of full development and deployment for an industry, such as CCS, can be considered ‘available’ as that term is used for the specific purposes of a BACT analysis under the PSD program.” EPA further clarifies that: “For these types of facilities, CCS should be listed in Step 1 of a top-down BACT analysis for GHGs. This does not necessarily mean CCS should be selected as BACT for such sources.”

BACT is defined in the CAA as: “an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under the Clean Air Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant....” CCS clearly will not be considered BACT for GHGs for many years (if ever) due to cost and implementation considerations.

EPA’s BACT Guidance Clearly Defines The Criteria That Permitting Authorities Should Consider In Evaluating Efficiency And Ensure That Permit Applications Will Be Considered On A Case By Case Basis

As discussed earlier, the applicability threshold for NSR is so high that very few efficiency projects proposed on existing EGUs will be subject to NSR for GHG. For new projects and major modifications that do trigger NSR for GHG, EPA’s BACT guidance provides clear and reasonable criteria for applicants and permitting authorities. The efficiency criteria simply require applicants to document the measures that any responsible power generation company already undertake. Most power companies strive to produce energy as efficiently as possible, so using efficiency as BACT for GHGs is simply business as usual and therefore should not impose any additional costs to power generators.

BACT is required to be considered on a case by case basis. Thus, an older coal unit would not be subject to the same efficiency benchmarks as a new combined cycle gas turbine unit. The unit under review, whether new and clean or old and less efficient, will be required under BACT to demonstrate the measures taken to ensure that electricity from that unit is generated as efficiently as possible considering the energy, economic and environmental impacts.

The NSPS Program Establishes A Floor For Emissions Performance That Is Quickly Exceeded By The NSR Program

EPA is required under Section 111 of the CAA to establish NSPS for new and existing sources. EPA has indicated that it intends to propose NSPS for the electric generating sector by July 2011 in order to provide industry with regulatory certainty on GHGs that can be integrated with other rulemakings under the CAA to help drive long-term business decisions. EPA is in the

process of holding “listening sessions” with key stakeholder groups to gather data in anticipation of the proposed rulemaking. EPA’s comments at the first of those listening sessions held last week for the electric power industry indicate that the NSPS will be reasonable and will not include a proposal for a cap and trade program for GHG emissions.

In our experience, the NSPS is a program that is quickly superseded by the NSR program in terms of driving emission reductions. Calpine has not had to install any additional controls or make any other modifications to any of its units in response to recent NSPS for combustion turbines (see 40 CFR 60, Subpart KKKK) or changes to the NSPS for utility boilers (see 40 CFR 60, Subpart D).

We expect EPA to provide states flexibility in setting GHG limits on existing sources by establishing emission guidelines that reflect the limits on efficiency imposed by existing power generation technology. For example, the NSPS for combustion turbines will need to be tailored to the size of the turbine, the dispatch characteristics, maintenance cycles and other factors that affect efficiency of each unit. The same unit-specific factors apply to coal and oil fired units. This approach will allow states as diverse as California and Texas to use equivalent programs to demonstrate compliance with the federal emissions guidelines.

Congressman Ed Whitfield
Chairman, Subcommittee on Energy and Power
House Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington DC 20515

Congressman Bobby Rush
Ranking Member, Subcommittee on Energy and Power
House Committee on Energy and Commerce
2322A Rayburn House Office Building
Washington DC 20515

February 8, 2011

Dear Chairman Whitfield, Ranking Member Rush and Members of the Subcommittee,

On January 24th, the National Council of Churches and 67 national, regional and state faith-based organizations, representing more than 50 million Americans, sent a letter to the House of Representatives asking members to allow the Clean Air Act to work for the health of God's people and God's creation. *The Energy Tax Prevention Act of 2011 would prevent the Clean Air Act from fully protecting our families and communities around the country who are most vulnerable to poor air quality.*

As noted in our letter, the Clean Air Act has a strong history of reducing pollution in communities around the United States. In doing so, the Clean Air Act has reduced smog, ozone and other pollutants, effectively minimizing the health impacts, such as asthma and respiratory problems, associated with air pollution.

As people of faith, we are called to seek justice for the most vulnerable among us, particularly children, the elderly and those living in poverty, and be good stewards of God's great creation. The Clean Air Act does just this, protecting human health and welfare through pollution reduction. *We oppose any legislation that would roll back the Clean Air Act and threaten the health of God's children. We urge you to oppose the Energy Tax Prevention Act of 2011 as well as other attempts to undermine the Clean Air Act.*

Sincerely,



Cassandra Carmichael
Director of Washington Office
National Council of Churches USA

United States House of Representatives
Washington, DC 20510

January 24, 2011

Dear Member of Congress,

As communities and people of faith, we are called to protect and serve God's great Creation and work for justice for all of God's people. We believe that the United States must take all appropriate and available actions to ensure the health of its communities. We therefore urge you to oppose any efforts to undermine the authority of the Clean Air Act (CAA) and allow the EPA to use the full strength of the law to ensure that God's creation and God's children remain healthy.

The CAA has a strong history of reducing pollution and protecting God's children and God's Creation, successfully decreasing the prevalence of acid rain, responding to health threatening smog and ozone problems faced in our major urban areas, and generally improving the air quality of our nation in the decades since its passage. It is only appropriate that the CAA remain available to address any and all air pollution-related challenges that we face. In 2007, the Supreme Court ruled that greenhouse gas emissions, the leading cause of climate change are, in fact, covered under the CAA and must be regulated if found to endanger public health or welfare by the EPA. New CAA regulations and requirements will also ensure that the largest emitters, such as power plants and large factories, use the best available technologies to reduce their greenhouse gas emissions and begin to shift to sustainable forms of energy.

The EPA, in its efforts to implement the CAA in an appropriate manner, has already issued a rule to exempt small carbon emitters and apply the requirements only to large sources that have long been subject to similar standards for other pollutants. Changing the Clean Air Act would limit the EPA's ability to live out its role and diminish the strength of the law. Some proposals, in both the House and Senate would allow our nation's substantial contribution to air pollution, including greenhouse gases, to continue unchecked, exposing vulnerable communities to increased health problems.

Any attempt to undermine the Clean Air Act threatens the well being of at risk communities, undermines efforts to shift to a sustainable energy future, and inevitably will impact the right of all of God's children to live in a healthy world. Congress should allow EPA to use the full strength of the Clean Air Act to protect God's Creation and God's people and focus instead on passing national energy policy and comprehensive climate legislation as a means to ensure a just and sustainable future for God's Creation.

Sincerely,

Church of the Brethren
Church World Service
Coalition on the Environment and Jewish Life
Columban Center for Advocacy and Outreach
The Episcopal Church
Evangelical Lutheran Church in America
Friends Committee on National Legislation
Franciscan Action Network
Interfaith Power and Light
Jewish Council for Public Affairs
Jewish Reconstructionist Federation
National Council of Churches USA
Maryknoll Office for Global Concerns

Mennonite Central Committee U.S. Washington Office
 Presbyterian Church (USA) Office of Public Witness
 Presbyterians for Earth Care
 The Missionary Oblates, Justice Peace/Integrity of Creation Office
 Union for Reform Judaism
 Unitarian Universalist Ministry for Earth
 Unitarian Universalist Association of Congregations
 The United Church of Christ, Justice and Witness Ministries
 United Methodist Church – General Board of Church and Society
 United Methodist Women

State and Regional Groups

Alaska Interfaith Power and Light
 Arizona Ecumenical Council Earth Care Commission
 Arizona Interfaith Power and Light
 Arkansas Interfaith Power and Light
 California Council of Churches
 California Council of Churches IMPACT
 California Interfaith Power and Light
 Colorado Council of Churches
 Connecticut's Interfaith Power and Light, a project of Interreligious Eco-Justice Network
 Earth Ministry/Washington Interfaith Power and Light
 Eco-Justice Ministries
 Ecumenical Ministries of Oregon's Interfaith Network for Earth Concerns
 Faith in Place/Illinois Interfaith Power & Light
 Georgia Interfaith Power and Light
 Greater Washington Interfaith Power and Light
 GreenFaith
 Hawaii Interfaith Power and Light
 Iowa Interfaith Power and Light
 Kansas Interfaith Power and Light
 Kentucky Interfaith Power and Light
 Lutheran Coalition for Public Policy in Minnesota
 Maine Council of Churches
 Maine Interfaith Power and Light
 Massachusetts Interfaith Power and Light
 Michigan Interfaith Power and Light
 Minnesota Interfaith Power and Light
 New Mexico Interfaith Power and Light
 New York Interfaith Power and Light
 North Carolina Interfaith Power and Light
 Ohio Interfaith Power and Light
 Oregon Interfaith Power and Light
 Pennsylvania Council of Churches
 Pennsylvania Interfaith Power and Light
 Rhode Island Interfaith Power and Light
 Tennessee Interfaith Power and Light
 Texas Impact
 Utah Power and Light
 Vermont Interfaith Power and Light

Virginia Council of Churches
Virginia Interfaith Center for Public Policy
Virginia Interfaith Power and Light
Voices for Earth Justice (MI)
Washington Association of Churches
Wisconsin Council of Churches
Wisconsin Interfaith Power and Light

Statement of David G. Hawkins
Director of Climate Programs,
Natural Resources Defense Council

Submitted to the
Subcommittee on Energy and Power,
Committee on Energy and Commerce
U.S. House of Representatives

Hearing On

Draft Legislation Repealing US EPA's Finding that
Greenhouse Gases Endanger Public Health and Welfare and
Repealing Clean Air Act and Certain State Authorities
Relating to Greenhouse Gases

February 9, 2011

On behalf of the Natural Resources Defense Council (NRDC) I request that this statement be included in the record for the February 9, 2011 hearing on draft legislation on greenhouse gas pollution, authored by Committee Chairman Upton and Subcommittee Chairman Whitfield.

My name is David Hawkins. I am Director of Climate Programs at the Natural Resources Defense Council (NRDC). NRDC is a nonprofit organization of scientists, lawyers and environmental specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has more than 1.2 million members and online activists nationwide, served from offices in New York, Washington, Los Angeles and San Francisco, Chicago and Beijing. During the presidency of Jimmy Carter I had the privilege of serving as Assistant Administrator for Air and Radiation at the US Environmental Protection Agency where I was responsible for developing pollution standards under the Clean Air Act authorities that would be affected by the draft legislation.

Last week Chairmen Upton and Whitfield released draft legislation that would, among other things–

- overturn the Supreme Court landmark 2007 decision in *Massachusetts v. EPA*,
- declare that greenhouse gases are *not* air pollutants, and

- repeal the US EPA's finding that greenhouse gases endanger human health and welfare.

The bill would bar EPA from using any part of the Clean Air Act to limit emissions of these pollutants from power plants or other industrial sources for the purpose of addressing climate change. The bill would also bar EPA and California, and all other states, from any role in setting standards to reduce these emissions from motor vehicles starting with the 2017 model year.

I have just two points to make regarding this draft bill. The first is that the bill is, with respect, extreme. The second is that the harm to the economy and jobs that is claimed as justifying this legislation has no basis in fact. The facts are that the very provisions of the Clean Air Act that this bill attacks have a forty-year track record of delivering cleaner air and improved health, along with the benefits of enormous growth in the economy.

Why do I say the bill is extreme? The bill would repeal the December 2009 finding by the Administrator of EPA that greenhouse gas pollution endangers the public health and welfare of current and future generations. I submit that it is extreme for this Committee to vote to repeal a formal scientific finding of a threat to health and welfare, made by a duly constituted expert agency on the basis of a voluminous

scientific record. If Congress has ever done this before, I am not aware of any example.

Mr. Chairman and members of the Subcommittee, as you know, the US Environmental Protection Agency (EPA) was created by President Nixon in 1970 to integrate the federal government's programs for controlling environmental pollution. Also in 1970, Congress enacted the modern Clean Air Act and required the Administrator of EPA to make science-based decisions about the threats to health and welfare presented by air pollution. Congress directed that such decisions be based on evidence that is made available to the public for comment. EPA is required to respond to comments and anyone aggrieved can seek review of the agency's findings and decisions in the federal courts.

That is the process that EPA followed in concluding that carbon pollution and other greenhouse gases threaten public health and welfare. The Supreme Court ruled in April 2007 that greenhouse gases plainly meet the definition of "air pollutants" in the law enacted by Congress. That is plain on the face of the statute, which defines "air pollutant" to include "any any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters ambient air." Greenhouse gases are emitted into the air from man-made pollution sources.

EPA's determination that greenhouse gases endanger public health and welfare was not made whimsically. It followed a process that enabled all views to be considered. Indeed that process took more than three years. It began in May 2007, one month after the Supreme Court's decision, when President George W. Bush directed EPA to determine whether greenhouse gases endanger public health or welfare. In December 2007 EPA provided a draft proposed finding on this matter to the White House Office of Management and Budget. While that draft finding was never published, in July 2008, EPA published a broad Advanced Notice of Proposed Rulemaking (ANPR) that included among other things, a summary of scientific findings on the demonstrated and anticipated impacts of greenhouse gases. EPA received and considered voluminous public comments on this document. In April 2009, EPA published a proposed endangerment finding, accompanied by a lengthy technical support document, that greenhouse gases presented a threat to public health and welfare. EPA took public comment on this proposal, including two public hearings, and published a final determination in December 2009. In July 2010, EPA published a detailed response to each objection raised by a range of petitions for reconsideration. Those formal determinations are currently the subject of petitions for judicial review. Many industrial petitioners, along with some State governments, sought a stay of EPA's scientific finding and related actions, making many of the

same claims of economic harm that the authors of this draft bill are making. The court reviewed these claims and found that the case simply had not been made that any such harm would occur.

In sum, EPA is acting under a law enacted by Congress, in a manner consistent with the ruling of the US Supreme Court, based on an enormous scientific record, with its actions now subject to additional scrutiny by an independent judiciary. That is the rule of law that this draft bill would ignore.

In 1967 then Governor Ronald Reagan noted approvingly that "ours is a government of laws, not of men." These words may mean different things to different people but to me they mean that Congress has a responsibility to show the public that the laws it enacts are the product of adequate consideration of the relevant facts and consistent with principles of democratic government. Before the Committee decides whether it should repeal the science-based determination by EPA that greenhouse gases present a threat to public health and welfare, does it not make sense to consider the basis for that determination, in open public hearings, with a full opportunity for scientists with expertise in climate science and the impacts of greenhouse gases to provide you with their views?

The new leadership of the Committee has been duly elected and has every right to promote legislation that it believes represents good policy. But I am certain that the new Committee majority is interested in creating a record that demonstrates it has considered the pertinent facts before voting on legislation like that before you today. Few, if any of the witnesses who are scheduled to appear in today's hearing can speak as trained scientists on the strengths and weaknesses of EPA's scientific conclusions. When will the Committee receive information that bears on the validity of the scientific determination this bill would repeal?

There is a lot of cynicism that many congressional hearings and debates are not about serious inquiry but are just an exercise in justifying a pre-determined outcome. You have it in your power either to confirm this cynicism or to show by example that you are genuinely interested in understanding and assessing the basis for EPA's decision. Before you proceed to markup this draft bill (if you do mark it up) I urge you to give the science underlying EPA's determination the serious consideration it deserves by scheduling a set of hearings to listen to the views of independent scientists on the merits of EPA's finding.

In releasing this draft bill Chairmen Upton and Whitfield said "[w]ith this draft proposal, we are initiating a deliberative, transparent process." No process that would overturn a scientific finding supported by such a

voluminous record as EPA has assembled, and based on as little information as you have received, can be called deliberative. To vote out this bill would be a lasting stain on the work of this Committee.

Now, I want to turn to the claims that setting standards for greenhouse gases under the Clean Air Act will "cost jobs and undermine the competitiveness of America's manufacturers." The fact is that these claims are based on a fiction – the fiction that the Clean Air Act gives EPA the authority to adopt rules that could plausibly have these impacts.

The truth is that the Clean Air Act does not give EPA sweeping powers to revamp energy policy or impose requirements that would have serious economic impacts. To the contrary, the words of the law Congress wrote, the standards EPA has issued under that law, and the decisions of courts reviewing those standards, all make it clear that EPA's power is limited to setting practical, commonsense standards that are technically achievable and economically reasonable. And this truth is not simply my opinion. It is proven by a forty-year track record of publicly available information that anyone can review and judge for him or herself.

As with EPA's scientific determination, I submit this Committee should examine the facts of what the Clean Air Act authorizes and how EPA has exercised that authority before it votes on a bill to repeal those

authorities for carbon pollution and other greenhouse gases. EPA has stated it believes three Clean Air Act authorities are suited to standard setting for these pollutants. First, it has set tailpipe emission standards for new motor vehicles. These standards were developed in a cooperative effort with vehicle manufacturers and harmonized with government fuel economy rules. Indeed, these standards are now being cited as helping position automakers to produce a more competitive product line in the event that gasoline prices continue to rise. EPA's standards can produce these positive results because the law requires they be technically achievable, affordable, and implemented on a schedule that provides adequate lead time.

Second, the law requires that new large industrial sources must meet standards reflecting the ability of modern, available technical approaches to reduce pollution. Refurbished large industrial sources are subject to these standards only if the sources' emissions increase significantly. This "new source review" program, first adopted by rule in President Gerald Ford's administration and modified by Congress in the 1977 Clean Air Act amendments, again does not give EPA sweeping authorities. Rather, the Act expressly requires that any standards adopted under this provision must be determined, on a case-by-case basis, to be "achievable," "taking into account energy, environmental, and economic impacts and other costs." (Sec. 169) The Act provides for a case-by-case assessment of

what is workable for specific new projects, not a one-size-fits-all mandate.

EPA has issued rules to phase in these assessments to enable a smooth transition for considering carbon pollution and other greenhouse gases. At this point in the phase-in program, only the largest sources, *which are already carrying out new source review assessments for other pollutants*, are required to analyze options to reduce greenhouse gas pollutants as well. The Act does not authorize EPA to impose requirements that would disrupt our economy and EPA has made it clear that it will exercise its authorities consistent with the law. Contrary to claims made by some, the Act expressly provides for the exemption of nonprofit health or education institutions from these requirements.

When there are changes in Clean Air Act programs as there are now, there are inevitable claims of potential economic disruption. But history demonstrates that much larger changes have been implemented in the past without any such results. In 1977, when Congress greatly expanded the Act's new source review program, many sources were required to carry out the enhanced technology assessments for the first time. There were some instances where a few additional months were required for some sources to complete their reviews; but the system quickly adjusted and project planners simply incorporated any additional time required for

these analyses into the lead-time for their projects. The benefits of these reviews have been large. For example, the large Colstrip coal power plant in Montana was one of the first sources to undergo this review after the 1977 Act and its permit application was initially rejected due to a poorly done analysis. But the assessment was redone, better technology was found to be feasible, and the now decades-old plant has been hailed as the cleanest coal plant of its vintage in the world as a result of this sensible program. The steady improvement of technology prompted by these sensible reviews has allowed economic growth to flourish while cutting traditional pollutants dramatically.

Those who would repeal the Act's greenhouse gas pollution standard authority for large new industrial sources, in the name of making it easier to construct those projects, need to think about the consequences of such repeal. Large new fossil-fueled projects are controversial today in the United States. They are not controversial because of EPA or the Clean Air Act. They are controversial because many citizens and organizations believe the projects, as designed, do not represent safe or wise investments due, in significant part, to the large amounts of carbon pollution that such projects would add to the atmosphere. Repealing the Clean Air Act requirement to set reasonable standards for such projects will not make these projects less controversial; it would make them more controversial.

If permitting agencies are required to put on blinders and ignore the carbon pollution from these projects when they are reviewed the entire permitting process will be more easily attacked as a sham. And the social charter that firms need to be accepted in communities where they operate will be that much more difficult to secure. If the projects do get built, those who invest in them will be exposed to economic risk due to the failure of the project to incorporate reasonable carbon-reducing approaches into the project design when it is first built. These risks will not be borne just by Wall Street fat cats. Municipalities, whose citizens will be asked to pay for long-term commitments like power purchase agreements, may find themselves saddled just a few years down the road with higher bills if high carbon-polluting power plants are built without consideration of options to reduce their pollution.

A second Clean Air Act standard-setting authority EPA intends to implement for greenhouse gas pollution is the New Source Performance Standards (NSPS) provision of section 111. This authority was proposed by the Nixon administration and was adopted in the 1970 Clean Air Act. It too limits EPA's authority by requiring the agency to demonstrate (and defend in court if challenged) that any emission standards it adopts are not only technically achievable but are "adequately demonstrated," "taking into consideration the cost of achieving such emission reduction,

any nonair quality health and environmental impact and energy requirements.” (Section 111)

EPA set the first such NSPS pollution standards in 1971 and scores of such standards have been adopted since, reviewed in court, and occasionally overturned when the courts found EPA had failed to justify the standards under congressionally-established criteria. When this statutory provision is applied to greenhouse gas pollution, the same limits on EPA’s authority apply. There is no basis for anyone to claim that somehow EPA now has broader authority that could result in adverse economic impacts. Yet this is the justification put forward for congressional repeal of this important clean air provision.

Some argue that “carbon dioxide is different” from traditional pollutants, arguing that there are fewer demonstrated, affordable technologies that can be used to reduce carbon dioxide pollution from industrial sources. But this argument ignores a fundamental point. To the extent that available technology is limited for some class of sources, that fact limits EPA’s authority for the standard it is permitted to adopt under the NSPS provision! In short, as I have quoted above, the Clean Air Act already contains language that addresses the concerns of those who argue that setting Clean Air Act standards for greenhouse gas pollution would cause economic harm. The current law simply does not allow EPA to set

emission standards that are technically infeasible or economically disruptive.

This fact points up another way in which the draft bill is extreme. In its forty-year history the Clean Air Act has been amended a number of times, often to address concerns about the economic impact of certain provisions or deadlines for action. But in all those previous instances this Committee and the Congress as a whole have taken the time to hear fully from all who have a stake in how our clean air laws are designed and implemented. And this Committee and the Congress have taken the time and made the effort to tailor changes that are actually responsive to the concerns that have been documented as a result of those thorough inquiries.

Not so with this draft bill. Rather than seeking a full and objective assessment of the potential impacts of setting standards for greenhouse gas pollution, the authors have simply accepted at face value the claims of those who oppose any such standards. And rather than using such an inquiry to develop any additional conditions or modifications to the Act's standard-setting that might be justified, the authors simply propose the blunt tool of a total repeal of authority to set standards for this pollution, no matter how reasonable such standards might be and no matter how strong a basis for setting such standards might be demonstrated.

I am certain that Chairmen Upton and Whitfield want to create a record that under their leadership this Committee will base legislation on facts and policies aired in a thorough process that examines competing views. Voting this draft bill out of the Committee would be a terrible mistake, both respecting the broad public policy issues at stake and for the damage it would do to the desires of the new leadership to be acknowledged as responsible legislators.

I offer a closing comment about the enormous success story that the Clean Air Act represents. Over four decades, the Clean Air Act tools that this draft bill would repeal for greenhouse gas pollution have produced benefits for the American people that have swamped the costs incurred to cut pollution. Pursuant to the 1990 Clean Air Act, EPA has published two peer-reviewed assessments of the benefits and costs of Clean Air Act programs from 1970 to 1990 and from 1990 to 2010. The findings of the first two studies are remarkable. The study covering the Act's first two decades from 1970-1990 found that estimated benefits in better health, environmental quality, and reduced material damages over the twenty-year period, ranged from \$6 trillion to \$50 trillion, with an average estimate of \$22 trillion. To be sure, these benefits were not secured for free. The actual compliance costs over the twenty year period amounted to approximately \$525 billion. The \$22 trillion in estimated benefits

represents a 40-to-1 return on the investments made to deliver cleaner air. (<http://www.epa.gov/air/sect812/design.html>) The second study, covering projected benefits and costs from 1990-2010, concluded that benefits would total about \$110 billion; while compliance costs would amount to about \$27 billion.

(<http://www.epa.gov/air/sect812/r-140.html>)

Greenhouse gas pollution is a global problem (as are some traditional pollutants like mercury) so the engagement of all large polluting countries will be needed to secure the benefits of protecting the one climate our civilization depends on. But "all" large polluting countries includes the United States, which is still number one on a cumulative emission basis and second only to China on an annual basis. The United States has a great deal to gain by proceeding to develop reasonable standards under our Clean Air Act. It can stimulate the development of better and better technology that we will use to run the engines of our economy while wasting less energy and producing less pollution. These first steps not only will help cut our contribution to climate disruption, they will demonstrate leadership that will prompt other countries to follow suit and they will position our industries to be more competitive in a world that will be increasingly focused on the need to protect our climate.

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A vote to repeal the commonsense Clean Air Act provisions that can cut global warming pollution is a bet that our citizens and the world at large will ignore the problem of climate disruption. That is a profoundly bad bet. I urge the members of this Committee to vote against the Upton/Whitfield bill if it proceeds to a mark-up.

Thank you for considering these comments.



Northeast States for Coordinated Air Use Management

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 Phone 617-259-2000 Fax 617-742-9162
 Arthur N. Marin, Executive Director

February 8, 2011

 Fred Upton
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 Henry A. Waxman
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Dear Congressmen Upton and Waxman:

Re: Section 177 States' Support for EPA and California Authority to Establish Motor Vehicle GHG Emission Standards

On behalf of the air quality agencies in the northeast states, NESCAUM is writing to strongly urge the House to protect the existing system established by Congress in the Clean Air Act (CAA) for developing motor vehicle emission standards. The U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have long pursued a dynamic program for cleaner cars that continually re-visits and re-assesses the state of technological innovation for motor vehicles. Ensuring that the U.S. continues to move forward with standards reflecting future innovation for all covered air pollutants, including greenhouse gases (GHGs), is critical to protect public health and the environment, enhance energy security, create jobs in a modern auto industry, and provide significant consumer savings through reduced fuel costs.

The states in our region first evaluated the merits of using the authority provided in Section 177 of the CAA to adopt California's motor vehicle emission standards in the 1980s. Beginning in the early 1990s, a coalition of northeast states moved forward in adopting the California low-emission vehicle standards. In time, a total of thirteen states and the District of Columbia voluntarily opted into the California program. These efforts have remained constant through changes in Republican, Democratic, and independent state administrations.

Climate change and the attendant disruptions in weather patterns are serious threats to the health and welfare of the citizens of the Northeast and to the region's economy. The ability of our member states to adopt the California pollution limits is a crucial tool in their ongoing efforts to address these threats and to provide clean, healthy air throughout the Northeast. In our states, passenger cars and trucks emit approximately 35 percent of total human-made GHG emissions. These emissions contribute to climate change and its adverse impacts, such as the degradation of our coasts and sensitive ecosystems and the increasing cost associated with weather extremes. In addition, not only do passenger car and heavy truck emissions contribute significantly to climate change, the cost for imported fuel used in these vehicles is a tremendous drain on our economy.

Over the many years of implementing the California program in the Northeast, manufacturers have routinely met the program requirements and the desires of the Northeast's consumers for clean and efficient cars. It is critical to preserve the right of states to choose and to take the most effective action to meet our mutual public health and environmental goals. The public demands and deserves clean air, energy security, stable jobs, and efficient vehicles that save them money.

NESCAUM Members:
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 Maine Bureau of Air Quality Control, James Brooks

Massachusetts Bureau of Waste Prevention, Barbara Kowitz
 New Hampshire Air Resources Division, Robert Scott
 New Jersey Division of Air Quality, William O'Sullivan

New York Division of Air Resources, David Shaw
 Rhode Island Office of Air Resources, Douglas Malloy
 Vermont Air Pollution Control Division, Richard Valentini

The federal and California motor vehicle standards are about improving public health and protecting our planet. Given the continuing health and environmental risks posed by automobiles and trucks, it is imperative that both EPA and CARB retain the authority to promulgate protective standards, and that other states retain the flexibility under the CAA to implement the most effective available measures to reduce air pollution, including GHG emissions, from these sources. It is important to note that fuel economy standards alone are not sufficiently protective against climate change. The EPA and California standards provide critical incentives to reduce all GHG emissions through improvements to air conditioning systems and other approaches. The history of air quality improvements in California and the northeast states demonstrates that the federalist approach of the Clean Air Act is a workable and effective mechanism for reducing vehicular pollution. In light of this successful track record, Congress should ensure that the CAA continues to promote and enable innovation by providing both states and the federal government with the authority and tools they need to maintain and improve our shared environment.

Sincerely,



Arthur N. Marin
Executive Director

Cc: Lisa Jackson, Administrator, US EPA
Ray LaHood, Secretary of Transportation, US DOT



Truman National Security Project

Truman National Security Project Statement on the Energy Tax Prevention Act of 2011

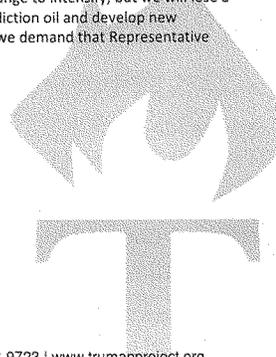
Representative Upton's proposal irresponsibly prevents the Environmental Protection Agency from ensuring America's national security. It is clear, and leading national security voices have all confirmed, that there is an inextricable link between the United States' energy policies and our national security.

The United States Department of Defense, in its strategic review, defined climate change as an "accelerant of instability" that destabilizes already weak nations, turning them into failed states, the breeding grounds and safe havens of terrorists. The Central Intelligence Agency, the National Intelligence Council, the Department of Defense, and the Department of State all recognize the real and deadly threat posed by climate disruption. And each branch of the military is incorporating climate planning into its long term strategy.

Climate disruption is already destabilizing much of the globe, from developing nations to new members of the nuclear club. In 2010 alone, many vulnerable countries experienced the most extreme weather in recorded history. Famine, flood, drought, and disease damage weak nations' ability to protect their own people. And the resulting civil unrest and desperation for basic necessities provides terrorist organizations with countless potential recruits. As we saw just last year in Pakistan, when the government was unable to respond to massive flooding, Islamic extremist groups filled that void for the displaced and desperate. This is a crisis we can no longer afford to ignore.

Unfortunately, Congress is now considering a reckless proposal that would strip the EPA's authority to regulate carbon emissions, even as it becomes increasingly clear that climate disruption makes the world a more dangerous place. Even more puzzling, this move comes at a time when the United States should be retooling for a clean energy economy that allows us to lead the world in new industry and new technology.

With our military already stretched thin across the Middle East and beyond, the last thing we need are more severe, more frequent crises as a result of unchecked climate change. By stripping the EPA's ability to regulate carbon pollution, not only will we allow climate change to intensify, but we will lose a significant opportunity to wean America off of its \$1 billion-a-day addiction oil and develop new domestic, clean forms of energy. For the sake of American security, we demand that Representative Upton retract this shortsighted proposal.



February 2011

Scientists' Statement on the Clean Air Act

Dear Congress,

We, the undersigned, urge you to support the Environmental Protection Agency's (EPA's) authority under the Clean Air Act to take action that will protect public health and address global warming.

On April 2, 2007, the Supreme Court ruled that global warming emissions are air pollutants covered by the Clean Air Act (CAA).¹ Subsequently, the EPA performed an exhaustive review of the relevant scientific research and determined that global warming emissions endanger public health and welfare and therefore must be regulated under the CAA. Because the EPA's finding is based on solid science, any effort to prevent or delay the agency from taking action to reduce global warming emissions is a rejection of that science.

The scientific evidence overwhelmingly suggests that climate change poses a clear threat to public health. Numerous scientific studies, including the U.S. Global Change Research Program's 2009 report *Global Climate Change Impacts in the United States* and the National Academy of Sciences' report *America's Climate Choices*, show that if heat-trapping emissions continue unabated, global warming is likely to cause more extreme heat in our cities, severe water shortages, loss of species, hazards to coasts from sea level rise, and extreme weather.^{2,3,4} The economic and social costs of such impacts are potentially calamitous.

The EPA must be allowed to fulfill its responsibilities and take action to regulate global warming emissions under the Clean Air Act. This science-based law has prevented 400,000 premature deaths and hundreds of millions of cases of respiratory and cardiovascular disease during the 40 years since it was first passed⁵—all without diminishing economic growth.

As the EPA ruling now states, global warming regulation will apply only to the biggest sources of these emissions⁶ (such as large coal-fired power plants, oil refineries, and cement plants⁷) while exempting small businesses and homeowners. This is a practical, fair, and effective way to target the biggest sources of pollution, which together account for 70 percent of the nation's global warming emissions from stationary sources. By targeting the oldest, dirtiest, and most inefficient power plants, these regulations can help transition our energy system to a cleaner, healthier, and more efficient one without sacrificing reliability or affordability.

Congress should work to pass a comprehensive climate and energy policy based on robust science and economics that will curb global warming, save consumers money, and create jobs. In the meantime, we urge you to oppose attacks on the Clean Air Act by respecting the scientific integrity of the EPA's endangerment finding, and the agency's authority to act based on this finding.

Sincerely,

¹ *Massachusetts v. EPA*, 549 U.S. 497 (2007).

² Thomas R. Karl, T.R., J.M. Melillo, and T.C. Peterson (eds.). 2009. *Global climate change impacts in the United States*. Cambridge University Press.

³ National Research Council. 2010. *America's climate choices: Panel on advancing the science of climate change*. ISBN 0-309-14589-9.

⁴ Solomon, S., et al. 2007. *Climate change 2007: The physical science basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (AR4). Cambridge University Press.

⁵ Environmental Protection Agency (EPA). 1999. *The Benefits and Costs of the Clean Air Act 1990 to 2010*. EPA-410-R-99-001. November. Washington, DC. Online at www.epa.gov/air/sect812/1990-2010/fullrpt.pdf.

⁶ EPA Final Rule: Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule. Online at <http://www.epa.gov/nsr/Documents/20100413final.pdf>.

⁷ The regulations will cover new facilities that emit more than 100,000 tons per year on a CO₂e basis and existing facilities that undertake modifications resulting in emissions of more than 75,000 tons per year on a CO₂e basis.

Scientists' Statement on the Clean Air Act

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February 9, 2011

The Honorable Ed Whitfield
 Chairman, Subcommittee on Energy and Power
 House Committee on Energy and Commerce
 2368 Rayburn House Office Building
 Washington, DC 20510

Dear Chairman Whitfield:

The National Association of REALTORS® (NAR) appreciates the opportunity to submit comments for the Subcommittee on Energy and Power's hearing on the draft "Energy Tax Prevention Act" to prohibit the Environmental Protection Agency (EPA) from regulating greenhouse gases under the Clean Air Act (CAA). NAR represents more than 1.1 million members involved in all aspects of the residential and commercial real estate industries. NAR supports the Subcommittee's efforts to stop the EPA from moving forward with regulations, which will impose significant adverse impacts and only exacerbate uncertainty during one of the worst economic downturns in real estate markets.

The draft legislation would clarify that the CAA's definition of "air pollutant" excludes greenhouse gases including carbon dioxide (CO₂) for which the Act was not designed and is ill-suited to address. The bill would repeal any existing EPA action and prohibit any new one that would trigger regulation of CO₂ from commercial or residential buildings. While the EPA has issued its "Tailoring Rule" to delay regulation except for the very largest emitters, it is only the first phase of implementation of CAA part C of Title I (prevention of significant deterioration or PSD of air quality) and Title V (permits). In 5 years, the EPA has committed to reevaluate the threshold above which EPA will regulate.

The statute itself calls for a regulatory threshold of 100 tons per year for Title V operating permits and 250 tons per year for PSD pre-construction permits. These permits will require burdensome paperwork and expensive improvements for a *de minimis* contribution to global CO₂ atmospheric concentrations at a time when (1) residential and commercial property owners are facing extreme challenges with simply staying current on their mortgage obligations and (2) have little or no access to additional capital for any improvements required to meet the new standards.

The EPA estimates that under the statutory threshold, more than 2 million commercial and multi-family building owners and even single family homeowners -- nearly 4 million of them -- would each have to obtain an operating permit at an average cost of \$10,000. For the subset required to also obtain a pre-construction permit, EPA places the price tag closer to \$16,000, but we believe that EPA has underestimated these figures. For EPA's estimates, please see Table IX-1 & 2 at 74 Fed. Reg. 55338-9 (October 27, 2009). Attached, please find one of NAR's several comment letters on the greenhouse gas rulemaking, which includes additional information on the real estate impacts.



REALTOR® is a registered collective membership mark which may be used only by qualified real estate professionals of the NATIONAL ASSOCIATION OF REALTORS® and is subject to its rules and regulations.

For these reasons, NAR supports your efforts and urges Congress to act to stop the EPA from moving forward with CO₂ building regulations under the Clean Air Act.

Sincerely,

A handwritten signature in black ink, appearing to read "Ron Phipps". The signature is fluid and cursive, with the first name "Ron" being more prominent than the last name "Phipps".

Ron Phipps, ABR, CRS, GRI, GREEN, e-PRO, SFR
2011 President, National Association of REALTORS®

Enclosure: NAR 2008 Comment Letter to EPA on Regulating Greenhouse Gases Under the Clean Air Act



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November 28, 2008

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Re: Regulating Greenhouse Gases Under the Clean Air Act
Docket ID: EPA-HQ-OAR-2008-0318

On behalf of the 1.2 million members of the NATIONAL ASSOCIATION OF REALTORS® (NAR), I am pleased to submit these comments regarding the Advance Notice of Proposed Rulemaking (ANPR) on Regulating Greenhouse Gases Under the Clean Air Act (CAA) issued by the Environmental Protection Agency (EPA) and published in the *Federal Register* on July 30, 2008.

For the reasons outlined below, NAR urges EPA not to move forward on a proposed rule that would regulate greenhouse gas emissions under the Clean Air Act (CAA). Regulating greenhouse gases (GHGs) under the CAA will result in a cascade of unintended consequences that could have significant economic impacts on all sectors of business in the United States, including real estate. It could require thousands of previously unregulated building owners to obtain costly and burdensome permits under the CAA to emit carbon dioxide (CO₂) and other GHGs.

REALTORS® Are Stakeholders and Leaders in the Voluntary Reduction of GHGs

NAR members are involved in all aspects of the real estate industry: they sell single family homes, sell and lease apartments and condominiums in multi-family buildings, manage rental property, sell and lease commercial properties (such as office buildings, shopping centers, office parks and industrial facilities), and sell land for farming, ranching and development.

As a result of their deep involvement in the real estate sector, REALTORS® understand the impact these laws or regulations will have on the price and value of real estate located in their communities, as well as their own ability to conduct business.

In response to market pressures, NAR has already taken steps to educate its members and consumers about the benefits of reducing their carbon footprint and how increased energy efficiency and other green features will add value to a home.

- NAR Green Designation: NAR has recently created a "Green Designation" for all NAR members. The Green Designation program offers instruction on building techniques that are less environmentally damaging, marketing to "green" consumers, regulatory issues relating to environmental sustainability, potential cost savings for employing "green" features, and education on energy efficiency, air quality, and sustainable communities and land planning.
- Greening Multiple Listing Services: NAR is working with Multiple Listing Services (MLSs) across the country to incorporate "green" features into local and regional MLS databases, such as the home's energy efficiency rating or whether there are Energy Star appliances included in the home.
- Realtor Building in Washington, DC: NAR built the first US Green Building Council LEED-Silver Certified privately owned commercial office building in Washington, DC. This building stands as a testament to NAR's commitment to environmental sustainability in the built environment, and also demonstrates that going green and economic development are compatible and achievable goals.

Regulation would complicate on-going efforts and may even be counter-productive. For example, if EPA mandates what is already being done voluntarily, property owners could face unnecessary additional costs (e.g., paperwork) for green building upgrades. Regulation would act as a disincentive to "go green". NAR is taking these pro-active steps to ensure our members are educated regarding the value that is added when buildings are energy efficient and environmentally sustainable. Through heavy-handed regulation, EPA risks further reducing the affordability of real property in one of the hardest hit markets in the recent financial crisis.

ANPR Legal and Regulatory Background

EPA is responding to the U.S. Supreme Court in *Massachusetts v. EPA*, 549 U.S. 497 (2007). In *Massachusetts*, the Court made two key findings: First, GHGs fall within the definition of "air pollutant" found in CAA section 301, thereby giving EPA authority to regulate greenhouse gases under the CAA; and second, EPA must determine that either:

- (i) GHGs cause or contribute to air pollution which may be reasonably anticipated to endanger public health or welfare, as required by section 202(a)(1);
- (ii) GHGs do not contribute to climate change; or
- (iii) EPA cannot or will not exercise its discretion to make an endangerment finding and provide a reasonable explanation as to why that is the case.

To date, EPA has not made a formal endangerment finding, nor is it under a firm deadline to do so. The Court stated in *Massachusetts* that "EPA no doubt has significant latitude as to the manner, timing, content, and coordination of its regulations with those of other agencies."

The most troubling aspect of CAA regulation of greenhouse gases is that, despite the assertions of EPA and others, EPA simply cannot regulate "a little." A finding of endangerment for motor vehicles under

Section 202(a)(1), on its own, could trigger a regulatory cascade and force EPA to begin regulating through various other major CAA programs. According to EPA, “while no two endangerment tests are precisely the same,” they generally call for similar elements: whether the emissions cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. EPA finds “similar” endangerment language in sections 108 (NAAQS), 111 (NSPS), 112 (HAPs), 115 (international air pollution), 211 (fuels), 213 (non-road engines and vehicles), 231 (aircraft) and 615 (ozone protection).

Under the CAA’s Prevention of Significant Deterioration (PSD) program, major sources of air pollutants with the potential to emit 100 tons per year (TPY), or *any other sources* with the *potential* to emit 250 TPY are required to obtain a PSD permit. “Potential to emit” is defined under the CAA as “the maximum capacity of a stationary source to emit a pollutant under its physical and operational design.” These thresholds provide no further detail regarding the source of the air pollutant – if the source emits any quantity of a regulated air pollutant over the threshold, it will be regulated under the CAA.

Individual Commercial Buildings Are Likely to be Regulated By the CAA

Under the CAA, should GHGs be regulated under the Act—even if the regulation is specifically not directed at stationary sources—no new or existing “major” stationary source of GHG can be built or modified (if the modification increases net emissions) without first obtaining a PSD permit. This would include commercial buildings for offices, shopping centers and multifamily homes, which account for 5.6% of GHG emissions according to the EPA.

EPA acknowledges that tens of thousands of new commercial buildings – which translate into thousands each year – could face new requirements under Title V. Of these, 24,000 would require a PSD permit to build. (See EPA Staff estimates, page 2). As EPA staff notes, these estimates do not include existing buildings that would require a modification to an existing permit, or new buildings with the potential - not just the actual - emissions to trigger a new permit (page 3 of EPA staff estimates). Available data are presented in Table 1.

Table 1. EPA ESTIMATES BUILDINGS EXCEEDING PERMIT THRESHOLDS.

CO ₂ Emissions Threshold	No. of Existing Buildings	No. of New Buildings	
		Cumulative	Annual
A. Residential			
100 Tons Per Year	139,100	27,100	1,900
250 Tons Per Year	61,300	8,200	600
B. Commercial			
100 Tons Per Year	272,000	58,000	4,000
250 Tons Per Year	88,000	16,000	1,000

Source: EPA Staff, “Estimates of Facilities...” Tables 1 and 2 and Attachments (Doc ID EPA-HQ-OAR-2008-0318-0077).

Research conducted by the U.S. Chamber of Commerce suggests that the impact could be even greater than anticipated by the EPA. Using Department of Energy and Census Bureau data, the Chamber report estimates that 1.2 million buildings *actually* emit at least 250 TPY of CO₂.

As a result, promulgation of this regulation could require CO₂ permits for commercial office buildings, shopping malls, multi-family buildings of 25 units or more, and, possibly, very large single family homes. Many of these, according to the U.S. Chamber of Commerce, are previously unregulated establishments, including:

- a. 260,000 office buildings;
- b. 150,000 warehouses;
- c. 92,000 health care facilities;
- d. 71,000 hotels and motels;
- e. 51,000 food service facilities;
- f. 37,000 churches and other places of worship; and
- g. 17,000 farms

Though acknowledging the potential impacts, EPA then suggests a strategy to exclude most commercial buildings, but only if the agency “were successful in applying legal theories that justify deviating from statutory language.” These kinds of statements are confusing and disconcerting to the real estate sector. Real estate markets succeed when all market participants have accurate, consistent and reliable information about the value, price and availability of properties. Unpredictability regarding the nature, scope and cost of regulations would adversely affect real estate markets throughout the country.

Permitting Costs Would Be Expensive and Time-Consuming

Unless otherwise determined, the real estate sector must assume that these regulations will be promulgated in some form and that many previously unregulated structures and facilities will now be required to obtain permits to emit CO₂ when it becomes an air pollutant regulated under the CAA.

EPA estimates that it currently issues two to three hundred PSD permits annually. EPA does not process a larger number of these permits because, at present, few facilities emit enough of a regulated pollutant to cross the 100/250 TPY threshold. If this number were to increase to just thirty or fifty thousand, EPA and state agencies would require significant new resources to issue permits in an efficient and timely manner. Businesses forced to comply with PSD would be barred from construction for long periods of time, immediately placing economic development at risk. If the burden is too great, many businesses will simply not build or expand their facilities.

Moreover, once a source is classified as a major source for one pollutant, it is considered a major source for all other regulated pollutants under the CAA. As a result, the tens of thousands of facilities that are required to meet current PSD standards would have to install the Best Available Control Technology (BACT) not only for CO₂, but also potentially for nitrous oxide, particulate matter, lead, mercury, sulfur dioxide, and other pollutants prior to any new construction. All of these new requirements would overwhelm permitting authorities and result in a regulatory burden that could hinder local and regional economies and sharply curtail real estate transactions during one of the sharpest market corrections in U.S. history.

Increased Regulatory Costs Will be Borne by the Consumer

If EPA proceeds with an endangerment finding and begins to regulate CO₂ and other GHGs as air pollutants under the CAA, many previously unregulated commercial office and apartment buildings could be required to obtain a permit to emit these GHGs.

As a practical matter, obtaining these permits is an expensive proposition. The costs include legal, engineering and consulting fees, as well as permitting and administrative fees. Even more expensive will be costs of compliance, especially bringing older buildings up to the new energy efficiency codes, plus the cost of pollution controls and other efficiency measures the permitting agency may require. In addition, the ANPR does not specify what might constitute BACT for commercial buildings. Even more disturbing from a cost-management perspective is the fact that cost is generally not a consideration in determining standards under the CAA.

Unfortunately, EPA did not provide with the notice the requisite cost information to comment on the full range of impacts. However, in prior information collection requests, the Agency has estimated the time and cost to apply for Title V and PSD permits. This partial cost data is presented in Table 2. The typical applicant spends 866 hours and \$85,000 in the PSD program and 340 hours and \$46,000 under Title V. The data does not reflect the full set of EPA-estimated costs (see Table 2 footnotes) or the increase in costs due to, for example, development of air modeling software or processing thousands of new permits each year.

Table 2. EPA SURVEYS PROVIDE BURDEN ESTIMATES FOR NEW PERMITS.

Activity	Hours	Cost [\$2007]
A. PSD		
Preparation & Planning	392	38,262
Data Collection & Analysis*	350	34,163
Permit Application	124	12,106
B. Title V		
Preparation & Planning	300	44,090
Permit Application**	40	1,562

*Note: Excludes the cost of hiring a contractor for pre-application air quality monitoring, assumed for 12% of permits.

**Note: Excludes the burden for developing periodic monitoring (assumed for 50% of permits) and public hearings (2%).

Source: EPA, Various Information Collection Supporting Statements (EPA-HQ-OAR-2004-0081-0015 and -0015-0016).

At a time when commercial real estate activity (as measured by vacancy rates and new construction) is projected to weaken over the next six to nine months, and the multi-family and commercial real estate sector faces significant liquidity challenges, the industry is ill prepared to absorb additional permitting fees and compliance costs. Tightening credit and slow economic growth raises concern for the health of the commercial real estate market. In such an environment, EPA must evaluate and consider the far-reaching economic implications of moving forward with this proposed rule.

EPA Should Provide Additional Information

We applaud EPA for issuing an advanced notice that solicits public comments on regulating GHGs under the CAA. The information could improve the rulemaking. However, it is difficult to comment when critical information is not available, including the number of regulated buildings, cost effectiveness of

regulatory alternatives, and small business impacts. We recommend that EPA provide the following additional information with a notice of proposed rulemaking.

Number of Regulated Buildings

EPA listed a number of “uncertainties” in its estimates of buildings emitting above GHG emissions thresholds, including:

- Potential to Emit (PTE). EPA accounted only for actual emissions from buildings, not their PTE as previously calculated for defining major sources. Since in practice, heating systems have thermostats, EPA reasons it need not calculate emissions at full capacity year around, as it does when defining other major sources. While we would prefer calculations closer to actual emissions, if courts do not agree with EPA’s legal reasoning, the number affected could be closer to a million, according to the U.S. Chamber of Commerce. We cannot assume that EPA will prevail in court.
- Existing Building Modifications. Due to lack of data, EPA did not include the number of existing buildings with a modification triggering permitting in its analysis. The Agency also did not account for traditional (non-GHG) pollutants, which EPA states: “could substantially increase the number of modifications that would be subject to NSR PSD requirements” (p. 4 of the EPA staff estimate). If only 12% of the roughly 150,000 existing buildings (at 250 TPY) expand, EPA has the potential to process 100 times the current number of PSD permits.
- Non-CO₂ Emissions. EPA did not consider GHG emissions other than CO₂ based on preliminary estimates that few would exceed a threshold based solely on non-CO₂ gases. CO₂ emissions from non-energy (i.e. process-related) sources were also omitted. EPA should consider all GHGs in its facility estimates.

EPA did not estimate the number of buildings affected by other CAA programs. According to the U.S. Department of Commerce, under section 112 alone, a building as small as 5,000 square feet could exceed a threshold of 20 TPY, translating to 54% of 2.4 million surveyed commercial buildings that use natural gas.

Cost Effectiveness of Regulatory Alternatives

EPA did not provide the requisite information to evaluate the full cost of regulating commercial buildings under the CAA. Only partial information for Title V and PSD permits was available. Still those numbers do not reflect the burden if EPA goes from issuing 200 permits a year or even 2,000 without additional funding. We approached several consulting firms only to learn there is no air modeling software or precedent for permitting office or apartment buildings.

EPA did not identify BACT for commercial or residential buildings although it presented some available technologies from an IPCC report (see p. 44406). Depending on technology, cost per building could range from hundreds (e.g., light bulbs or insulation) to hundreds of thousands of dollars (HVAC system re-designs) for each upgrade. If the least cost approach for a building owner is to switch fuels, EPA should consider the impact and any risk-benefit tradeoffs.

In addition, EPA should evaluate the full cost of a proposal relative to its effectiveness in a global context, and present the information in the notice of proposed rulemaking. It is one thing for a sector to incur significant costs that are demonstrably justified by the environmental benefits. It is another when those costs are incurred without any corresponding reduction in overall emissions. By its global nature, overall

GHG emissions co-depend on the cooperation of other countries such as China and India. Affordability is also a factor that EPA should consider. Some building owners may pass on some costs to tenants, thereby harming low-income families.

EPA should provide the above information on the preferred alternative as well as any regulatory alternatives, including the no-rule option. For example, EPA identifies options to streamline the PSD program, ranging from issuing general permits and forgoing case-by-case BACT to new interpretations of PTE applicability calculations and expanding synthetic minor permits. We encourage EPA to continue exploring burden reducing measures. This information would help NAR provide more informed feedback on a proposed rule.

Small Entity Impacts and Alternatives

In the ANPR, SBA's Office of Advocacy directed EPA to convene a Small Business Regulatory Fairness Act (SBREFA) panel under section 609 of the Regulatory Flexibility Act (see 5 USC 601 et seq.) if unable to certify no significant economic impact on a substantial number of small entities. SBA noted that EPA has already convened nine successful panels on rulemakings under the CAA including sections 112 (hazardous air pollutants) and 126 (involving federal implementation plans). By directly involving small entities at an early stage in the rulemaking, these panels offer EPA the benefit of real-world experience and facility-level resources in developing a rule. As a result,

“...the final rules reflect a better understanding of how the regulations would impact small business. Millions of dollars have been saved because poorly designed approaches and unintended consequences are filtered out of proposed regulations with the help of small entities and government officials. These changes are accomplished without compromising valuable protections for human health and the environment...” (SBA, see p. 44395).

Because the ANPR involves CAA programs where small entities would be directly regulated by EPA, we urge EPA to convene a panel for the entire rulemaking. Even if the rule were limited to sections where only the states regulate, we believe a panel would help EPA to develop better data and explore significant alternatives to improve the rule and therefore, purely as a matter of policy, EPA should convene a SBREFA panel.

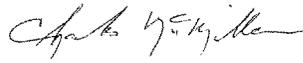
Conclusion

Regulating GHGs under the CAA is a sweeping and unprecedented regulatory encroachment with largely unknown and wide-ranging impacts across the U.S. economy. From the real estate perspective, based on EPA data, this regulation could involve expensive new requirements and tens of thousands of previously unregulated entities that would shake an already struggling commercial and multi-family real estate market. This scenario raises serious concerns about EPA's capacity to fully anticipate the impacts of this regulation and administer the permitting process in a timely manner.

NAR is not aware of any previous CAA rulemaking involving so many sectors across the entire U.S. economy. The CAA, a decades-old statute, is not an appropriate vehicle to address the global challenges of

climate change. The elected members of Congress -- not EPA -- should determine how to meet those challenges, and therefore, NAR urges EPA not to regulate GHGs from any source under the Act.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles McMillan". The signature is fluid and cursive, written in a professional style.

Charles McMillan, CIPS, GRI
2009 President, National Association of REALTORS®



Linda S. Adams
Acting Secretary for
Environmental Protection

Air Resources Board

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Edmund G. Brown Jr.
Governor

March 22, 2011

The Honorable Ed Whitfield
U.S. House of Representatives
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515-6115

Dear Representative Whitfield:

Thank you for the opportunity to elaborate on my testimony before the Energy and Power Subcommittee. Below please find responses to the questions from The Honorable Fred Upton.

1. In your testimony, you state that relying on the authority of DOT, without EPA fuel economy/GHG regulations for MY 2012-16, "the rulemaking would have resulted in 35% more pollution and 25% more oil consumption."
 - a) Since the Obama Administration states that the EPA and DOT joint fuel economy/GHG rulemaking is "harmonized and consistent," how is it possible that the absence of EPA's regulation would result in 25% more oil consumption?

We agree with the Obama Administration that the National Program is "harmonized and consistent". Manufacturers may comply with both standards with the same vehicles, using the same tests. Congress has given both Environmental Protection Agency (EPA) and Department of Transportation (DOT) separate and potentially conflicting responsibilities to regulate vehicles; these two independent agencies have cooperated to produce a single program that accomplishes these goals. As EPA and National Highway Traffic Safety Administration (NHTSA) wrote in the final rule, "The compliance program design establishes a single set of manufacturer reporting requirements and relies on a single set of underlying data. This approach still allows each agency to assess compliance with its respective program under its respective statutory authority."

In general, the harmonization of greenhouse gas emissions reduction and corporate average fuel economy standards allows the National Program to achieve greater emission reductions, fuel savings, and consumer and societal benefits at lower cost than would be achieved by one program in isolation. In this case, the sum truly is greater than the parts.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

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Our estimate of additional oil savings (as well as GHG pollution and cost savings) for the EPA standards is derived from the EPA's and NHSTA's own analysis of the joint final rule.¹ According to the joint final rule, NHTSA's Corporate Average Fuel Economy (CAFE) portion of the joint rule would result in a total of 58.6 billion gallons of fuel saved during the "lifetime" of vehicles produced during the 2012-2016 timeframe, while the EPA rule under Clean Air Act (CAA) authority is estimated to result in 77.7 billion gallons of fuel saved by these vehicles. Thus the combined strength of the joint rule, utilizing the benefits of different program structures and policy goals, harmonized and consistent in compliance, results in 33% more fuel savings than if the rule relied on NHTSA authority alone. Put another way, the nation would lose one quarter of the oil savings of the National Program if the rule just relied on NHSTA authority.

That the National Program achieves greater emissions reductions and fuel savings than the CAFE standards alone is a result of the different underlying statutory authority that results in different program components. The four key differences are: 1) unlike the Energy Policy Conservation Act (EPCA), the CAA allows for the crediting of direct emission reductions and indirect fuel economy benefits from improved air conditioners, allowing for greater compliance flexibility and lower costs; 2) EPCA allows Flexible Fuel Vehicle (FFV) credits through model year 2019, whereas the EPA standard requires demonstration of actual use of a low carbon fuel after model year 2015; 3) EPCA allows for the payment of fines in lieu of compliance but the CAA does not; and 4) treatment of intra firm trading of compliance credits between the cars and light trucks categories.

b) Please identify the source and explain the methodology supporting your contention that the absence of EPA's regulation would result in 35% more pollution.

Our estimate of additional pollution savings, (as well as oil savings), for the EPA standards is based on EPA's and NHSTA's own analysis of the joint final rule as published in the Federal Register. According to NHTSA, the MY2012-16 CAFE rule alone would reduce greenhouse gas emissions by a cumulative 636 million metric tons over the lifetime of vehicles produced in model years 2012-2016. EPA predicted their rule would reduce emissions from these vehicles by 962 million metric tons. Thus, the combined EPA/NHTSA rule reduces total pollution from vehicles produced during this period by 51% more than the NHTSA rule alone. Without the Clean Air Act authority, there would be 34% loss in pollution reductions, and similarly we can expect that if future rulemakings were only able to utilize the fuel economy focus and circumscribed analytic framework of NHTSA's process, these too would result in more pollution.

¹ See Federal Register, Vol. 75, No. 88, Friday, May 7, 2010, pages 25342 to 25348.

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2. On January 20, 2009, the day President Obama took office, there was one single national fuel economy standard (i.e., CAFE). Today there are three different standards, under three different sets of rules, administered by three different agencies (DOT, EPA and CARB).

a) Does CARB support a single national fuel economy standard?

Yes, CARB has always been a strong supporter of national fuel economy standards. We are also emphatic supporters of national pollution control standards for vehicles under the Clean Air Act, as well as our own and other states' rights to adopt pollution control standards for vehicles when necessary to protect the health and welfare of our residents. CARB is also unequivocally and emphatically supportive of the current National Program of harmonized pollution control and fuel economy standards. Harmonizing these standards brings greater health, economic, and energy security benefits to consumers and our nation, and reduces administrative burden for government and compliance costs for industry. Harmonized emissions and fuel economy standards for vehicles are truly a win-win-win outcome of which California is proud to be a part.

CARB remains strongly committed to working in full partnership, per its May 2010 letter of commitment, with EPA and NHSTA to develop technically sound standards for vehicle model years after 2016 that meet the statutory obligations of the respective agencies. The joint announcement by CARB, EPA and NHSTA to coordinate its proposal release for September 1, 2011, is yet another example of CARB's strong commitment to the National Program.

b) Despite all the differences between the three different fuel economy programs by DOT, EPA and CARB listed above, you claim the three different regulatory regimes are the "functionally equivalent" of a single national standard. If fuel economy is unrelated to motor vehicle greenhouse gas emissions, as CARB contends,² how is a "functional[ly] equivalent" single national standard possible?

The test of a "functionally equivalent" single national standard is simple: can a manufacturer build a single national fleet and develop a single set of testing data that will demonstrate compliance with EPA, NHSTA and CARB standards? The answer is yes. As described above, manufacturers are able to build a single fleet and develop a common set of reporting data that allows compliance with both the EPA and NHSTA standards. In addition, in February of 2010,

² The claim in the question is incorrect. CARB has never claimed that there is no relation between the pollution emitted by burning fossil fuels and the rate at which they are burned. CARB merely maintains the fact that pollution control and fuel economy are not identical – fuel economy and pollution control regulations have different public policy objectives, utilize different incentive and flexibility features, and there are technologies that reduce pollution that are not counted under fuel economy measures, and some fuel economy improvements do not reduce emissions commensurately.

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CARB adopted amendments to its regulations that allow manufacturers to use demonstration of compliance with EPA greenhouse gas standards as demonstration of compliance with CARB's program.

Three agencies with different statutory missions and regulations; one fleet, and one set of compliance data. From the perspective of industry, this is the functional equivalent of a single national program.

Going forward, as the federal agencies, California, auto manufacturers, and other stakeholders work together on Phase 2 of the National Program for model years 2017 and beyond, we expect this coordination to be even more seamless. California and the federal agencies have access to the same technical analyses and are benefitting from each other's different expertise to assess capability and cost. We are looking at the different flexibilities and incentives built into our respective programs to create a harmonized program that achieves the cleanest cars at least cost, preserves consumer choice, safety, and affordability, and encourages 21st century technologies with breakthrough potential to achieve American energy security and sustainable low-carbon transportation.

3. As you know, other states may adopt the CA LEV program under Section 177 of the Clean Air Act. However, my understanding is that under California law, CARB regulators can only take into account factors in California when setting a fuel economy/GHG regulation. Job loss, consumer acceptability and choice, highway safety, and any other factor important to the other 49 states cannot be considered when CARB sets a fuel economy/GHG standard. For the record, if CARB was aware that an auto parts factory in Michigan could close because of changes to CA LEV, would CARB take the potential for job loss in Michigan into account when setting a fuel economy/GHG standard?

As I stated in my testimony, there is indeed a long history of other States adopting California's new motor vehicle standards to provide their citizens the public health benefits of cleaner burning "California Cars". Each of these states completes their own full regulatory analysis before they adopt our standards, and is able to look at each of the factors important to them, including the benefits of more consumer choice in efficient vehicles and the jobs and economic benefits that accrue to their states when consumers' spend less money on foreign oil and more on Main Street businesses.

I think the evidence of history is best: other states, and the federal government, have consistently adopted each of California's successive standards precisely because they are well-designed, cost-effective, and environmentally and economically beneficial for those states and the nation.

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The question is based on false assumption. California can and does consider consumer, employment, safety or other factors in setting pollution emission standards. In fact, nothing in California law prohibits our agency from considering these factors. The Assembly Bill 1493 legislation that mandated GHG standards requires consideration of consumer choice and model availability,³ and CARB routinely assesses factors such as these in response to comments. For example, we provided exhaustive responses to comments on employment effects and consumer choice issues in our Final Statement of Reasons – the equivalent of EPA and DOT responses to comments in federal Final Rules⁴. These analyses do not stop at the California border.

It is worth noting that in our rulemaking process for the MY 2009-2016 standards and in the litigation that ensued, not one auto manufacturer, parts manufacturer, auto dealer, or industry expert identified a single facility that would close due to California's regulations. Instead, we – and later a federal court in Vermont⁵ – heard general speculation and heated rhetoric about purported job loss. As I described in my testimony, this "sky is falling" story has fortunately been proven not to be the reality of motor vehicle emission control under the Clean Air Act. Regarding greenhouse gas regulation in particular, the auto industry continues to rebound in no small part due to California's standards persistently pushing manufacturers to produce the cleaner, more efficient vehicles consumers want.

4. Will CARB finalize its MY 2017-2025 fuel economy/GHG rulemaking before the MY 2017-25 DOT/EPA fuel economy/GHG rulemaking?

California is fully committed to the process of developing harmonized national standards for model years 2016-2025. We have demonstrated that commitment by participating in joint technical meetings with industry and adjusting our timelines to fit the federal schedule. Despite some indications of industry efforts to derail the process, we fully expect that successful completion of this process will result in a similar, single compliance system, the functional equivalent of one national standard, then as now.

With the continued cooperation among DOT, EPA, and CARB, we are all on track to propose our 2017-2025 standards on a coordinated schedule, targeted for September 1, 2011. From that point, all three agencies will go through their statutory notice-and-comment period, final rule drafting, and in ARB's case, consideration and final decision by the full Air Resources Board. The time between proposed and final rule is a function of the number and complexity of the comments received, any necessary revisions to the rule, and the final decision of the Board.

³ Cal. Health & Saf. Code § 43018.5(d)(2)

⁴ C.f. pp. 104-188, 240-252, and 258-317. Available at <http://www.arb.ca.gov/regact/grnhs/gas/fsor.pdf>.

⁵ *Green Mountain Chrysler Plymouth Dodge Jeep et. al. v. Crombie*, U.S. Dist. Ct. (VT) 508 F.Supp.2nd 295 (2007)