

# ENERGY TAX INCENTIVES DRIVING THE GREEN JOB ECONOMY

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## HEARING BEFORE THE COMMITTEE ON WAYS AND MEANS U.S. HOUSE OF REPRESENTATIVES ONE HUNDRED ELEVENTH CONGRESS SECOND SESSION

APRIL 14, 2010

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GREEN JOB ECONOMY**

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**WEDNESDAY, APRIL 14, 2010**

U.S. HOUSE OF REPRESENTATIVES,  
COMMITTEE ON WAYS AND MEANS,  
*Washington, DC.*

The Committee met, pursuant to notice, at 10:05 a.m., in Room 1100, Longworth House Office Building, Hon. Sander M. Levin (Chairman of the Committee) presiding.

[The advisory announcing of the hearing follows:]

# ADVISORY

FROM THE COMMITTEE ON WAYS AND MEANS

## Chairman Levin Announces Hearing on Energy Tax Incentives Driving the Green Job Economy

House Ways and Means Committee Chairman Sander M. Levin today announced that the Committee on Ways and Means will hold a hearing on energy tax incentives and the green job economy. **The hearing will take place on Wednesday, April 14, 2010, in 1100 Longworth House Office Building, beginning at 10:00 a.m.**

In view of the limited time available to hear witnesses, oral testimony at this hearing will be from invited witnesses only. However, any individual or organization not scheduled for an oral appearance may submit a written statement for consideration by the Committee and for inclusion in the printed record of the hearing. A list of invited witnesses will follow.

### **BACKGROUND:**

Over the last several years, the Nation has benefited from an unprecedented amount of both public and private investment in renewable electricity production, energy efficiency, and renewable fuels, ushering in the new, green economy as a driver for sustainable job creation. A significant amount of Federal support for investment in renewable energy and energy efficiency is provided through the Internal Revenue Code. Within the span of 5 months during the Winter of 2008 and 2009, the Congress passed and the President signed into law approximately \$39 billion in provisions to stimulate demand for renewable electricity and renewable fuels, provide assistance to communities to make investments in energy efficiency, and assist domestic manufacturers engaged in the production of advanced energy equipment. These investments include approximately \$17 billion in incentives provided in the Energy Improvement and Extension Act of 2008 (Division B of P.L. 110-343) and approximately \$22 billion in incentives provided in the American Recovery and Reinvestment Act of 2009 (P.L. 111-5).

In announcing this hearing, Chairman Levin said, **“Investing in energy efficiency and renewable energy has major potential to create new jobs and help our economy recover. In recent years we have made significant investments in policies to encourage and enhance domestic manufacturing and production of renewable energy as well as the use of more efficient fuel sources. This hearing will examine benefits currently in place and discuss potential for new incentives to further drive job creation, economic growth, and reduce our dependence on foreign oil.”**

### **FOCUS OF THE HEARING:**

The hearing will examine the effectiveness of current energy tax policy and identify additional steps that the Committee can take to ensure continued job growth in this area while at the same time advancing national energy policy focus on a discussion of current and proposed energy tax incentives.

### **DETAILS FOR SUBMISSION OF WRITTEN COMMENTS:**

Please Note: Any person(s) and/or organization(s) wishing to submit for the hearing record must follow the appropriate link on the hearing page of the Committee website and complete the informational forms. From the Committee homepage, <http://democrats.waysandmeans.house.gov>, select “Hearings”. Select the hearing for

which you would like to submit, and click on the link entitled, "Click here to provide a submission for the record." Once you have followed the online instructions, submit all requested information. **ATTACH** your submission as a Word or WordPerfect document, in compliance with the formatting requirements listed below, **by close of business Wednesday, April 28, 2010**. Finally, please note that due to the change in House mail policy, the U.S. Capitol Police will refuse sealed-package deliveries to all House Office Buildings. For questions, or if you encounter technical problems, please call (202) 225-1721 or (202) 225-3625.

**FORMATTING REQUIREMENTS:**

The Committee relies on electronic submissions for printing the official hearing record. As always, submissions will be included in the record according to the discretion of the Committee. The Committee will not alter the content of your submission, but we reserve the right to format it according to our guidelines. Any submission provided to the Committee by a witness, any supplementary materials submitted for the printed record, and any written comments in response to a request for written comments must conform to the guidelines listed below. Any submission or supplementary item not in compliance with these guidelines will not be printed, but will be maintained in the Committee files for review and use by the Committee.

1. All submissions and supplementary materials must be provided in Word or WordPerfect format and **MUST NOT** exceed a total of 10 pages, including attachments. Witnesses and submitters are advised that the Committee relies on electronic submissions for printing the official hearing record.

2. Copies of whole documents submitted as exhibit material will not be accepted for printing. Instead, exhibit material should be referenced and quoted or paraphrased. All exhibit material not meeting these specifications will be maintained in the Committee files for review and use by the Committee.

3. All submissions must include a list of all clients, persons, and/or organizations on whose behalf the witness appears. A supplemental sheet must accompany each submission listing the name, company, address, telephone and fax numbers of each witness.

Note: All Committee advisories and news releases are available on the World Wide Web at <http://democrats.waysandmeans.house.gov>.

The Committee seeks to make its facilities accessible to persons with disabilities. If you are in need of special accommodations, please call 202-225-1721 or 202-226-3411 TTD/TTY in advance of the event (four business days notice is requested). Questions with regard to special accommodation needs in general (including availability of Committee materials in alternative formats) may be directed to the Committee as noted above.

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Chairman LEVIN. The Committee will come to order. I will give my opening statement, and then Mr. Camp, the Ranking Member, will give his and then we proceed with the witnesses.

I think all of you know we have a full day scheduled, with three panels. The contemplation is that we will proceed with the first panel, and all of us will ask our questions. And then the thought was we might have a brief break before the second and the third panel.

So, there is a Ways and Means bill up today, probably around 1:00, and that may affect the participation of some of the Members. So, we will proceed on that basis with my opening statement, and then, Mr. Camp, with yours.

The Ways and Means Committee is aggressively engaged in advancing legislation that will support business expansion and create new jobs here in the United States. In the past 2 months, the Committee has advanced two separate bills to encourage businesses to hire new employees, provide tax relief to small businesses so they can grow and expand and assist local communities, finance infrastructure improvements that support local community jobs.

Today, the Committee will examine ways that the Federal Government can help boost the green jobs economy. Consider all that is at stake: cutting edge technologies of the future, manufacturing capacity to build these advanced technology products, lower energy costs for families and businesses, reducing our dependence on foreign oil, preserving the environment for future generations.

The upside potential for our country is immense. But it will not happen automatically. Unfortunately, while some progress has been made in recent years, our country, in this area, is playing catch-up. We have lacked an energy policy for changing times and changing technologies. We have been behind the curve. And we have been handicapped by those who feel it should be done only by the private sector.

The governments of other countries have not taken this view, and they are racing ahead to dominate in this area. While we need a different partnership than those adopted by others, an American partnership, the wrong answer has been that there should be no partnership at all.

Take, for example, the electric vehicle GM is going to bring to market on schedule. But initially, the battery packs are being supplied from South Korea. Why? In part, because for years the South Korean government had a strategy to financially support this technology and its local industry. We are on the cusp of changing that because of private sector investment and accelerated public support for battery development.

A recent paper from the National Foreign Trade Council says—and I quote—“Chinese planners have indicated their intention, that eventually most or all of the renewable energy equipment installed in China will be made in China. China has emerged as a world leader in the manufacture of photovoltaic technology, and could become the world’s leading exporter of wind turbines.”

Last year, the Recovery Act took important steps in boosting consumer demand and investing in advance technology, through grants and tax incentives for businesses, individuals, and communities. We made the green jobs economy a priority, and our actions are having an impact.

The combination of the Recovery Act and the 2008 energy tax package provided long-term extensions of our main incentives producing electricity from wind, solar, and other renewable sources. We made these incentives work better by providing a direct payment option.

The Energy Information Administration estimated that the Recovery Act will result in twice as much electricity generated from wind than would have been produced without the policies included in the Act. Over the next 6 years, the EIA projected that residential tax credits for solar equipment will encourage more than 1.6 million solar units to be installed nationwide.

Tax credits for plug-in electric vehicles are expected to bring 90,000 vehicles to market in the year 2015, alone. However, we cannot rest. In particular, it is important to identify ways that we can build on these efforts. In particular, although we are making strides in generating long-term demand for green technology, we have significant work to do to make certain this demand is satisfied with goods produced in our country.

Today we will hear testimony that the U.S. wind turbine manufacturing industry is not currently capable of supplying 100 percent of the wind power capacity that would be constructed with the support of Recovery Act programs. While jobs are created when we construct a solar facility, still more jobs are created when the components that are used in that facility are manufactured here, in the United States.

If we are not aggressive about expanding our green manufacturing capacity, these manufacturing jobs will be created overseas, and the U.S. will become more reliant on products that are produced outside of our borders.

The U.S. took a good first step toward supporting domestic manufacturing in the Recovery Act when we provided 2.3 billion of allocated investment tax credits for manufacturers that established, equipped, and expand domestic manufacturing facilities to produce advanced energy equipment.

Demand in this area far exceeded its allocation. U.S. businesses put forward three times, or over 8.1 billion, of investment tax credit plans under this program. The Administration has proposed an additional \$5 billion of these tax credits for a new round of competitive awards.

What's at stake is clear: good jobs, advanced technology, low energy costs, national security, and a cleaner environment. What we need to make crystal clear is that the government is a full, active, and effective partner in achieving that end.

I hope that we can proceed here today and beyond on a bipartisan basis to achieve these goals. There are a number of proposals for renewable energy incentives before the Committee that have bipartisan support. And I hope, very much so, that we can translate that into bipartisan action because action is what is so clearly needed today and for the future of this country.

I now yield to the Ranking Member, Mr. Camp.

Mr. CAMP. Well, thank you very much, Mr. Chairman. Clean, renewable energy is something everyone on this Committee supports. And I wouldn't be surprised if, at one time or another, most every Member of the committee has signed on to or voted for legislation to incentivize the production, purchase, and use of alternative fuels. It has been and remains an issue about our National security, our environment, and our economy.

And, clearly, we need to reduce our dependence on foreign oil. We should continue to utilize new technologies to ensure a clean, safe environment for future generations. And given that the unemployment rate appears to be stuck pretty close to 10 percent, despite the President's promises about the stimulus bill, we clearly need more jobs.

However, we should be realistic about the current status of and prospects for the so-called green economy and green energy. Over recent years, policy-makers at Federal, state, and local levels have significantly stepped up efforts to subsidize renewable energy through the Tax Code. And, despite this investment as the chart on the screen makes clear, the overwhelming majority of America's energy consumption continues to be sourced from fossil fuels.

In fact, petroleum, coal, and natural gas supplied 85 percent of America's energy demand in 2007, with nuclear supplying 8 per-

cent. Renewable energy sources supplied only 7 percent, virtually unchanged from 2000. Even after a Federal investment of nearly \$40 billion in new tax subsidies for renewables as part of legislation enacted in October of 2008, and as part of the February 2009 stimulus package, these relative shares remained about the same in 2009.

So, as the chart on the screen shows, in 2009 83 percent of our energy came from fossil fuels, 9 percent from nuclear, and 8 percent from renewables. And as one executive told me, "You can't run an alternative energy manufacturing plant on wind and solar energy."

Again, how reliant our families and jobs are on traditional sources of energy, given that situation, I am further discouraged by the Administration's proposed tax increases on the oil and gas and coal industries. President Obama's 2011 budget proposal would impose an estimated \$40.7 billion in punitive new taxes on domestic energy production by America's oil and gas and coal companies. Most of the proposals targeting oil and gas were also proposed in last year's administration budget.

The coal proposals, however, are new. And among many others, these include repealing the section 199 domestic manufacturing deduction for oil and natural gas companies, raising \$14.8 billion over 10 years, repealing expensing of intangible drilling costs, raising 10.9 billion, increasing the amortization period for geological and geophysical costs of independent producers from 2 to 7 years, raising \$1 billion, and repealing the section 199 domestic manufacturing deduction for coal and hard mineral fossil fuels, raising \$2.1 billion.

Additionally, the President's 2011 budget contains several other revenue raisers. Repealing the last and first out, or LIFO, accounting method raises \$75.3 billion, modifying rules for dual capacity taxpayers, raising \$8.2 billion, and reinstating superfund excise taxes and corporate environmental income taxes, raising \$19.2 billion. That would have a significant effect on energy businesses, including oil and gas production.

Simply put, it takes today's energy to power tomorrow's technology. And these tax increases are dwarfed by the nearly \$900 billion national energy tax that the majority calls cap and trade.

I should note that this bill has gone nowhere in the Senate. Its prospects for revival are, thankfully, not very good. So, while the focus of this hearing may be on the energy of tomorrow and the tax incentives to encourage its development—and I look forward to hearing that testimony—I would strongly urge my colleagues to keep in mind the tax increases that will be imposed on the energy of today to meet the majority's rules are unacceptable. You cannot increase the cost of producing 85 percent of the energy being used today and expect consumers or employers to benefit from tax incentives that are going to less than 10 percent of the energy being used today. The math just doesn't add up.

So, with that, I yield back the balance of my time. I look forward to hearing from our witnesses today. Thank you very much.

Chairman LEVIN. Thank you, Mr. Camp. All right. Our first panel, two very distinguished gentlemen: the Honorable Michael Mundaca, who is the Assistant Secretary for Tax Policy at the

Treasury Department—welcome, Mr. Mundaca; and Matt Rogers, who is a senior advisor to the Secretary, U.S. Department of Energy.

Your full statements will be entered into the record. And so, why don't you proceed for 5 minutes or so, as you wish. You can follow exactly what's in your testimony or, if you want to, summarize it and perhaps highlight certain points.

So, we will start off with you, Secretary Mundaca. Thank you for joining us.

**STATEMENT OF MICHAEL MUNDACA, ASSISTANT SECRETARY FOR TAX POLICY, UNITED STATES DEPARTMENT OF THE TREASURY**

Mr. MUNDACA. Thank you. Good morning, Chairman Levin, Ranking Member Camp, and Members of the Committee. Thank you for inviting me to testify today. I am going to focus my oral remarks on the energy proposals and the President's fiscal year 2011 budget.

First, I will briefly discuss the Administration's overall environmental and energy policy, in order to provide some context for the energy proposals in the budget. The Administration believes that our Nation must build a new, clean energy economy, curb our dependence on fossil fuels, limit emission of greenhouse gases, and make America more energy-independent.

It is no longer sufficient to address our Nation's energy needs solely by finding more fossil fuels. Instead, we must take dramatic steps toward becoming a clean-energy economy. These include encouraging the use of and investment in clean energy infrastructure and energy efficient technologies.

The Recovery Act—and I thank the Committee for its leadership on the Recovery Act—took an important step in that direction, providing more than \$80 billion for investment in clean energy technologies. The energy provisions in there are a real success story in the Recovery Act.

The Administration's budget takes us further by investing in a variety of renewable sources of electricity generation, energy conservation measures, supporting the construction of new nuclear power plants, advancing the development of carbon capture and storage technologies, and providing Federal assistance for state, clean energy, and energy conservation programs.

The President has also called on Congress to invest in a new program of rebates for consumers who make energy efficient retrofits.

In addition to direct investments in clean energy, the Administration's budget proposes a comprehensive, market-based policy to reduce greenhouse gas emissions from 2005 levels by approximately 17 percent in 2020, and by more than 80 percent in 2050. The policy will provide businesses the flexibility to find the least costly and most efficient ways of achieving greenhouse gas emission reductions, and address the needs of vulnerable families, communities, and businesses in the course of the transition to a clean energy economy.

With this background, let me turn briefly to the tax-related provisions in our budget relating to energy. Current law provides a number of credits and deductions that are targeted toward oil, gas,

and coal activities. These tax subsidies are not designed to correct an existing distortion or market failure, and therefore, lead to an over-allocation of investment resources to these industries and an under-allocation of resources to others. This distortion in resource allocation results in inefficiency, and generally reduced economic growth.

Moreover, the tax subsidies for fossil fuels must ultimately be financed with taxes, and thus further result in under-investment in other potentially more productive areas of the economy.

Further, in accordance with the President's agreement at the G-20 summit in Pittsburgh to phase out subsidies for fossil fuels so we can transition to a 21st energy economy, the budget proposes to repeal a number of tax preferences that are currently available for fossil fuels. The budget also proposes to limit the ability of taxpayers to claim the foreign tax credit for levies that are likely to represent a payment for the right to exploit natural resources, rather than the payment of income tax, and proposes as well to reinstate the superfund excise taxes, including the taxes on crude oil and imported petroleum products.

The budget also proposes to extend through 2011 a number of expired or expiring tax provisions related to energy, including incentives for biofuel, renewable diesel, alternative fuels, and alcohol fuels, increased tax credits for alternative fuel refueling property, tax credits for hybrid automobiles and other alternative motor vehicles, tax credits for energy-efficient new homes, and tax credits for energy-efficient improvements to existing homes.

Finally, the budget proposes to expand the Recovery Act tax credit for investments in advanced energy manufacturing facilities. The credit, under 48C of the Code is designed to help America take the lead in the manufacture of wind turbines, solar panels, electric vehicles, and other clean energy and energy conservation projects.

The Treasury Department and the Department of Energy, as Mr. Matt Rogers will go into in more detail, cooperated in awarding the 2.3 billion of credits authorized by the Recovery Act, awarding credits to 183 projects in 43 states, to support tens of thousands of high-quality, clean energy jobs and the development of a domestic, clean-energy manufacturing base.

The 2.3 billion cap on the credit has resulted in the funding of less than one-third of the technically acceptable applications that we received. The budget proposes an additional 5 billion in credits that would support at least 15 billion in total capital investment, creating a partnership between government and the private sector, and creating tens of thousands of new construction and manufacturing jobs. Because there is already an existing group of worthy projects and substantial interest in this, the additional credit could be deployed quickly to create jobs and support economic activity.

Mr. Chairman, this concludes my prepared remarks. I will be pleased to answer any questions you or other Members of the Committee may have.

[The prepared statement of Mr. Mundaca follows:]

**Prepared Statement of Hon. Michael Mundaca, Assistant  
Secretary for Tax Policy, U.S. Department of the Treasury**

REMARKS AS PREPARED FOR DELIVERY  
*EMBARGOED UNTIL DELIVERY*

STATEMENT OF MICHAEL F. MUNDACA  
ASSISTANT SECRETARY (TAX POLICY)  
DEPARTMENT OF THE TREASURY  
BEFORE  
COMMITTEE ON WAYS AND MEANS  
April 14, 2010

Good morning Chairman Levin, Ranking Member Camp, and members of the Committee. Thank you for inviting me to testify before your Committee today. I appreciate the opportunity to discuss the energy proposals in the President's FY 2011 Budget.

**Overview of the Administration's Environmental and Energy Policy**

First, I will briefly discuss the Administration's environmental and energy policy in order to provide context for the energy proposals in the Budget.

The Obama Administration believes that our nation must build a new, clean energy economy, curb our dependence on fossil fuels, limit the emissions of greenhouse gases (GHGs), and make America more energy independent. It is no longer sufficient to address our nation's energy needs solely by finding more fossil fuels. Instead we must take dramatic steps towards becoming a clean energy economy. These include encouraging the use of, and investment in, clean energy infrastructure and energy efficient technologies.

The American Recovery and Reinvestment Act of 2009 (Recovery Act) took an important step in that direction by providing more than \$80 billion for investment in clean energy technologies. In addition, the Administration recently announced new fuel economy standards that by 2016 will require automobile fleets to average 34.1 miles per gallon, and also achieve a combined reduction in carbon emissions from fuel economy improvements and EPA standards for automobile air conditioners equivalent to the reduction that would be achieved by a fuel economy of 35.5 miles per gallon. These new standards are expected to save 1.8 billion barrels of oil over the life of cars and trucks sold in the 2012-2016 model years and reduce carbon dioxide emissions by about 960 million metric tons over the lifetime of those vehicles, equivalent to taking 50 million cars and light trucks off the road in 2030. The Administration's Budget further promotes these objectives by investing in a variety of renewable sources of electricity generation, by investing to accelerate deployment of energy conservation measures, by providing support for the construction of new nuclear power plants, by advancing the development of carbon capture and storage technologies, and by providing Federal assistance for state-level programs related to clean energy and energy conservation. The President has recently established an Interagency Task Force on Carbon Capture and Storage. This task force will develop a plan to overcome the barriers to the widespread, cost-effective deployment of CCS within 10 years, with a goal of bringing 5 to 10 commercial demonstration projects online by 2016. The plan should explore incentives for commercial CCS adoption and address any

financial, economic, technological, legal, institutional, social, or other barriers to deployment. The President has also called on Congress to invest in a new HomeStar program of rebates for consumers who make energy efficiency retrofits. Such a program will harness the power of the private sector to help drive consumers to make cost-saving investments in their homes.

In addition to direct investments in clean energy, the Administration's Budget proposes to enact and implement a comprehensive market-based policy that will reduce GHG emissions in the range of 17 percent below 2005 levels by 2020 and more than 80 percent by 2050. The policy will stem carbon pollution, help reduce our dependence on foreign oil, promote advanced industries and technology right here in the U.S., all while providing businesses the flexibility to find the least costly and most efficient ways of achieving GHG emission reductions. In addition, the policy will address the needs of vulnerable families, communities, and businesses in the course of the transition to a clean energy economy.

As part of a comprehensive energy strategy to move from an economy that runs on fossil fuels and foreign oil to one that relies on homegrown fuels and clean energy, the Obama Administration is also proposing to expand oil and gas development and exploration on the Outer Continental Shelf. The proposed expansion will enhance our nation's energy independence while protecting fisheries, tourism and places off the U.S. coast that are not appropriate for development.

#### **Budget Proposals Relating to Energy**

With this as background, let me turn to the tax-related proposals in our Budget relating to energy. More details on each proposal can be found in the appendix.

##### *1. Repeal existing fossil fuel preferences*

Current law provides a number of credits and deductions that are targeted towards certain oil, gas, and coal activities. These tax subsidies, which are not designed to correct an existing distortion or market failure, lead to an over allocation of resources to these industries and an under allocation of resources to other industries. This distortion in resource allocation results in inefficiency and generally reduced economic growth. Moreover, the tax subsidies for fossil fuels must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy. In accordance with the President's agreement at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that we can transition to a 21st century energy economy, the Budget proposes to repeal a number of tax preferences that are currently available for fossil fuels.

The following tax preferences for oil and gas activities are proposed to be repealed beginning in 2011:

- *The enhanced oil recovery credit.* The credit is equal to 15 percent of the cost of certain tertiary oil recovery methods. The credit phases out when the price of oil exceeds a specified level and is completely phased out at current price levels. Eliminating this

- preference is projected to have no revenue effect because the price of oil is expected to remain above the phase-out range through 2020.
- *The credit for oil and gas produced from marginal wells.* The credit is \$3.00 per barrel of oil and \$0.50 per 1,000 cubic feet of natural gas (adjusted for inflation since 2005) produced from certain low-production wells. The credit phases out when the prices of oil and natural gas exceed specified levels and is completely phased out at current price levels. Eliminating this preference is projected to have no revenue effect because the prices of oil and natural gas are expected to remain above the phase-out range through 2020.
  - *Expensing of intangible drilling costs.* This preference permits taxpayers to deduct drilling costs that would otherwise be included in an oil or gas property's depreciable or depletable basis. The Budget proposal would require these costs to be capitalized in accordance with the generally applicable rules. Eliminating this preference is projected to raise \$7.8 billion in revenue through FY 2020.
  - *The deduction for tertiary injectants.* This preference permits taxpayers to deduct the cost of injectants that are used as part of a tertiary recovery method. The Budget proposal would eliminate this deduction. Repeal of the deduction is projected to raise \$67 million through FY 2020.
  - *Passive loss exemption for working interests in oil and gas properties.* This preference exempts certain oil and gas activities from the generally applicable rule limiting the allowable losses and credits from activities in which a taxpayer does not materially participate. The Budget proposal would eliminate this exemption. Elimination of the exemption is projected to raise \$180 million through FY 2020.
  - *Percentage depletion for oil and gas wells.* This preference allows a taxpayer to deduct up to 25 percent of the gross income from certain oil and gas wells. The Budget proposal would eliminate this deduction. Cost depletion would continue to be allowed, permitting taxpayers to recover the costs of their wells as the property is exhausted. Elimination of the percentage depletion deduction is projected to raise \$10 billion through FY 2020.
  - *Domestic manufacturing deduction for oil and gas.* This preference allows a taxpayer to deduct up to 6 percent of its income from domestic oil and gas production activities. The Budget proposal would eliminate this deduction. Elimination of the deduction is projected to raise \$17.3 billion through FY 2020.
  - *Two-year amortization of geological and geophysical expenditures.* This preference allows non-integrated producers to amortize the cost of certain oil and gas exploration activities over two years (rather than over the seven-year period applicable to integrated oil and gas producers).<sup>1</sup> The Budget proposal would apply the seven-year amortization period to all producers. The change is projected to raise \$1.1 billion through FY 2020.

<sup>1</sup> A non-integrated company is one that receives nearly all of its revenues from production at the wellhead. The definition contained in the IRS code is that a firm is non-integrated if its refining capacity is less than 50,000 barrels per day on any given day or their retail sales are less than \$5 million for the year.

In addition, the Budget proposes to repeal the following tax preferences for coal beginning in 2011:

- *Expensing of exploration and development costs.* This preference allows taxpayers to deduct the costs of exploring for coal deposits and developing mines to exploit the deposit. The Budget proposal would require these costs to be capitalized in accordance with the generally applicable rules. Eliminating this preference is projected to raise \$413 million through FY 2020.
- *Percentage depletion for hard mineral fossil fuels.* This preference allows a taxpayer to deduct a percentage of its gross income from hard mineral fossil fuel properties (10 percent in the case of coal). The budget proposal would eliminate this deduction. Cost depletion would continue to be allowed, permitting taxpayers to recover the cost of their mines as the property is exhausted. Elimination of the percentage depletion deduction is projected to raise \$1.1 billion through FY 2020.
- *Capital gains treatment for coal and lignite royalties.* This preference provides long-term capital gains treatment for coal and lignite royalties. The budget proposal would eliminate the special rule for coal and lignite royalties. Elimination of the special rule is projected to raise \$751 million through 2020.
- *Domestic manufacturing deduction for coal and other hard mineral fossil fuels.* This preference allows a taxpayer to deduct up to 9 percent of its income from domestic coal and other hard mineral fossil fuel activities. The Budget proposal would eliminate this deduction. Elimination of the deduction is projected to raise \$57 million through FY 2020.

2. *Reinstate Superfund excise taxes.*

The Superfund excise taxes, which expired in 1995, included a 9.7-cents-per-barrel excise tax on crude oil and imported petroleum products. To provide a source of funds to remedy damages caused by releases of oil and other hazardous substances, the Budget proposes to reinstate the Superfund excise taxes for the period from 2011 through 2020. Reinstatement of the Superfund excise taxes is projected to raise \$7.2 billion through FY 2020.

3. *Modify the tax rules for dual capacity taxpayers.*

Current U.S. tax rules attempt to identify the portion of a foreign levy paid by a dual-capacity taxpayer that constitutes an income tax eligible for a foreign tax credit versus a payment for a specific economic benefit. In making this determination, current rules place significant weight on the formal characteristics and terms of the foreign levy. In many cases, the terms and the structure of the foreign levy as it applies to U.S. taxpayers have been structured or negotiated to meet, in form, the U.S. requirements of an income tax. The fact that recently certain foreign countries (in particular, Qatar and the United Kingdom) have reduced their statutory corporate income tax rates except with respect to oil and gas companies further indicates that at least a portion of the foreign levies paid by such companies are in fact in exchange for the right to exploit natural resources (that is, a specific economic benefit) and not an income tax. Under the proposal, dual capacity taxpayers will be permitted to claim a credit for the portion of the foreign levy that the taxpayer would pay if it were not a dual capacity taxpayer.

#### 4. *Extend expiring provisions.*

The Budget proposes to extend through 2011 a number of tax provisions that have either expired or are scheduled to expire before the end of 2011. The following energy incentives are included in the extension proposal:

- *Incentives for biodiesel and renewable diesel.* A \$1.00-per-gallon incentive for biodiesel and renewable diesel is provided as an income tax credit, an excise tax credit or a refundable payment. In addition, a \$0.10-per-gallon income tax credit is available for small producers. The incentives expired at the end of 2009.
- *Incentives for alternative fuels.* A \$0.50-per-gallon (or gasoline gallon equivalent) excise tax credit or refundable payment is provided for alternative fuels such as liquefied hydrogen, natural gas fuels, liquefied petroleum gas, liquid fuels derived from coal, and liquid fuels derived from biomass. The incentives expired at the end of 2009 for fuels other than liquefied hydrogen. The proposed extension would not apply to black liquor.
- *Incentives for alcohol fuels.* A \$0.45-per-gallon income tax credit, excise tax credit, or refundable payment is available for alcohol fuels. The incentive is increased to \$0.60 per gallon for alcohol other than ethanol and a \$0.10-per-gallon credit is available for small producers. The incentives are scheduled to expire at the end of 2010.
- *Tax credits for alternative fuel refueling property.* A 50-percent income tax credit is provided for alternative fuel (including electricity) refueling property, subject to a \$50,000 cap for depreciable property and a \$2,000 cap for nonbusiness property. The credit rate falls to 30 percent and the caps to \$30,000 and \$1,000 after 2010. The Budget proposal would delay these reductions for one year.
- *Tax credits for hybrid automobiles and other alternative motor vehicles.* Income tax credits are provided for hybrid vehicles, advanced lean burn technology automobiles, alternative fuel motor vehicles, and fuel cell vehicles. Credits of up to \$4,000 are available for passenger automobiles (12,000 for fuel cell vehicles) and of up to \$40,000 for heavy motor vehicles. At the end of 2009, the credit for heavy hybrid vehicles expired and the maximum credit for fuel cell vehicles fell to \$8,000. The credits expire for other hybrid vehicles, advanced lean burn technology vehicles, and alternative fuel vehicles at the end of 2010. The Budget proposal would extend the credits and the \$12,000 maximum credit for fuel cell vehicles through 2011.
- *Tax credits for energy efficient new homes.* A \$2,000 dollar income tax credit is allowed for the construction of an energy efficient home (\$1,000 in the case of a manufactured home). The credit expired at the end of 2009.
- *Tax credits for energy efficiency improvements to existing homes.* A 30-percent income tax credit is allowed for various energy-efficient home improvements (improvements to the building envelope and the installation of energy-efficient heating and cooling equipment). The aggregate credit is limited to \$1,500. The credit expires at the end of 2010.
- *Tax credits and expensing for low-sulfur diesel fuel refineries.* Small refineries are allowed to deduct 75 percent of the cost of modifying a refinery to comply with EPA diesel fuel sulfur control requirements and claim an income tax credit equal to the remaining 25 percent of costs. This treatment is available only for costs incurred before the end of 2009.

- *Deferral of gain on sales to implement electric restructuring policy.* Utilities selling transmission facilities to implement federal or state electric restructuring policy are permitted to report the gain over an 8-year period rather than in the year of sale. This treatment applies only to sales occurring before the end of 2009.
- *Treatment of natural gas distribution lines as 15-year property.* Natural gas lines are treated for cost recovery purposes as 15-year property through the end of 2010 and as 20-year property thereafter. The Budget would extend the treatment as 15-year property through the end of 2011.

5. *Provide additional tax credits for advanced energy manufacturing facilities.*

As noted above, the Recovery Act provided \$2.3 billion in tax credits for investments in advanced energy manufacturing facilities. The credit, under section 48C of the Code, was designed to help America take the lead in the manufacture of wind turbines, solar panels, electric vehicles, and other clean energy and energy conservation products. Eligible manufacturers receive a 30-percent credit for their investments in facilities to manufacture these products.

The Treasury Department and the Department of Energy have cooperated in awarding the \$2.3 billion of credits authorized by the Recovery Act. Credits have been awarded to 183 projects in 43 states to support tens of thousands of high quality clean energy jobs and the development of a domestic clean energy manufacturing base.

The \$2.3 billion cap on the credit has resulted in the funding of less than one-third of the technically acceptable applications that have been received. The President's FY 2011 Budget proposes an additional \$5 billion in credits that would support at least \$15 billion in total capital investment, creating tens of thousands of new construction and manufacturing jobs. Because there is already an existing pipeline of worthy projects and substantial interest, the additional credit could be deployed quickly to create jobs and support economic activity.

**Conclusion**

Mr. Chairman, this concludes my prepared testimony. I will be pleased to answer any questions you or other members of the Committee may have.

**APPENDIX: GENERAL EXPLANATIONS OF THE ADMINISTRATION'S FISCAL YEAR 2010 REVENUE PROPOSALS RELATED TO ENERGY****REPEAL ENHANCED OIL RECOVERY CREDIT****Current Law**

The general business credit includes a 15-percent credit for eligible costs attributable to enhanced oil recovery (EOR) projects. If the credit is claimed with respect to eligible costs, the taxpayer's deduction (or basis increase) with respect to those costs is reduced by the amount of the credit. Eligible costs include the cost of constructing a gas treatment plant to prepare Alaska natural gas for pipeline transportation and any of the following costs with respect to a qualified EOR project: (1) the cost of depreciable or amortizable tangible property that is an integral part of the project; (2) intangible drilling and development costs (IDCs) that the taxpayer can elect to deduct; and (3) deductible tertiary injectant costs. A qualified EOR project must be located in the United States and must involve the application of one or more of nine listed tertiary recovery methods that can reasonably be expected to result in more than an insignificant increase in the amount of crude oil which ultimately will be recovered. The allowable credit is phased out over a \$6 range for a taxable year if the annual average unregulated wellhead price per barrel of domestic crude oil during the calendar year preceding the calendar year in which the taxable year begins (the reference price) exceeds an inflation adjusted threshold. The credit was completely phased out for taxable years beginning in 2009, because the reference price (\$94.03) exceeded the inflation adjusted threshold (\$42.01) by more than \$6.

**Reasons for Change**

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. The credit, like other oil and gas preferences the Administration proposes to repeal, distorts markets by encouraging more investment in the oil and gas industry than would occur under a neutral system. To the extent the credit encourages overproduction of oil, it is detrimental to long-term energy security and is also inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the credit must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy.

**Proposal**

The investment tax credit for enhanced oil recovery projects would be repealed for taxable years beginning after December 31, 2010.

**REPEAL CREDIT FOR OIL AND GAS PRODUCED FROM MARGINAL WELLS****Current Law**

The general business credit includes a credit for crude oil and natural gas produced from marginal wells. The credit rate is \$3.00 per barrel of oil and \$0.50 per 1,000 cubic feet of natural gas for taxable years beginning in 2005 and is adjusted for inflation in taxable years beginning after 2005. The credit is available for production from wells that produce oil and gas qualifying as marginal production for purposes of the percentage depletion rules or that have average daily production of not more than 25 barrel-of-oil equivalents and produce at least 95 percent water. The credit per well is limited to 1,095 barrels of oil or barrel-of-oil equivalents per year. The credit rate for crude oil is phased out for a taxable year if the annual average unregulated wellhead price per barrel of domestic crude oil during the calendar year preceding the calendar year in which the taxable year begins (the reference price) exceeds the applicable threshold. The phase-out range and the applicable threshold at which phase-out begins are \$3.00 and \$15.00 for taxable years beginning in 2005 and are adjusted for inflation in taxable years beginning after 2005. The credit rate for natural gas is similarly phased out for a taxable year if the annual average wellhead price for domestic natural gas exceeds the applicable threshold. The phase-out range and the applicable threshold at which phase-out begins are \$0.33 and \$1.67 for taxable years beginning in 2005 and are adjusted for inflation in taxable years beginning after 2005. The credit has been completely phased out for all taxable years since its enactment. The marginal well credit can be carried back up to five years unlike other components of the general business credit, which can be carried back only one year.

**Reasons for Change**

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. The credit, like other oil and gas preferences the Administration proposes to repeal, distorts markets by encouraging more investment in the oil and gas industry than would occur under a neutral system. To the extent the credit encourages overproduction of oil, it is detrimental to long-term energy security and is also inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the credit must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy.

**Proposal**

The production tax credit for oil and gas from marginal wells would be repealed for production in taxable years beginning after December 31, 2010.

**REPEAL EXPENSING OF INTANGIBLE DRILLING COSTS****Current Law**

In general, costs that benefit future periods must be capitalized and recovered over such periods for income tax purposes, rather than being expensed in the period the costs are incurred. In addition, the uniform capitalization rules require certain direct and indirect costs allocable to property to be included in inventory or capitalized as part of the basis of such property. In general, the uniform capitalization rules apply to real and tangible personal property produced by the taxpayer or acquired for resale.

Special rules apply to intangible drilling and development costs (IDCs). IDCs include all expenditures made by an operator for wages, fuel, repairs, hauling, supplies, and other expenses incident to and necessary for the drilling of wells and the preparation of wells for the production of oil and gas. In addition, IDCs include the cost to operators of any drilling or development work (excluding amounts payable only out of production or gross or net proceeds from production, if the amounts are depletable income to the recipient, and amounts properly allocable to the cost of depreciable property) done by contractors under any form of contract (including a turnkey contract). IDCs include amounts paid for labor, fuel, repairs, hauling, and supplies which are used in the drilling, shooting, and cleaning of wells; in such clearing of ground, draining, road making, surveying, and geological works as are necessary in preparation for the drilling of wells; and in the construction of such derricks, tanks, pipelines, and other physical structures as are necessary for the drilling of wells and the preparation of wells for the production of oil and gas. Generally, IDCs do not include expenses for items which have a salvage value (such as pipes and casings) or items which are part of the acquisition price of an interest in the property. Under the special rules applicable to IDCs, an operator (i.e., a person who holds a working or operating interest in any tract or parcel of land either as a fee owner or under a lease or any other form of contract granting working or operating rights) who pays or incurs IDCs in the development of an oil or gas property located in the United States may elect either to expense or capitalize those costs. The uniform capitalization rules do not apply to otherwise deductible IDCs.

If a taxpayer elects to expense IDCs, the amount of the IDCs is deductible as an expense in the taxable year the cost is paid or incurred. Generally, IDCs that a taxpayer elects to capitalize may be recovered through depletion or depreciation, as appropriate; or in the case of a nonproductive well ("dry hole"), the operator may elect to deduct the costs. In the case of an integrated oil company (i.e., a company that engages, either directly or through a related enterprise, in substantial retailing or refining activities) that has elected to expense IDCs, 30 percent of the IDCs on productive wells must be capitalized and amortized over a 60-month period.

A taxpayer that has elected to deduct IDCs may, nevertheless, elect to capitalize and amortize certain IDCs over a 60-month period beginning with the month the expenditure was paid or incurred. This rule applies on an expenditure-by-expenditure basis; that is, for any particular taxable year, a taxpayer may deduct some portion of its IDCs and capitalize the rest under this

provision. This allows the taxpayer to reduce or eliminate IDC adjustments or preferences under the alternative minimum tax.

The election to deduct IDCs applies only to those IDCs associated with domestic properties. For this purpose, the United States includes certain wells drilled offshore.

#### **Reasons for Change**

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. The expensing of IDCs, like other oil and gas preferences the Administration proposes to repeal, distorts markets by encouraging more investment in the oil and gas industry than would occur under a neutral system. To the extent expensing encourages overproduction of oil and gas, it is detrimental to long-term energy security and is also inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the tax subsidy for oil and gas must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy. Capitalization of IDCs would place the oil and gas industry on a cost recovery system similar to that employed by other industries and reduce economic distortions.

#### **Proposal**

Expensing of intangible drilling costs and 60-month amortization of capitalized intangible drilling costs would not be allowed. Intangible drilling costs would be capitalized as depreciable or depletable property, depending on the nature of the cost incurred, in accordance with the generally applicable rules.

The proposal would be effective for costs paid or incurred after December 31, 2010.

**REPEAL DEDUCTION FOR TERTIARY INJECTANTS****Current Law**

Taxpayers are allowed to deduct the cost of qualified tertiary injectant expenses for the taxable year. Qualified tertiary injectant expenses are amounts paid or incurred for any tertiary injectants (other than recoverable hydrocarbon injectants) that are used as a part of a tertiary recovery method. The deduction is treated as an amortization deduction in determining the amount subject to recapture upon disposition of the property.

**Reasons for Change**

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. The deduction for tertiary injectants, like other oil and gas preferences the Administration proposes to repeal, distorts markets by encouraging more investment in the oil and gas industry than would occur under a neutral system. To the extent expensing encourages overproduction of oil and gas, it is detrimental to long-term energy security and is also inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the tax subsidy for oil and gas must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy. Capitalization of tertiary injectants would place the oil and gas industry on a cost recovery system similar to that employed by other industries and reduce economic distortions.

**Proposal**

The deduction for qualified tertiary injectant expenses would not be allowed for amounts paid or incurred after December 31, 2010.

**REPEAL EXEMPTION TO PASSIVE LOSS LIMITATION FOR WORKING INTERESTS IN OIL AND GAS PROPERTIES****Current Law**

The passive loss rules limit deductions and credits from passive trade or business activities. Deductions attributable to passive activities, to the extent they exceed income from passive activities, generally may not be deducted against other income, such as wages, portfolio income, or business income that is not derived from a passive activity. A similar rule applies to credits. Suspended deductions and credits are carried forward and treated as deductions and credits from passive activities in the next year. The suspended losses and credits from a passive activity are allowed in full when the taxpayer completely disposes of the activity.

Passive activities are defined to include trade or business activities in which the taxpayer does not materially participate. An exception is provided, however, for any working interest in an oil or gas property that the taxpayer holds directly or through an entity that does not limit the liability of the taxpayer with respect to the interest.

**Reasons for Change**

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. The special tax treatment of working interests in oil and gas properties, like other oil and gas preferences the Administration proposes to repeal, distorts markets by encouraging more investment in the oil and gas industry than would occur under a neutral system. To the extent this special treatment encourages overproduction of oil and gas, it is detrimental to long-term energy security and is also inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the working interest exception for oil and gas must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy. Eliminating the working interest exception would subject oil and gas properties to the same limitations as other activities and reduce economic distortions.

**Proposal**

The exception from the passive loss rules for working interests in oil and gas properties would be repealed for taxable years beginning after December 31, 2010.

## REPEAL PERCENTAGE DEPLETION FOR OIL AND NATURAL GAS WELLS

### Current Law

The capital costs of oil and gas wells are recovered through the depletion deduction. Under the cost depletion method, the basis recovery for a taxable year is proportional to the exhaustion of the property during the year. This method does not permit cost recovery deductions that exceed basis or that are allowable on an accelerated basis.

A taxpayer may also qualify for percentage depletion with respect to oil and gas properties. The amount of the deduction is a statutory percentage of the gross income from the property. For oil and gas properties, the percentage ranges from 15 to 25 percent and the deduction may not exceed 100 percent of the taxable income from the property. In addition, the percentage depletion deduction for oil and gas properties may not exceed 65 percent of the taxpayer's overall taxable income (determined before the deduction and with certain other adjustments).

Other limitations and special rules apply to the percentage depletion deduction for oil and gas properties. In general, only independent producers and royalty owners (in contrast to integrated oil companies) qualify for the percentage depletion deduction. In addition, oil and gas producers may claim percentage depletion only with respect to up to 1,000 barrels of average daily production of domestic crude oil or an equivalent amount of domestic natural gas (applied on a combined basis in the case of taxpayers that produce both). This quantity limitation is allocated, at the taxpayer's election, between oil production and gas production and then further allocated within each class among the taxpayer's properties. Special rules apply to oil and gas production from marginal wells (generally, wells for which the average daily production is less than 15 barrels of oil or barrel-of-oil equivalents or that produce only heavy oil). Only marginal well production can qualify for percentage depletion at a rate of more than 15 percent. The rate is increased in a taxable year that begins in a calendar year following a calendar year during which the annual average unregulated wellhead price per barrel of domestic crude oil is less than \$20. The increase is one percentage point for each whole dollar of difference between the two amounts. In addition, marginal wells are exempt from the 100-percent-of-net-income limitation described above in taxable years beginning during the period 1998-2007 and in taxable years beginning in 2009. Unless the taxpayer elects otherwise, marginal well production is given priority over other production in applying the 1,000-barrel limitation on percentage depletion.

A qualifying taxpayer determines the depletion deduction for each oil and gas property under both the percentage depletion method and the cost depletion method and deducts the larger of the two amounts. Because percentage depletion is computed without regard to the taxpayer's basis in the depletable property, a taxpayer may continue to claim percentage depletion after all the expenditures incurred to acquire and develop the property have been recovered.

### Reasons for Change

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. Percentage depletion effectively provides a lower rate of tax with respect to a favored source of income. The lower

rate of tax, like other oil and gas preferences the Administration proposes to repeal, distorts markets by encouraging more investment in the oil and gas industry than would occur under a neutral system. To the extent the lower tax rate encourages overproduction of oil and gas, it is detrimental to long-term energy security and is also inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the tax subsidy for oil and gas must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy.

Cost depletion computed by reference to the taxpayer's basis in the property is the equivalent of economic depreciation. Limiting oil and gas producers to cost depletion would place them on a cost recovery system similar to that employed by other industries and reduce economic distortions.

**Proposal**

Percentage depletion would not be allowed with respect to oil and gas wells. Taxpayers would be permitted to claim cost depletion on their adjusted basis, if any, in oil and gas wells.

The proposal would be effective for taxable years beginning after December 31, 2010.

**REPEAL DOMESTIC MANUFACTURING DEDUCTION FOR OIL AND GAS PRODUCTION****Current Law**

A deduction is allowed with respect to income attributable to domestic production activities (the manufacturing deduction). For taxable years beginning after 2009, the manufacturing deduction is generally equal to 9 percent of the lesser of qualified production activities income for the taxable year or taxable income for the taxable year, limited to 50 percent of the W-2 wages of the taxpayer for the taxable year. The deduction for income from oil and gas production activities is computed at a 6 percent rate.

Qualified production activities income is generally calculated as a taxpayer's domestic production gross receipts (i.e., the gross receipts derived from any lease, rental, license, sale, exchange, or other disposition of qualifying production property manufactured, produced, grown, or extracted by the taxpayer in whole or significant part within the United States; any qualified film produced by the taxpayer; or electricity, natural gas, or potable water produced by the taxpayer in the United States) minus the cost of goods sold and other expenses, losses, or deductions attributable to such receipts.

The manufacturing deduction generally is available to all taxpayers that generate qualified production activities income, which under current law includes income from the sale, exchange or disposition of oil, natural gas or primary products thereof produced in the United States.

**Reasons for Change**

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. The manufacturing deduction effectively provides a lower rate of tax with respect to a favored source of income. The lower rate of tax, like other oil and gas preferences the Administration proposes to repeal, distorts markets by encouraging more investment in the oil and gas industry than would occur under a neutral system. To the extent the lower tax rate encourages overproduction of oil and gas, it is detrimental to long-term energy security and is also inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the tax subsidy for oil and gas must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy.

**Proposal**

The proposal would exclude from the definition of domestic production gross receipts all gross receipts derived from the sale, exchange or other disposition of oil, natural gas or a primary product thereof for taxable years beginning after December 31, 2010.

**INCREASE GEOLOGICAL AND GEOPHYSICAL AMORTIZATION PERIOD FOR INDEPENDENT PRODUCERS TO SEVEN YEARS****Current Law**

Geological and geophysical expenditures are costs incurred for the purpose of obtaining and accumulating data that will serve as the basis for the acquisition and retention of mineral properties. The amortization period for geological and geophysical expenditures incurred in connection with oil and gas exploration in the United States is two years for independent producers and seven years for integrated oil and gas producers.

**Reasons for Change**

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. The accelerated amortization of geological and geophysical expenditures incurred by independent producers, like other oil and gas preferences the Administration proposes to repeal, distorts markets by encouraging more investment in the oil and gas industry than would occur under a neutral system. To the extent accelerated amortization encourages overproduction of oil and gas, it is detrimental to long-term energy security and is also inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the tax subsidy for oil and gas must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy.

Increasing the amortization period for geological and geophysical expenditures incurred by independent oil and gas producers from two years to seven years would provide a more accurate reflection of their income and more consistent tax treatment for all oil and gas producers.

**Proposal**

The proposal would increase the amortization period from two years to seven years for geological and geophysical expenditures incurred by independent producers in connection with all oil and gas exploration in the United States. Seven-year amortization would apply even if the property is abandoned and any remaining basis of the abandoned property would be recovered over the remainder of the seven-year period. The proposal would be effective for amounts paid or incurred after December 31, 2010.

## REPEAL EXPENSING OF EXPLORATION AND DEVELOPMENT COSTS

### Current Law

In general, costs that benefit future periods must be capitalized and recovered over such periods for income tax purposes, rather than being expensed in the period the costs are incurred. In addition, the uniform capitalization rules require certain direct and indirect costs allocable to property to be included in inventory or capitalized as part of the basis of such property. In general, the uniform capitalization rules apply to real and tangible personal property produced by the taxpayer or acquired for resale.

Special rules apply in the case of mining exploration and development expenditures. A taxpayer may elect to expense the exploration costs incurred for the purpose of ascertaining the existence, location, extent, or quality of an ore or mineral deposit, including a deposit of coal or other hard mineral fossil fuel. Exploration costs that are expensed are recaptured when the mine reaches the producing stage either by a reduction in depletion deductions or, at the election of the taxpayer, by an inclusion in income in the year in which the mine reaches the producing stage.

After the existence of a commercially marketable deposit has been disclosed, costs incurred for the development of a mine to exploit the deposit are deductible in the year paid or incurred unless the taxpayer elects to deduct the costs on a ratable basis as the minerals or ores produced from the deposit are sold.

In the case of a corporation that elects to deduct exploration costs in the year paid or incurred, 30 percent of the otherwise deductible costs must be capitalized and amortized over a 60-month period. In addition, a taxpayer that has elected to deduct exploration costs may, nevertheless, elect to capitalize and amortize certain intangible drilling costs over a 60-month period beginning with the month the expenditure was paid or incurred. This rule applies on an expenditure-by-expenditure basis; that is, for any particular taxable year, a taxpayer may deduct some portion of its exploration costs and capitalize the rest under this provision. This allows the taxpayer to reduce or eliminate adjustments or preferences for exploration costs under the alternative minimum tax. Similar rules limiting corporate deductions and providing for 60-month amortization apply with respect to mine development costs.

The election to deduct exploration costs and the rule making development costs deductible in the year paid or incurred apply only with respect to domestic ore and mineral deposits.

### Reasons for Change

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. The expensing of exploration and development costs relating to coal and other hard mineral fossil fuels, like other fossil fuel preferences the Administration proposes to repeal, distorts markets by encouraging more investment in fossil fuel production than would occur under a neutral system. To the

extent expensing encourages overproduction of coal and other hard mineral fossil fuels, it is inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the tax subsidy for coal and other hard mineral fossil fuels must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy. Capitalization of exploration and development costs relating to coal and other hard mineral fossil fuels would place taxpayers in that industry on a cost recovery system similar to that employed by other industries and reduce economic distortions.

**Proposal**

Expensing and 60-month amortization of exploration and development costs relating to coal and other hard mineral fossil fuels would not be allowed. The costs would be capitalized as depreciable or depletable property, depending on the nature of the cost incurred, in accordance with the generally applicable rules. The other hard mineral fossil fuels for which expensing and 60-month amortization would not be allowed include lignite and oil shale to which a 15-percent depletion rate applies.

The proposal would be effective for costs paid or incurred after December 31, 2010.

## REPEAL PERCENTAGE DEPLETION FOR HARD MINERAL FOSSIL FUELS

### Current Law

The capital costs of coal mines and other hard mineral fossil fuel properties are recovered through the depletion deduction. Under the cost depletion method, the basis recovery for a taxable year is proportional to the exhaustion of the property during the year. This method does not permit cost recovery deductions that exceed basis or that are allowable on an accelerated basis.

A taxpayer may also qualify for percentage depletion with respect to coal and other hard mineral fossil fuel properties. The amount of the deduction is a statutory percentage of the gross income from the property. The percentage is 10 percent for coal and lignite and 15 percent for oil shale (other than oil shale to which a 7 ½ percent depletion rate applies because it is used for certain nonfuel purposes). The deduction may not exceed 50 percent of the taxable income from the property (determined before the deductions for depletion and domestic manufacturing).

A qualifying taxpayer determines the depletion deduction for each oil and gas property under both the percentage depletion method and the cost depletion method and deducts the larger of the two amounts. Because percentage depletion is computed without regard to the taxpayer's basis in the depletable property, a taxpayer may continue to claim percentage depletion after all the expenditures incurred to acquire and develop the property have been recovered.

### Reasons for Change

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. Percentage depletion effectively provides a lower rate of tax with respect to a favored source of income. The lower rate of tax, like other fossil fuel preferences the Administration proposes to repeal, distorts markets by encouraging more investment in fossil fuel production than would occur under a neutral system. To the extent the lower tax rate encourages overproduction of coal and other hard mineral fossil fuels, it is inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the tax subsidy for coal and other hard mineral fossil fuels must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy.

Cost depletion computed by reference to the taxpayer's basis in the property is the equivalent of economic depreciation. Limiting fossil fuel producers to cost depletion would place them on a cost recovery system similar to that employed by other industries and reduce economic distortions.

### Proposal

Percentage depletion would not be allowed with respect to coal and other hard mineral fossil fuels. The other hard mineral fossil fuels for which no percentage depletion would be allowed include lignite and oil shale to which a 15-percent depletion rate applies. Taxpayers would be

permitted to claim cost depletion on their adjusted basis, if any, in coal and other hard mineral fossil fuel properties.

The proposal would be effective for taxable years beginning after December 31, 2010.

**REPEAL CAPITAL GAINS TREATMENT OF CERTAIN ROYALTIES****Current Law**

Royalties received on the disposition of coal or lignite generally qualify for treatment as long-term capital gain, and the royalty owner does not qualify for percentage depletion with respect to the coal or lignite. This treatment does not apply unless the taxpayer has been the owner of the mineral in place for at least one year before it is mined. The treatment also does not apply to income realized as a co-adventurer, partner, or principal in the mining of the mineral or to certain related party transactions.

**Reasons for Change**

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. The capital gain treatment of coal and lignite royalties, like other fossil fuel preferences the Administration proposes to repeal, distorts markets by encouraging more investment in fossil fuel production than would occur under a neutral system. To the extent capital gains treatment encourages overproduction of coal and lignite, it is inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the tax subsidy for coal and lignite must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy.

**Proposal**

The capital gain treatment of coal and lignite royalties would be repealed and the royalties would be taxed as ordinary income.

The proposal would be effective for amounts realized in taxable years beginning after December 31, 2010.

**REPEAL DOMESTIC MANUFACTURING DEDUCTION FOR COAL AND OTHER  
HARD MINERAL FOSSIL FUELS**

**Current Law**

A deduction is allowed with respect to income attributable to domestic production activities (the manufacturing deduction). For taxable years beginning after 2009, the manufacturing deduction is generally equal to 9 percent of the lesser of qualified production activities income for the taxable year or taxable income for the taxable year, limited to 50 percent of the W-2 wages of the taxpayer for the taxable year.

Qualified production activities income is generally calculated as a taxpayer's domestic production gross receipts (i.e., the gross receipts derived from any lease, rental, license, sale, exchange, or other disposition of qualifying production property manufactured, produced, grown, or extracted by the taxpayer in whole or significant part within the United States; any qualified film produced by the taxpayer; or electricity, natural gas, or potable water produced by the taxpayer in the United States) minus the cost of goods sold and other expenses, losses, or deductions attributable to such receipts.

The manufacturing deduction generally is available to all taxpayers that generate qualified production activities income, which under current law includes income from the sale, exchange or disposition of coal, other hard mineral fossil fuels, or primary products thereof produced in the United States.

**Reasons for Change**

The President agreed at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels so that the United States can transition to a 21st century energy economy. The manufacturing deduction effectively provides a lower rate of tax with respect to a favored source of income. The lower rate of tax, like other fossil fuel preferences the Administration proposes to repeal, distorts markets by encouraging more investment in fossil fuel production than would occur under a neutral system. To the extent the lower tax rate encourages overproduction of coal and other hard mineral fossil fuels, it is inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources. Moreover, the tax subsidy for coal and other hard mineral fossil fuels must ultimately be financed with taxes that result in underinvestment in other, potentially more productive, areas of the economy.

**Proposal**

The proposal would exclude from the definition of domestic production gross receipts all gross receipts derived from the sale, exchange or other disposition of coal, other hard mineral fossil fuels, or a primary product thereof. The hard mineral fossil fuels to which the exclusion would apply include lignite and oil shale to which a 15-percent depletion rate applies.

The proposal would be effective for taxable years beginning after December 31, 2010.

**REINSTATE SUPERFUND EXCISE TAXES**

**Current Law**

The following Superfund excise taxes were imposed before January 1, 1996:

- (1) An excise tax on domestic crude oil and on imported petroleum products at a rate of \$0.097 per barrel;
- (2) An excise tax on listed hazardous chemicals at a rate that varied from \$0.22 to \$4.87 per ton; and
- (3) An excise tax on imported substances that use as materials in their manufacture or production one or more of the hazardous chemicals subject to the excise tax described in (2) above.

Amounts equivalent to the revenues from these taxes were dedicated to the Hazardous Substance Superfund Trust Fund (the Superfund Trust Fund). Amounts in the Superfund Trust Fund are available for expenditures incurred in connection with releases or threats of releases of hazardous substances into the environment under specified provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (as amended).

**Reasons for Change**

The Superfund excise taxes should be reinstated because of the continuing need for funds to remedy damages caused by releases of hazardous substances.

**Proposal**

The three Superfund excise taxes would be reinstated for periods after December 31, 2010. The taxes would sunset after December 31, 2020.

## MODIFY THE TAX RULES FOR DUAL CAPACITY TAXPAYERS

### Current Law

Section 901 provides that, subject to certain limitations, a taxpayer may choose to claim a credit against its U.S. income tax liability for income, war profits, and excess profits taxes paid or accrued during the taxable year to any foreign country or any possession of the United States. To be a creditable tax, a foreign levy must be substantially equivalent to an income tax under United States tax principles, regardless of the label attached to the levy under law. Under current Treasury regulations, a foreign levy is a tax if it is a compulsory payment under the authority of a foreign government to levy taxes and is not compensation for a specific economic benefit provided by the foreign country. Taxpayers that are subject to a foreign levy and that also receive a specific economic benefit from the levying country (dual capacity taxpayers) may not credit the portion of the foreign levy paid for the specific economic benefit. The current Treasury regulations provide that, if a foreign country has a generally-imposed income tax, the dual capacity taxpayer may treat as a creditable tax the portion of the levy that application of the generally imposed income tax would yield (provided that the levy otherwise constitutes an income tax or an in lieu of tax). The balance of the levy is treated as compensation for the specific economic benefit. If the foreign country does not generally impose an income tax, the portion of the payment that does not exceed the applicable federal tax rate applied to net income is treated as a creditable tax. A foreign tax is treated as generally imposed even if it applies only to persons who are not residents or nationals of that country.

There is no separate section 904 foreign tax credit basket for oil and gas income. However, under section 907, the amount of creditable foreign taxes imposed on foreign oil and gas income is limited in any year to the applicable U.S. tax on that income.

### Reasons for Change

The purpose of the foreign tax credit is to mitigate double taxation of income by the United States and a foreign country. When a payment is made to a foreign country in exchange for a specific economic benefit, there is no double taxation. Current law recognizes the distinction between a payment of creditable taxes and a payment in exchange for a specific economic benefit but fails to achieve the appropriate split between the two when a single payment is made in a case where, for example, a foreign country imposes a levy only on oil and gas income, or imposes a higher levy on oil and gas income as compared to other income.

### Proposal

In the case of a dual capacity taxpayer, the proposal would allow the taxpayer to treat as a creditable tax the portion of a foreign levy that does not exceed the foreign levy that the taxpayer would pay if it were not a dual-capacity taxpayer. The proposal would replace the current regulatory provisions, including the safe harbor, that apply to determine the amount of a foreign levy paid by a dual-capacity taxpayer that qualifies as a creditable tax. The proposal also would

convert the special foreign tax credit limitation rules of section 907 into a separate category within section 904 for foreign oil and gas income. The proposal would yield to United States

treaty obligations to the extent that they allow a credit for taxes paid or accrued on certain oil or gas income.

The proposal would be effective for taxable years beginning after December 31, 2010.

**CONTINUE CERTAIN EXPIRING PROVISIONS THROUGH CALENDAR YEAR 2011**

A number of temporary tax provisions are scheduled to expire before December 31, 2011. The Administration proposes to extend a number of these provisions through December 31, 2011. These provisions include the optional deduction for State and local general sales taxes, the Subpart F "active financing" and "look-through" exceptions, the exclusion from unrelated business income of certain payments to controlling exempt organizations, the modified recovery period for qualified leasehold improvements and qualified restaurant property, incentives for empowerment and community renewal zones, and several trade agreements, including the Generalized System of Preferences and the Caribbean Basin Initiative. In accordance with the President's agreement at the G-20 Summit in Pittsburgh to phase out subsidies for fossil fuels, temporary incentives provided for the production of fossil fuels would be allowed to expire as scheduled under current law.

**PROVIDE ADDITIONAL TAX CREDITS FOR INVESTMENT IN QUALIFIED PROPERTY USED IN A QUALIFYING ADVANCED ENERGY MANUFACTURING PROJECT**

**Current Law**

A 30-percent tax credit is provided for investments in eligible property used in a qualifying advanced energy project. A qualifying advanced energy project is a project that re-equips, expands, or establishes a manufacturing facility for the production of: (1) property designed to produce energy from renewable resources; (2) fuel cells, microturbines, or an energy storage system for use with electric or hybrid-electric vehicles; (3) electric grids to support the transmission, including storage, of intermittent sources of renewable energy; (4) property designed to capture and sequester carbon dioxide emissions; (5) property designed to refine or blend renewable fuels or to produce energy conservation technologies; (6) electric drive motor vehicles that qualify for tax credits or components designed for use with such vehicles; and (7) other advanced energy property designed to reduce greenhouse gas emissions.

Eligible property is property: (1) that is necessary for the production of the property listed above; (2) that is tangible personal property or other tangible property (not including a building and its structural components) that is used as an integral part of a qualifying facility; and (3) with respect to which depreciation (or amortization in lieu of depreciation) is allowable.

Total credits are limited to \$2.3 billion, and the Treasury Department, in consultation with the Department of Energy, was required to establish a program to consider and award certifications for qualified investments eligible for credits within 180 days of the date of enactment of the American Recovery and Reinvestment Act of 2009. Credits may be allocated only to projects where there is a reasonable expectation of commercial viability. In addition, consideration must be given to which projects: (1) will provide the greatest domestic job creation; (2) will have the greatest net impact in avoiding or reducing air pollutants or greenhouse gas emissions; (3) have the greatest potential for technological innovation and commercial deployment; (4) have the lowest levelized cost of generated or stored energy, or of measured reduction in energy consumption or greenhouse gas emission; and (5) have the shortest completion time. Guidance under current law requires taxpayers to apply for the credit with respect to their entire qualified investment in a project.

Applications for certification under the program may be made only during the two-year period beginning on the date the program is established. An applicant that is allocated credits must provide evidence that the requirements of the certification have been met within one year of the date of acceptance of the application and must place the property in service within three years from the date of the issuance of the certification.

**Reasons for Change**

The \$2.3 billion cap on the credit has resulted in the funding of less than one-third of the technically acceptable applications that have been received. Instead of turning down worthy

applicants who are willing to invest private resources to build and equip factories that manufacture clean energy products in America, the program should be expanded. An additional \$5 billion in credits would support at least \$15 billion in total capital investment, creating tens of thousands of new construction and manufacturing jobs. Because there is already an existing pipeline of worthy projects and substantial interest in this area, the additional credit can be deployed quickly to create jobs and support economic activity.

#### Proposal

The proposal would authorize an additional \$5 billion of credits for investments in eligible property used in a qualifying advanced energy project. The guidance that requires taxpayers to apply for the credit with respect to their entire qualified investment will be modified so that taxpayers can apply for a credit with respect to only part of their qualified investment. If a taxpayer applies for a credit with respect to only part of the qualified investment in the project, the taxpayer's increased cost sharing and the project's reduced revenue cost to the government will be taken into account in determining whether to allocate credits to the project.

Applications for the additional credits would be made during the two-year period beginning on the date on which the additional authorization is enacted. As under current law, applicants that are allocated the additional credits must provide evidence that the requirements of the certification have been met within one year of the date of acceptance of the application and must place the property in service within three years from the date of the issuance of the certification.

The change would be effective on the date of enactment.

Chairman LEVIN. Thank you.  
Mr. Rogers.

#### **STATEMENT OF MATT ROGERS, SENIOR ADVISOR TO THE SECRETARY, UNITED STATES DEPARTMENT OF ENERGY**

Mr. ROGERS. Good morning. Chairman Levin, Ranking Member Camp, Members of the Committee, thank you for the opportunity to appear before you today to report on the progress of the Recovery Act, and specifically the tax credit and payments programs under the Recovery Act.

It's been a privilege to collaborate with Assistant Secretary Mundaca and his Treasury team, as well as the talented team at the IRS on these programs, and on other energy-related tax issues.

I will keep my remarks brief. This morning I have submitted a more detailed testimony for the record.

It is a tribute to this Committee that the section 48C, clean energy manufacturing tax credit, and the section 1603, payments in lieu of tax credit programs, have been among the most successful clean energy job creation and innovation programs under the Recovery Act. Today, these programs are putting Americans back to work, and positioning the U.S. to regain leadership in high technology, clean energy manufacturing and generation.

The competitive 48C manufacturing tax credit was so successful and so over-subscribed, that the President has asked Congress for an additional \$5 billion to expand that program. The 1603 program gave new life to renewable generation in the United States, and should be evaluated as part of a comprehensive energy and climate legislation.

This Committee's leadership has been important to the success of the Recovery Act, and we look forward to working with this Committee to ensure long-term U.S. leadership in high technology, clean energy, manufacturing, and generation.

Across the Federal Government, the Recovery Act included more than \$90 billion in appropriations, including more than \$30 billion in tax programs to support more than \$150 billion in clean energy projects. The Recovery Act directed DOE to work with Treasury to administer the \$2.3 billion in competitive clean energy manufacturing tax credits. And, likewise, the Act directed DOE to work with Treasury to administer an estimated \$16 billion in renewable energy generation payments in lieu of tax credits.

We work closely with our Treasury colleagues to manage a detailed, competitive peer review process to select the 183 projects in 43 states to receive the \$2.3 billion available in clean energy manufacturing tax credits. The competition for these funds was over-subscribed 3-to-1 with good projects, and the competitive process allowed us to select a portfolio of really great projects to help lead the renaissance in U.S. high technology, clean energy manufacturing.

Likewise, we worked with Treasury so far to award \$3.1 billion in payments in lieu of tax credits to 718 renewable energy generation projects in 44 states. The 1603 program directly addressed the freeze in the tax equity markets related to the financial crisis, enabling these projects to close financing and begin construction again. These tax incentives help support a 39 percent increase in renewable generation capacity in the United States last year. These tax programs were particularly effective in getting money out the door quickly to put Americans back to work on great projects that otherwise would have been idled in the face of the Great Recession.

The combination of the 48C program and the 1603 renewable generation payments has put the United States on the path to doubling both high technology and clean energy manufacturing, and renewable generation capacity by 2012. These programs are bringing private capital off the sidelines and back into the clean energy financing markets. Importantly, these tax incentives have made the United States globally competitive again in attracting the best technology and manufacturing investments to create jobs in the United States.

These Recovery Act investments are putting Americans to work. The tax programs are not actually required to report into [Federalreporting.gov](http://Federalreporting.gov), but the 1603 fund recipients reported that these projects created 12,000 jobs last year and, if they continue as expected, would create 60,000 jobs across the life of the program. Likewise, the 48C program applications estimated that Federal dollars would support 17,000 jobs directly, and more than 50,000 jobs generated by these selected clean energy manufacturing projects.

The energy tax incentives under the Recovery Act have been effective in creating jobs quickly, and restarting industries that were on the verge of shutting down. These incentives were also laying the foundation for a broad expansion in high technology, clean energy manufacturing in the United States.

Thanks to this Committee, these programs are positioning the United States to regain global leadership in these high-growth markets. And these tax programs remain an important policy tool for the future.

Thank you for the time this morning. I look forward to answering your questions.

[The prepared statement of Mr. Rogers follows.]

**Prepared Statement of Matt Rogers, Senior  
Advisor to the Secretary, U.S. Department of Energy**

*Statement of Matt Rogers  
Senior Advisor to the Secretary of Energy  
Before the Committee on Ways and Means  
United States House of Representatives  
April 14, 2010*

***Putting Americans to work, building a clean energy economy, and  
reducing our dependence on oil.***

Chairman Levin, Ranking Member Camp, and Members of the Committee, thank you for the opportunity to appear before you today to report on the progress of “The American Recovery and Reinvestment Act’s”(Recovery Act) energy tax credit and grant programs. The Section 48C clean energy manufacturing tax credit and Section 1603 payments in lieu of tax credit programs have been among the most successful energy job creation and innovation programs under the Recovery Act to date, putting America back to work and positioning the US to regain leadership in high technology clean energy manufacturing and generation.

The Department of Energy’s Recovery programs are focused on creating good jobs now and accelerating innovation to lay the foundation for long term economic growth and prosperity. To support this work, Congress entrusted the Department of Energy with \$36.7 billion in appropriations for grants and loan guarantees and \$6.5 billion in power marketing administration borrowing authority. With these resources, the Department of Energy has announced selections for \$32 billion in federal funds and obligated \$27 billion. The Department’s grant and contract programs have outlaid \$3.2 billion.

Across the federal government, the Recovery Act investments of \$90 billion for clean energy will produce as much as \$150 billion in clean energy projects,<sup>1</sup> and existing investment programs could produce up to \$90 billion in additional clean energy projects.<sup>2</sup> The Recovery Act directed DOE to work with Treasury to administer \$2.3 billion in clean energy manufacturing tax credits and, under an interagency agreement, DOE works with Treasury to administer an estimated \$16 billion in renewable energy generation payments in lieu of tax credits.

We have also worked closely with our Treasury colleagues to select 183 projects in 43 states to receive the \$2.3 billion in available clean energy manufacturing tax credits under Section 48C. The competition for these funds was highly competitive, oversubscribed 3:1 with good projects, allowing us to select a portfolio of great projects to help lead the renaissance in US high technology, clean energy manufacturing. Likewise, we have worked with Treasury to award \$3.1 billion in payments in lieu of tax credits to 718 renewable energy generation projects in 44 states. The combination of the 48C tax manufacturing tax credits and the 1603 renewable generation payments has put the United States on the path to doubling both high technology, clean energy manufacturing and renewable generation capacity (excluding conventional

<sup>1</sup> This includes Recovery Act appropriations across all government agencies. [http://www.whitehouse.gov/sites/default/files/administration/eof/2010/president\\_memo\\_on\\_clean\\_energy\\_economy.pdf](http://www.whitehouse.gov/sites/default/files/administration/eof/2010/president_memo_on_clean_energy_economy.pdf)

<sup>2</sup> This figure represents the estimated project value if all the existing authority for the DOE loan guarantee program is used. The estimate includes Title 17 loan guarantee authority for energy efficiency, renewable energy (\$18.5 billion), fossil energy (\$8 billion) and nuclear (\$20.5 billion for both reactors and front-end), and Section 136 Advanced Vehicle Technology Manufacturing loans (\$23 billion). Typically, projects require a minimum 20% equity share.

hydropower) by 2012. These programs were particularly effective in getting money out the door quickly to put people back to work on great projects that would otherwise have been idled in the face of the Great Recession.

These Recovery Act investments in energy are putting Americans to work. During the last full recipient reporting period (Oct-Dec 2009), Federal Reporting.gov reported 51,700 jobs directly attributable to Recovery Act clean energy investments, and the Council of Economic Advisors estimated that the Recovery Act clean energy investments would create 719,000 job years in total. These estimates are consistent with other estimates, like the Lawrence Berkeley National Laboratory report requested by this committee, which also estimated that more than 50,000 additional jobs in 2009 could be attributable to the implementation of the 1603 program. Spending has accelerated in the first three months of the calendar year and the jobs numbers will continue to grow.

The energy tax incentives under the Recovery Act have been effective in creating jobs quickly and restarting industries that were on the verge of shutting down. These incentive programs are laying the foundation for a broad expansion in high technology, clean energy manufacturing, and are positioning the United States to regain global leadership in these high growth markets and remain an important policy tool for the future. That is why the Administration has called on Congress to fund an additional \$5billion in clean energy manufacturing projects.

#### **Developing the strongest renewable energy industry in the world**

Until the recent financial and economic downturn, the renewable energy industry had been growing rapidly. For example, new wind project installations in the US quadrupled from under 2 gigawatts per year before 2005 to over 8 gigawatts in 2008. Last year, though, the rate of renewable energy installations was expected to have fallen by about half, largely due to an inability to secure financing in this environment. In addition to lost construction jobs, U.S. renewables manufacturers too would have suffered a sudden loss in demand for their products (wind turbines, solar panels, etc.).

The 1603 program has directly addressed the freeze in tax equity markets related to the financial crisis, enabling projects to close financing and begin construction again. Since the beginning of the program last summer, we have seen a dramatic increase in clean renewable energy project development despite industry predictions of a reduction in the face of a challenging economic environment.<sup>3</sup> For example the wind industry predicted a 5gigawatt increase when the US has a record year and installed nearly 10gigawatt.<sup>4</sup>

The Section 1603 grants go only to U.S. clean energy projects, built in the U.S. by American workers. According to their applications, the projects receiving the 1603 grants have so far helped support more than 10,000 construction jobs and over 2,000 ongoing operating and

<sup>3</sup> In 2008, wind installations increased by an even larger rate (50% with 8,545 MW added) than they did in 2007 (45%, with 5,249 MW added), bumping up wind power's five-year average annual growth rate (2004-2008) to 32%. The previous five-year average annual growth rate (2002-2007) was 29%.

<sup>4</sup> AWEA Year End 2009 Market Report, January 2010, <http://www.awea.org/publications/reports/2009.pdf> and Wind Power Outlook 2009 [http://www.awea.org/subdocuments/Outlook\\_2009.pdf](http://www.awea.org/subdocuments/Outlook_2009.pdf)

maintenance jobs, while bringing more than 4 GW of new renewable energy online. The jobs created by these projects – in engineering, construction, transportation, operations, and maintenance – are good domestic jobs filled by American workers. And, at the same time the program has begun putting people back to work in the renewable energy industry (both in construction and in manufacturing), it will also make an important contribution towards meeting the Administration's goal of doubling renewable energy generation in the next few years.<sup>5</sup>

A recent report, requested by this Committee and published by Lawrence Berkeley National Labs, found that 2,400 megawatts (or 2.4 GW) of wind power, or nearly 25 percent of all wind energy capacity installed in the U.S. in 2009, might *not* have been built last year if the 1603 program were not in place. The authors found that these projects may have supported over 51,000 full-time-equivalent (FTE) construction job-years, and over 3,800 FTE operational job-years.<sup>6</sup>

Applications may only be submitted after the project is placed in service or has begun construction.<sup>7</sup> A completed application must include: the signed and complete application form; supporting documentation; signed Terms and Conditions; and complete payment information. All applications must be received before the statutory deadline of October 1, 2011.<sup>8</sup> DOE and Treasury then review the applications and Treasury makes payment to qualified applicants that have placed their projects in service within 60 days from the date the completed application is received by Treasury.

As of April 9, 2010 DOE and the National Renewable Energy Laboratory have received 1,749 applications requesting \$4.6 billion (\$4,579,921,910) in payments from the Treasury Department. 1,649 of those projects are already placed in service and 100 are not yet in service.<sup>9</sup> Treasury has now funded over \$3.1 billion (\$3,108,092,310) in payments to 718 applicants in nearly every state. The total installed electrical capacity for funded projects is 4.5<sup>10</sup> gigawatts. To put this in perspective, this is enough to power over 1.4 million U.S. homes, sufficient to power the populations of Boston, Seattle, Atlanta, Kansas City, and Cincinnati combined.

The Stetson II wind project is a perfect example of the impact the 1603 program is having, allowing development of projects that otherwise would not have been built in 2009. Stetson II is a 25 MW project, built on a ridge within sight of the Stetson I project that was placed in service in January 2009 and was the recipient of one of the first 1603 payments. It is being built by a Maine contractor. The project developer First Wind says that project jobs will likely amount to more than 200 on-site jobs during construction, and after it is built, there will be 5-10 jobs onsite and approximately 125 jobs across the country partially dedicated to support of the facility. It is being built with GE wind turbines.

<sup>5</sup> "Status Report on Goal of Doubling Renewable Energy in 3 Years" National Renewable Energy Laboratory, September 23, 2009

<sup>6</sup> LBNL, Preliminary Evaluation of the Impact of the Section 1603 Treasury Grant Program on Renewable Energy Deployment in 2009; Mark Bollinger, Ryan Wisser, Naim Darghouth

<sup>7</sup> Placed in service means that the property is ready and available for its specific use. Construction begins when physical work of a significant nature begins. Work performed by the applicant and by other persons under a written binding contract is taken into account in determining whether construction has begun.

<sup>8</sup> For property placed in service in 2009 or 2010, applications must be submitted after the property has been placed in service and before October 1, 2011.

<sup>9</sup> Qualified property must be originally placed in service between January 1, 2009, and December 31, 2010, (regardless of when construction begins) or placed in service after 2010 and before the credit termination date if construction of the property begins between January 1, 2009, and December 31, 2010. Qualified property includes expansions of an existing property that is qualified property under section 45 or 48 of the IRC.

As another example, SunEdison, a solar project developer, was able to accelerate construction of the first stage (4 MW) of an 18 MW PV facility being built in Davidson County, NC due to the 1603 program. Completion and interconnection of the first stage occurred in December 2009 while the original schedule called for the first stage to be completed in mid-2010. The power from this project will be purchased by Duke Energy and will serve 22,000 customers in North and South Carolina. Once fully completed, this particular project will deliver roughly 550 job-years over lifetime of project, with 310 job-years of installation, integration and maintenance work that would take place directly in Davidson County, where the unemployment rate is more than 14 percent, well above the national average.

The 1603 program is not only increasing the number of renewable energy projects installed in the U.S., it is also having a direct effect on creating the demand needed to build a robust domestic manufacturing supply chain. Manufacturers tend to locate closer to where there is demand for the products. For years, demand for wind energy was much higher in Europe than in the United States, which is a major reason why the U.S. fell behind in wind manufacturing capacity. Indeed, the world's leading turbine manufacturer isn't headquartered in China or Mexico; it's headquartered in Denmark, where wind market incentives have been strong. The 1603 program changed the equation by making it easier to finance renewable energy projects in the United States. The 1603 program has dramatically increased the pace of investment in America's wind industry<sup>10</sup>. In addition, it has helped attract tens of billions of dollars in foreign investment in U.S. project development from firms such as Iberdrola and Horizon, and expanding U.S. wind manufacturing facilities such as Gamesa's plants in Pennsylvania and Vestas' in Colorado.<sup>11</sup> The manufacturing investments attracted by the 1603 program and the promise of new energy legislation will have resulted in the hiring of thousands U.S. workers within the next two years.

#### Creating a sustainable clean energy manufacturing sector and growing our supply chains

The U.S. has a relatively small share of worldwide manufacturing capacity for clean energy-related industries, such as wind, solar, and batteries. In 2008, the U.S. had 16% of global wind manufacturing capacity (5.4 gigawatts (GW)<sup>12</sup> in the U.S. out of 33 GW worldwide), 6% of global solar manufacturing capacity (0.5 GW out of 9 GW worldwide), and less than 1% of global battery manufacturing capacity.<sup>13</sup>

This is largely because, until recently, incentives for clean energy development and manufacturing have been much larger overseas than in the U.S., meaning that clean energy

<sup>10</sup> At the AWEA Finance & Investment Workshop on October 14th, John Eber, managing director of energy investments at J.P. Morgan Capital Corp., said wind developers can attract debt backing of 40 to 50 percent of total project costs without a federal grant. The grant lets projects get built with 70 to 80 percent support from debt.

<sup>11</sup> This includes \$1B of manufacturing investments by Vestas, \$6B of project investments by Iberdrola and \$4B of project investments by Horizon, all announced after the Recovery Act was passed.

<sup>12</sup> Finished wind turbine capacity.

<sup>13</sup> The U.S. supplied less than 1% of global nickel metal hydride manufacturing and a negligible portion of the 3 billion cells per year worth of global lithium ion manufacturing.

manufacturing grew more rapidly in Europe and Asia. Recently, however, the grant and tax provisions under the Recovery Act have made the U.S. a more attractive market for investment in clean energy development and manufacturing. As a result, we are seeing rapid growth of U.S. clean energy markets, and billions of dollars invested in expanding clean energy manufacturing in the U.S.

There is an opportunity for the U.S. to lead the world in high-technology, clean energy manufacturing. In these industries, the U.S. can leverage the R&D and innovations being pursued by companies, universities, and the Department of Energy's national labs into competitively advantaged manufacturing positions.

The U.S. clean energy manufacturing base is starting to expand rapidly. Nevertheless, this new manufacturing growth necessarily lags behind the increased clean energy project development we have seen in the U.S. in recent years.

In order to foster investment and job creation in clean energy manufacturing, the American Recovery and Reinvestment Act included a tax credit for investments in manufacturing facilities for clean energy technologies. Section 1302 of the American Recovery & Reinvestment Act of 2009 Division B<sup>14</sup> amended the Internal Revenue Code by adding a new Advanced Energy Manufacturing Tax Credit ("48C").<sup>15</sup> As a tax credit, the program falls under the jurisdiction of Department of Treasury; it is being administered in cooperation with the Department of Energy (DOE), which led the review and selection of qualified advanced energy manufacturing projects<sup>16</sup> that would receive the 48C tax credits.<sup>17</sup>

ARRA authorized the IRS and Treasury in consultation with DOE to competitively award \$2.3 billion in 30% tax credits for qualifying advanced energy projects in new, expanded, or re-equipped domestic manufacturing facilities. In January, President Obama announced the award of the entire \$2.3 billion of 48C tax credits to 183 projects in 43 states. Initially the program was more than 3 times oversubscribed. We received 594 applications overall requesting over \$10.9 billion in credits representing over \$30 billion in total project value. After initial review it was deemed that 418 projects were eligible requesting over \$8.1 billion in credits (representing over \$27 billion in total project value). DOE recommended, and IRS awarded, \$2.3 billion leaving \$5.8 billion in unfunded eligible applications.<sup>18</sup>

<sup>14</sup> Pub. L. No. 111-5 (2009).

<sup>15</sup> 26 U.S.C. 48C.

<sup>16</sup> The term "qualifying advanced energy project" means a project - which re-equips, expands, or establishes a manufacturing facility for the production of; property designed to be used to produce energy from the sun, wind, geothermal deposits or other renewable resources; fuel cells, microturbines, or an energy storage system for use with electric or hybrid electric motor vehicles; electric grids to support the transmission of intermittent sources of renewable energy, including storage of such energy; property designed to capture and sequester carbon dioxide emissions; property designed to refine or blend renewable fuels or to produce energy conservation technologies (including energy-conserving lighting technologies and smart grid technologies); new qualified plug-in electric drive motor vehicles (as defined by section 30D); qualified plug-in electric vehicles (as defined by section 30(d)), or components which are designed specifically for use with such vehicles, including electric motors, generators, and power control units, or other advanced energy property designed to reduce greenhouse gas emissions as may be determined by the Secretary. 48C does not apply to production of electricity or fuel.

<sup>17</sup> See IRS Notice 2009-72 §5.01. "The Service will consider a project under the qualifying advanced energy project program only if the U.S. Department of Energy provides a recommendation and ranking of the project."

<sup>18</sup> The final application breakdown is as follows: 594 projects applied requesting a total of \$10,902,251,709. 176 were ineligible (did not meet the specified requirements) for \$2,763,932,005; 3 did not pass IRS final review; 183 projects were selected for \$2.3 billion; 225 were eligible but not selected totaling \$5,818,319,703.

The 48C tax credits are allowed for projects that are placed in service on or after February 17, 2009, when the Recovery Act was signed. Projects must be placed in service before February 17, 2013. The statute favors the selection of projects that are in service early. As a result, some of the selected projects already have been completed and begun operation.

Projects were assessed based on the following statutorily specified review criteria included: greatest domestic job creation (direct and indirect), greatest net impact in avoiding or reducing air pollutants or emissions of greenhouse gases; lowest levelized cost of energy, greatest potential for technological innovation and commercial deployment, and shortest project time from certification to completion. The advanced energy manufacturing facilities helped by this program may generate more than 17,000 jobs. This investment could be matched by as much as \$5.4 billion in private sector funding likely supporting up to 41,000 additional jobs.

This tax credit program is already building a robust high technology, US manufacturing capacity to supply clean energy projects with US-made parts and equipment. These manufacturing facilities should also support significant growth in US exports of US manufactured clean energy products.

A strong supply chain means a nationwide network of clean energy companies. The geographic breadth of this network shows these initiatives are creating clean energy jobs all over the country and rebuilding the US manufacturing base. The geographic concentration of some supply chains shows the value of clusters, creating synergies between manufacturers, suppliers, universities, and labs linked into a pocket of regional expertise. The mix of new and old industries shows the expansive impact of the clean energy supply chain. High-tech startups like Amonix and Calstar are constructing large factories to build cutting-edge products and contracting with traditional US manufacturing companies to provide the steel, bolts, and glass necessary to make the most advanced solar panels, wind turbines, and vehicles in the world.

For example, Porocel Industries in Little Rock, Arkansas were selected to receive \$2.8M in tax credit for the construction and operation of a new manufacturing plant. The plant will be used for the production of intermediate material used in "Conoco Phillips' CPrime Anode" –also identified for use by several recipients of DOE funding under the advanced battery manufacturing initiative. ConocoPhillips has developed proprietary anode technology for lithium-ion batteries. This technology utilizes low-cost refinery by-product and, through state-of-the-art processing, upgrades it to produce high-performance anode materials.

Wacker -Chemie /Polysilicon North America Charleston, TN were selected to receive \$281million in tax credits to establish a new \$1B hyperpure polysilicon plant in Charleston, Tennessee to support the solar PV industry. This will be one of two major plants in the US— Hemlock being the other multi-billion dollar investment in solar production receiving manufacturing tax credits.

W.L. Gore & Associates, Inc., headquartered in Delaware, were selected to receive two credits for \$210,000 and \$604,350 to re-equip the manufacturing facilities in Elkton, MD. The first will help re-equip the Elkton site with next generation manufacturing assets used in the production of

a key component of fuel cell systems: membrane electrode assemblies (MEAs). The second credit will help the company re-equip their site to produce the Gore Turbine Filter, a breakthrough technology for gas turbine air intake filters that deliver higher fuel efficiency, and lower GHG emissions by eliminating performance reducing deposits in compressors.

AAF-McQuay, Inc. in Verona, VA is the only 48C project in Virginia. They were selected to receive \$774,937 in tax credits to re-equip an existing manufacturing facility, which currently produces two types of energy efficient property used in heating, ventilation, and air-conditioning systems. Currently, the facility produces rooftop air conditioning systems and an air-cooled global screw chiller. The newly re-equipped facility will produce highly efficient chillers used in HVAC systems, such as the next generation centrifugal chiller rooftop air-conditioning systems and air cooled world screw chillers. The new centrifugal chillers will achieve energy efficiency by using magnetic motor and bearings which allow it to operate using less oil.

Abound Solar, Inc. Longmont, CO was selected to receive a \$12,600,000 tax credit to expand facility capacity with an additional manufacturing line. The solar panels manufactured at the facility will constitute "components" that, after further assembly, will be incorporated into a specified advanced energy property (SAEP) (i.e., a solar PV system). This facility is solely dedicated to commercial production of PV solar panels using cadmium telluride semiconductor technology.

Despite a narrow time frame to apply for the program, the 48C program was greatly oversubscribed, indicating the importance and relevance of such a tax credit.<sup>19</sup> Accordingly, the Administration has asked Congress to consider additional funding for the program. The higher than expected response of applications indicates that the stimulus has provided confidence for American manufacturers to plan capital expenditures in FY10 and to anticipate a tax liability. Any additional money authorized by Congress will provide the opportunity to fund additional projects that were not selected in the initial \$2.3 billion. The Department looks forward to working with this Committee going forward as they consider the future of the program.

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The next six months will expect to see an accelerating rate of job creation, specifically in the renewable energy and clean technology manufacturing markets. We look forward to working with all of the recipients as they receive their credits, construct new projects, and expand and build new manufacturing facilities, all while hiring more workers to grow a strong, clean energy economy.

With the help of the Treasury Department we have helped fund great projects at every level that are contributing to job creation and economic growth now and laying the foundation for long-term US leadership in these industries. These two Recovery Act programs are strengthening the

<sup>19</sup> The final application breakdown is as follows: 594 projects applied requesting a total of \$10,902,251,709; 176 were ineligible (did not meet the specified requirements); 61 \$2,783,922,005; 5 did not pass IRS final review; 183 projects were selected for \$2.3 billion; 235 were eligible but not selected totaling \$5,818,319,703

US clean energy base – by supporting new factories and creating the necessary demand for their products.

Again, I want to thank this Committee for the opportunity to testify today. The 1603 and 48C programs have been critical to the increase in clean energy manufacturing we have seen over the past year. I strongly believe that these programs have been a success, and the Department looks forward to continuing that success in the future.

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Chairman LEVIN. Thank you very much. I will ask a question or two, and then, Mr. Camp, why don't you? And then we will go down the line.

As I mentioned to Mr. Camp, there are almost twice as many Democrats here at the opening as Republicans, so we will follow a process that has been used in the past, two for one, and see how that works.

So, let me ask the two of you and really, I think, referring, Mr. Camp, to your charts. I'm not quite sure what the message is from the charts, in terms of what the future is going to be.

I noticed, for example, the estimate from the EIA, which said early on in 2007 that the U.S. is expected to continue its dependence on liquid fuel imports. But recently, what they have said is

that they expect—this is a more recent estimate, I think—taking into account what we have been doing about renewables, it's expected to continue to climb from the high water mark—this is foreign imports of oil—of 60 percent attained in 2005 and 2006 to 45 percent in 2035.

So, if you would, both of you comment on what you think the larger picture is, in terms of a shift not only in terms of imported goods and products, but in terms of renewable. Is this talk about a significant shift over time simply rhetoric? Is it necessary? Is it reality? Put in place what you think are the ramifications of a chart that shows renewable 7 percent, whether you expect a need for and realization of a substantial shift over the next decade or so.

Who wants to start with that?

Mr. ROGERS. As we look forward across the next decade, we see a significant shift in two primary consumption areas of energy in the United States. If you look at the transportation sector, one of the most remarkable changes that has already occurred is that we probably saw the peak demand for gasoline in the United States in 2007. And since then, the demand for gasoline has been going down in the United States, and will continue to go down for more than the next decade, as a result of a combination of renewable fuels, café standards, and an increasing electrification of the transportation fleet.

So, we are seeing in front of us right now a restructuring of the transportation sector, to allow it to require substantially less fossil fuel in the mix than it historically—I mean you can actually see demand going down, even as the economy continues to grow.

If you look at the power sector, we likewise are seeing a significant shift in the composition of the power sector. We are seeing, on current course, a doubling of renewable generation, just in the first 4 years of this administration, thanks again to the incentives that this Committee has put in place.

And then, if you look more broadly at the investments that the Department has put in place, we have things like a commitment to renewing nuclear in the United States, and the ability to grow that, which again reduces our dependence on traditional fossil-based sources.

And so, again, you can see a relatively rapid shift in the composition of the power sector across a decade in time. So if you take a snapshot today you say we actually have a small number. And what you see, though, is a rapid expansion in the mix of renewable generation capacity in the United States that is making our power sector substantially less carbon intensive, and significantly more energy efficient.

Chairman LEVIN. Mr.—just briefly, if you would.

Mr. MUNDACA. Thanks. I will be brief, yes. Just to amplify what Mr. Rogers said is we understand this is going to be a transition. We look at these numbers that Mr. Camp put up, and see an opportunity here. We have to increase our ability to get energy from nuclear, from renewables. The President has committed to both, as Mr. Rogers said. Loan guarantees with respect to nuclear, we're talking today about some of the tax incentives for renewables.

As you said, Mr. Chairman, this is necessary. This is reality. We have to do this.

Again, with respect to the 48C credit, what we have to do is make sure we are a leader in producing the goods that are going to fund and move us toward a 21st century clean energy economy that has a higher percentage from renewables. We need to have that manufacturing base here in the United States, both for our own needs, and to become a world leader.

Chairman LEVIN. Thank you. Mr. Camp.

Mr. CAMP. Well, thank you. Actually, the chairman started questioning in the exact area I am interested in, as well, and particularly Mr. Rogers.

As I said, if you look at administration data in 2009, fossil fuels—which is petroleum, coal, and natural gas—supplied about 85 percent of America’s energy needs. And nuclear was about 8 percent and renewable was about 7 percent. Now, those figures are about the same as they were in 2000. Now, this is after substantial investment from Federal, state, and local governments in renewables.

What do you expect that breakdown, that profile, to look like in 10, 20, and 30 years? If you could, give me a breakdown of where you see those breakdowns occurring.

Mr. ROGERS. So, perhaps the best way to do that is in—I can give you the detailed breakdowns at each of those points.

EIA has gone through a detailed assessment under various scenarios of how the future plays out to take a look at that. But, effectively, we see renewable generation growing north of 20 percent of the power—of the generation fleet as we move forward over the next several decades, and we see—

Mr. CAMP. Is that in 30 years, 20 years?

Mr. ROGERS. So why don’t I get you the exact—

Mr. CAMP. Yes, if you want to respond in writing, yes, that—

Mr. ROGERS. Then we can have the precise data in front of us.

Mr. CAMP. Because I think that’s important to understand. I mean, we all want renewables to grow. But I think we need to understand. Are we getting value for the taxpayer’s dollar?

But the real point I want to ask—and I think maybe this probably should also go to Mr. Mundaca—I don’t know how you can tax 85 percent of energy consumption, from a policy standpoint, and continue to grow our economy, when that is how jobs are going to be created.

And, frankly, I don’t think people—I don’t think gas consumption declined because everyone has moved to a hybrid vehicle. I think a lot of people aren’t driving to work because they’re unemployed. And I would really like to see the background, in terms of that data.

But if you could, comment on this idea that we can tax 85 percent of America’s energy consumption and still grow our economy and, frankly, try to bring it back.

Mr. MUNDACA. Thank you, Mr. Camp, for the opportunity to address that. What we are proposing to do is remove from the Tax Code those subsidies for the oil and gas industry that distort investment. So we are seeking to remove the special preferences in the Tax Code with respect to the oil, gas, and coal sectors.

Again, having no subsidies in the Tax Code leads to an over-investment in those areas at the cost of some of the other competing areas for investment. If you look at the effective tax rates with respect to investment in oil and gas structure, they are much lower than with respect to investment in other structures.

Mr. CAMP. But aren't those important for exploration and development? And particularly with the discovery of natural gas shale all over the country, aren't we going to want to continue to incentivize that as well as incentivize renewables? Aren't we going to need both?

Mr. MUNDACA. We are certainly going to need both. Recall the President's announcement to open up drilling offshore. Again, we recognize this is a transition. But again, the focus on removing from the Tax Code the incentives that we don't think are operating right now to do anything other than to lower the effective tax on these investments.

Mr. CAMP. But won't developing those resources help lessen our reliance on foreign imported oil?

Mr. MUNDACA. The question is whether these tax incentives are necessary and efficient to getting us to that point. We don't see that they are. We don't see the need for them. We think that right now what they are doing is incentivizing over-investment into these, at the cost of investment into other areas of the economy.

Mr. CAMP. Well, I just think there are many direct jobs that are high-paying jobs directly in the oil and gas industries. But so many industries depend on a level of—price for energy. So it won't just be the direct jobs in the oil and gas industry, and there are thousands—tens of thousands—of those. But it will be the indirect effect on energy-intensive industries that employ hundreds of thousands of Americans, that you are going to be making it more expensive for employers to continue to do business. And that means there will be fewer jobs created.

I just—I think I see a problem of taxing what 85 percent of America needs to grow our economy in this way.

Mr. MUNDACA. Again, thank you for the opportunity to address those concerns. We are, in the Administration as a whole, very focused on jobs.

I refer back to testimony before the Senate that the Chief Economist of the Treasury, Dr. Alan Krueger, made a number of months ago. The amount of the tax incentives we are proposing to repeal are less than 1 percent of the revenues generated in the oil and gas industry. We don't think it will have a significant effect on prices, so we don't see that there will be a significant effect with respect to employment.

Again, what the Administration is proposing to do with respect to the shift to a clean energy economy—again, the focusing, as Mr. Rogers said, creating good jobs for the next century that can be sustained as we move to a 21st century clean energy economy.

Mr. CAMP. Well, thank you. I see my time has expired. I want to thank you both. And, Mr. Rogers, I look forward to your letter. Thank you, Mr. Chairman.

Chairman LEVIN. Mr. Rangel.

Mr. RANGEL. Thank you, Mr. Chairman. One of the problems we have in reforming the tax system is that if everyone agreed that

a subsidy, a tax incentive, was absolutely unnecessary and we removed it, other people would be able to say it's a tax increase. Because whenever there is an unwarranted benefit, if you try to justify it, it's only because of concern of removing something that we think is not justified.

My questions are that during the Carter Administration, he was wearing a sweater and we couldn't put on Christmas lights, and a lot of people were critical that the American way of life was being adversely affected. I think it's safe to say that the crisis that we face now is really affecting our foreign policy. It really is a problem to do with war and peace and allocations of resources that we have to protect.

Having said that, I don't see this feeling at all as relates to the consumers. And I want the name of whoever is in charge in either department that I can work with, because everybody knows, if you go to any major cities, that the office buildings are empty and lit up at night. The air conditioners are working. The highways during daytime hours have their lights that are on. I am so pleased in seeing our city monuments and churches and synagogues all lit up with this new creative lighting system, and there is no question that if you take away my lights on Times Square I will be here fighting you to the end, because it really supports tourism and makes our lives easier.

Having said all of that, it's hard for me to believe that the average consumer has a concern, even with incentives, that we are talking about national security. We are talking about a crisis. It's abundantly clear that these investments, everyone should be frustrated, because it looks like to some an increase in taxes. And the gains are fairly all—in terms of where we would like to find the savings or the alternatives to fossil fuels.

But can you share with me any—recently there was a 1-hour shut-off of electricity or something. Are you familiar with that? Do you have any idea what that saved, if anything? Do you know what it takes to change behavior, in terms of consumption of energy? Is there an effort to share with us? Because we have the responsibility to share with our constituents how bad the situation is, and to talk about some degree of discomfort.

Mr. ROGERS. Sir, as you described, the situation is urgent from a national security standpoint. It's urgent from an environmental standpoint. And, frankly, it's urgent from a competitiveness and wealth creation standpoint.

One of the things that we found most exciting about the 48C program was its re-establishing of U.S. competitiveness in high technology, clean energy manufacturing, which we basically had ceded to other countries over the last decade. And so, re-establishing competitiveness in a set of high-growth industries is quite important.

The second thing, interestingly, about how do we help consumers do this better is partly around innovation. One of the things that we get most excited about is the rate of innovation in things like lighting. We funded a set of projects that promised to make your average light bulb use one-tenth the energy that it currently uses today for the same price.

And so, all of a sudden, you can have light, but it actually doesn't consume nearly—

Mr. RANGEL. I don't mean to interrupt you, but time is running out, and I think that's great. But I am trying to say why would the lights have to be on, low wattages it may be, all night long? You can go to any town, any city, and see—10:00, 11:00 at night—the air conditioners and these low-powered lights are on.

Is there any effort? Just give me the name of somebody that has the responsibility of educating the consumer that this is a serious problem, just not lower light bills, but the crisis that we face in terms of where we have to—feel that we have to defend the future of America, in terms of blood and dollars.

Now, who—what part of our government would have that responsibility?

Mr. ROGERS. So our Assistant Secretary for Energy Efficiency, Cathy Zoi, has that direct responsibility and charge. And she has been working, actually, with—what's interesting in the United States is to work with the local state Governors, each of whom has committed to the Secretary of Energy to actually implement a set of changes in incentives and behaviors at the state level, because a lot of these requirements and structures are state-oriented.

And so, what Cathy is trying to do is educate the consumer, and then work with the Governors to change the local incentives.

Mr. RANGEL. Well, I don't think they have been very successful. Could you promise me that you would have her to send to me the efforts that are being made to educate the consumer, which, of course, includes municipalities, local governments, and state governments?

Thank you so much, Mr. Chairman.

Chairman LEVIN. Mr. Stark.

Mr. STARK. Thank you, Mr. Chairman, and I thank the witnesses.

I guess my principal concern is allowing VEETC to expire. And I wonder if either or both of you can give the Committee some indication of what VEETC costs the consumer in higher food costs and in higher inflation in their entire operation, and whether also you have any figures on what the ethanol, in effect, loses as a net energy—either or both of you can comment on that. Mr. Mundaca.

Mr. MUNDACA. Thank you, Mr. Stark. Yes, you referenced we have, in the Administration, a budget proposed to extend, as part of a package of extenders, the provisions with respect to ethanol. But obviously, we are certainly willing to engage with you on—in the context of broad energy policy—what the future should be with respect to various provisions that have been extended year to year.

As we make a broader effort to understand what our energy future is, and how the government role in that should proceed, we should look at these individual provisions. And we are more than willing to do so.

Mr. STARK. I guess I am curious if you understand them now, as to what it costs the consumers—do you understand now what it costs? Do you have to have a study?

Mr. MUNDACA. We have some revenue numbers on the provision, as a whole. We can work on the specific provisions, with respect to ethanol and what the revenue costs of those might be.

Mr. STARK. You don't have them.

Mr. MUNDACA. I don't have them with me right now.

Mr. STARK. But they are available to you now?

Mr. MUNDACA. I believe we can get them, yes.

Mr. STARK. Could I get them tomorrow?

Mr. MUNDACA. I can't promise tomorrow, but we will get them—

Mr. STARK. The day after?

Mr. MUNDACA. As soon as we possibly can.

Mr. STARK. All right, thank you very much.

Chairman LEVIN. Mr. Herger.

Mr. HERGER. Thank you, Mr. Chairman. Mr. Mundaca, in your testimony you state that the Administration proposes to enact a cap and trade program. Last year the House passed a cap and tax bill that would have raised taxes by \$872 billion. Many of my constituents in rural northern California are already paying some of the highest gas prices in the country, and can't understand why Congress would be considering a massive, job-killing national energy tax in the middle of a recession.

Even worse, the data shows that the 872 billion energy tax won't have a substantial impact on global emission levels unless China and other countries take similar action.

Mr. Mundaca, why should the United States impose energy taxes, either in the form of a cap and tax scheme or direct energy taxes, if China, India, Brazil, and other leading emitters refuse to take similar actions to reduce their emissions?

And if the United States unilaterally enacts stringent emissions standards, aren't we just encouraging even more domestic manufacturers and the jobs they support to move to countries with less stringent emissions restrictions?

Mr. MUNDACA. Thank you for that question. As I mentioned in my testimony, the Administration does support a market-based approach to dealing with the reduction of greenhouse gases. We do understand there are differing views on the best way to achieve it. We are obviously more than willing to work with this Committee and others to form the best way to do it, but we do think we need to move ahead on finding the best market-based approach to address the needed reduction in greenhouse gas emissions.

We do understand the imperative to get other countries on board with this effort, and those efforts are continuing. But we do need to move ahead on this, we need to address this problem. This Committee and this body as a whole has shown leadership on this issue. We look forward to continuing to work with you all on this.

Mr. HERGER. So even though these other countries show no indication that they are going to do the same, you feel you should move ahead?

I'm sure the Administration, you're aware that just competitive forces will be driving many thousands, if not millions, of jobs overseas where they will be more competitive?

Mr. MUNDACA. Again, I think we can't afford to stay still on this. We do need to move ahead. But we understand the need to have others with us on this effort. But we need to be in a place to propose what it is we're going to do as we engage with others in this effort.

Mr. HERGER. Well, thank you. Moving on to another question, I would like to inquire briefly about the existing tax credits for renewable energy.

Currently, the investment tax credit provides for a level playing field among different renewable energy and energy conservation technologies. However, the production tax credit under section 45 provides some renewables such as open loop, biomass, and hydro-power with only half the credit amount that is available to other technologies such as wind and geothermal power.

This is of particular concern for mountainous areas like the district I represent, where we have substantial biomass and hydro-power resources, but where wind power is less feasible. Mr. Meek and I have offered bipartisan legislation—H.R. 2626—that would provide the same production tax credit for all electricity produced from renewable resources. We feel that tax credit parity would ensure a level playing field for all types of renewable energy production, and is consistent with the Administration's goal of encouraging more investment and renewable energy. I understand, Mr. Mundaca, that you're probably not prepared to comment on this specific proposal today, but I would appreciate it if you could get back to me in writing with your thoughts on this legislation.

Mr. MUNDACA. We are certainly willing to work with you on this. Again, as we move ahead with a comprehensive energy policy, we look to review the different elements that make up the policy today to see if they can be improved.

Mr. HERGER. Thank you very much. Thank you, Mr. Chairman. Chairman LEVIN. Thank you Mr. McDermott.

Mr. MCDERMOTT. I have a simple question, and that is, if energy conservation is the quickest way to make some changes in the CO<sup>2</sup> in the atmosphere, I would like to hear how you think our tax policies are working in terms of encouraging individuals to do the retrofitting of their houses, and how these tax credits to green industries interact with bringing production into the United States, rather than having us buy solar panels from China.

If that's what the situation presently is, as it seems to me from reading, I would like to hear how we can change that, and change the balance of payments, clean up the energy, and get on an even track with the Chinese. They are, it seems to me, going to control the whole of the production of green energy equipment in the future, if we don't start moving in that direction.

So, I would like to hear what—California said, you know, "Paint the top of your roofs white and reflect the energy, and you can save a lot of energy." And that, in my view, is where—I want to understand where the Tax Code can be used to encourage that.

Mr. MUNDACA. I will start briefly, and Mr. Rogers may have something to add.

We agree wholeheartedly we need to look at how the Tax Code can incentivize both supply and demand, with respect to clean technologies. As you mentioned, we have Tax Codes—provisions now that incentivize for individual consumers to buy and install solar panels. The President, with respect to the Home Star program, is calling for additional incentives for retrofits. Obviously, that's on the demand side to get consumers—

Mr. MCDERMOTT. When is that legislation going to be ready? Before election?

Mr. MUNDACA. I believe we're ready to work with anyone interested in moving that immediately.

Mr. MCDERMOTT. You've got the language written—

Mr. MUNDACA. I don't know that we have the—

Mr. MCDERMOTT.—for the Home Star program?

Mr. ROGERS. Yes, the language is written.

Mr. MCDERMOTT. Thank you. Go ahead.

Mr. MUNDACA. That's on the demand side. And then, obviously, the call for expanding the 48C program is to create the manufacturing base here in the United States to supply the solar panels, et cetera, that we are incentivizing consumers to buy in order to make their homes, their lives, more energy efficient.

So, again, it's a comprehensive program on both sides of the equation. We recognize the concerns that other countries for years have been incentivizing their own clean energy manufacturing industries. We're playing a little bit of catch-up. That's why the President has made the bold proposal for the additional 5 billion under 48C.

Mr. ROGERS. My only addition would be that this is about global competitiveness. The U.S. has among the most advanced technologies, both in energy efficiency and in renewable energy. Historically, we have innovated and then the manufacturing has gone abroad.

What this Committee did, in terms of having the 48C program, created an incentive to bring, just on the renewable side, \$10 billion of foreign direct investment into the United States to create U.S. jobs over the last year. That—

Mr. MCDERMOTT. From outside?

Mr. ROGERS. From outside the country into the United States, bringing the best technology and the best manufacturing here. It's that kind of incentive that, all of a sudden, makes the U.S. globally competitive again. We had lost competitiveness, and now we are competitive again. Because otherwise, you're right, China is going to end up wanting to lead in this globally.

Mr. MCDERMOTT. What percent of the solar panels sold in the United States today—or purchased in the United States today—are made in the United States?

Mr. ROGERS. I don't have a number for solar. In the wind sector it's 62 percent of the value added of the installations under the 1603 program were manufactured in the United States. So that—and what's powerful, again, about the incentives from this Committee is 5 years ago that was 25 percent. So we have now more than doubled the manufacturing capacity in the United States.

And things like an expansion of the 48C program are the single best approach that we can take to build U.S. manufacturing, and make sure that when I buy a U.S. car, I buy a Ford, I get a 72 to 74 percent domestic content. That's where we can be, just with the 48C investments that we have already made—and if we can continue that kind of investment program, the U.S. not only can make for the U.S. market, but export globally.

Mr. MCDERMOTT. Are you saying that we are taking back from the Danes and the Chinese the actual production of the generators?

Mr. ROGERS. We are taking back—

Mr. MCDERMOTT. You guys sometimes can baffle us with words, okay, and we're not quite sure what you mean when you say 72 percent is American. You mean made in the United States—

Mr. ROGERS. We are bringing—

Mr. MCDERMOTT [continuing].—those generators?

Mr. ROGERS. That's right. We are bringing manufacturing back to the United States from Germany, from Spain, from Denmark, from China, as a result of the programs that this Committee has put in place.

Mr. MCDERMOTT. Are there any problems with that program that we need to fix to make it easier, to make it work more efficiently?

Mr. ROGERS. Well, the chief problem that we encountered was it was capped at \$2.3 billion and we had three times the number of really good projects that we would have liked to fund under the first round.

And, if we have the opportunity to go out, there are others that would now apply, because the technology continues to evolve.

Mr. MCDERMOTT. Thank you, Mr. Chairman.

Chairman LEVIN. Mr. Lewis.

Mr. LEWIS. Thank you very much, Mr. Chairman. Let me thank you for being here today for this hearing.

We need green jobs and we need them now. In my city of Atlanta, Georgia, people hear about the green job economy. They hear the money has been spent to create the green job economy. But they do not see any changes in their everyday lives.

Could the two of you tell me what the Department of Energy and the Department of Treasury—what are you doing to reach out to the poor to see that they get their fair share when it comes to green jobs?

Mr. ROGERS. One of the things under the Recovery Act, broadly, that has been very important for building green jobs in local communities has been the partnerships that we have had with states and cities.

The Weatherization Assistance Program is spending more than \$5 billion working with community action agencies in every community around the country. The Energy Efficiency Conservation Block Grant program is sending funds through cities to enable them to invest in energy efficiency at the local level.

And as we go out and talk to communities, it is the ability to bring local workers into these agencies—what we are trying to do with these programs is to buildup a workforce, a trained workforce in the local community, that then is able to serve a broader market.

If you think about the combination of the investment in weatherization, where we get people trained up, and then in Home Star, what we are trying to do is invest in weatherizing poorer people's homes, putting money back in their pockets with people in the local community so that, as we then move into Home Star, we have a trained workforce that is ready to go across a much broader marketplace.

And so, those programs are, in fact, beginning to bear fruit as we look at the jobs data that—the next jobs reporting period closes

here on Friday. I think we are going to be quite pleased with the amount of jobs that we are seeing in the local community as a result of this work.

Mr. LEWIS. Thank you.

Mr. MUNDACA. Thank you. Just to add again the President's desire to expand the Home Star program. Again, I think it's the best way to deliver benefits to local communities, because it is very focused on individual consumers, then using local workers with respect to the installation of these purchased energy efficient products.

So, again, that may present the best opportunity to reach down to the local communities. As Mr. Rogers mentioned, partnering with the states is very important in this effort, as well.

Mr. LEWIS. In many communities all across America you have groups that have been funded by the Federal Government. At least one group called Youth Build, where young people have been trained to go out and help low-income individuals, elderly, their families to rebuild, improve their homes. You see a possibility of cooperating with organizations and groups like Youth Build?

Mr. MUNDACA. I think there certainly is the possibility. We should talk about the best way—outreach, again. I think the program to date has worked with state and local governments, but I think that could be expanded to individual outreach, as well.

Mr. LEWIS. Thank you very much.

Chairman LEVIN. Thank you, Mr. Lewis.

Mr. LEWIS. Thank you, Mr. Chairman.

Chairman LEVIN. Mr. Johnson.

Mr. JOHNSON. Thank you, Mr. Chairman. Mr. Mundaca, I think that in your testimony you speak about the President's budget proposal to provide an additional \$5 billion in advanced energy manufacturing tax credits. And that would be on top of a \$3.2 billion already awarded by the Administration.

I support having a cleaner, greener, more energy-efficient economy, but it ought to be market-driven, not government-directed. Back in my district I note that companies like Wal-Mart have opened up a state of the art green facility. They did it on their own. And they are doing so because it makes sense for their bottom line.

I don't believe Washington bureaucrats ought to be picking winners and losers, as is the case with this program. I think it's a far better approach to lower our corporate tax rate, which is currently the second highest among industrialized countries, so that businesses—all businesses—have a stronger incentive to invest and create so-called green jobs here at home.

As the Assistant Secretary for Tax Policy, would you agree that our high corporate tax rate, in effect, serves as a penalty on businesses that successfully undertake green investments here at home? And, moreover, the high corporate tax rate negatively impacts job creation.

Also, given that businesses plan for long term, wouldn't a permanent reduction in the corporate tax rate be far more preferable, in terms of encouraging an economy-wide investment in green, as opposed to a short-term credit that's doled out by bureaucrats to a few select businesses?

Mr. MUNDACA. Thank you, Mr. Johnson, for that question. We understand, and it's a policy behind the proposed repeal of certain incentives in the Tax Code that the Tax Code should be as neutral as possible, with respect to investment decisions. We make the choice to include incentives when it is that we recognize that markets may not be pricing in accordance with the full cost of programs.

For example, there may be positive externalities with respect to clean energy, the lower pollution produced by them that warrants the Federal Government providing an incentive to recognize those positive externalities.

Regarding the corporate tax rate, we do understand in the Administration the role that that rate plays in our general economic activity. We recognize that the rate is high. In the context of more fundamental tax reform, where we look at all of these issues—corporate tax, individual tax—we do need to consider the fact that currently we have, on a corporate tax side, a relatively high rate, as you identify—by some standards, the second highest in the world after only Japan—but a relatively narrow corporate tax base, such that the effective tax rate on corporations in the U.S. is about average for G-7, G-20 countries.

So, as we look to fundamental tax reform, we need to look at the rate, we need to look at the base, we need to look at the entirety of the tax system to come up with a tax system that our country deserves, and can move us ahead, economically, going into this century.

Mr. JOHNSON. And you believe the tax credit is better than changing the Tax Code to help them?

Mr. MUNDACA. I think, as we proposed with respect to 48C, those incentives are needed and necessary to transition us to a clean energy economy. There is the larger question of other provisions in the Tax Code that now are the corporate tax base, and therefore necessitate to collect revenue at the higher rate that we have.

Again, we need to look at that rate as compared to what the base is, to decide what incentives are left in, what can be taken out, and how the rate can be adjusted.

Mr. JOHNSON. Well, concerning tax increases that are also being talked about, do you think that that could cost us green jobs that the Administration cares about by raising taxes instead of lowering them on corporate structure?

Mr. MUNDACA. Right now I don't think the budget has a particular corporate tax general rate increase. The repeal of the subsidies that we're talking about here today are—again, getting back to your first point, that we do want the Tax Code to be as neutral as possible, with respect to investment decisions.

Mr. JOHNSON. Thank you, Mr. Chairman.

Chairman LEVIN. Mr. Rogers, did you—Mr. Johnson has a few seconds left. Did you want to participate?

Mr. ROGERS. My only addition would be I also think there is a notion about making sure that these tax incentives are efficient. One of the things about the 1603 program that is, indeed, benefiting some of the constituencies in your district is the efficiency with which that can then be financed.

Because we need to make sure what the Tax Code says—and then the banks actually show up and finance these projects. What we had before was relatively inefficient; these are now efficient programs, and I think the guidance that this Committee has provided to make the Tax Code more efficient has actually made a big difference, in terms of how the renewable industry can grow.

Chairman LEVIN. Thank you, Mr. Neal.

Mr. NEAL. Thank you, Mr. Chairman. Mr. Mundaca, both your testimony and that of Mr. Rogers speaks of the success and growth of alternative energy manufacturing facilities.

In Massachusetts recently, the state pulled together more than \$20 million in grants to ensure a solar manufacturer would locate a new plant within our state, the old Ft. Deven site, only to watch it be lured away by China, which offered \$30 million in government assistance.

How can the Committee be assured that our green energy policy leads to green jobs and more jobs here in the United States?

Mr. ROGERS. The 48C program is a simple one. In terms of bringing manufacturing investments to the United States, it is clearly working. We are actually taking market share away from other countries, and bringing that manufacturing capacity here, to the United States.

Our challenge, as we look forward, is the resources on the manufacturing side are small, relative to the demand on the development side. And so, what we need and what we've asked the congress for, is the authority to expand that ability to bring more manufacturing in, because I think, in terms of global competitiveness, the ability to focus on manufacturing—particularly high technology manufacturing here in the United States—is essential for our long-term growth and competitiveness.

Mr. NEAL. Mr. Mundaca.

Mr. MUNDACA. Yes, I would just say we do recognize the challenges. As Mr. Rogers emphasized, this is a global issue. We are in competition with other countries to bring these good jobs and good technologies here, to the United States. I think we do have the leadership in the production of the intellectual property. We need to make sure we follow up with the hard resources to get the plants here, to produce good jobs, to get American-made parts into the clean technologies used here by American citizens.

Mr. NEAL. My guess is you're familiar with the Deven issue?

Mr. MUNDACA. Yes.

Mr. NEAL. Yes, it drew a great deal of controversy and fire across the state, and it was highlighted by local media for days on end. So I think we need to be mindful of that as we move forward, that these investments are to be as good as we tell everybody they are to be, and we can't have them outsourced based upon that competitive nature of one government upping the ante toward the next.

Mr. MUNDACA. That's right. I think, as part of that as well—and we need to address this in the context of comprehensive energy policy—we do have to have some certainty in what benefits are available, so that manufacturers and others can know what benefits they are going to get, whether they will be there in the future, so they can make the decisions to locate here.

Mr. NEAL. And I think the corollary to that is we—with the Recovery Act, we made a very important downpayment on U.S. competitiveness in these industries. We now have the opportunity and the challenge of making the pivot toward a set of long-term incentives. That's why we need to put a price on carbon pollution. That's why we need a comprehensive energy and climate legislation. That's why, as we look at those, making sure that the tax provisions create certainty as we move forward will actually help the capital formation that is essential to the success of these industries.

Thank you. Thank you, Mr. Chairman.

Chairman LEVIN. Thank you, Mr. Neal. Following our rules, Mr. Becerra, you are next.

Mr. BECERRA. Thank you, Mr. Chairman. And, gentlemen, thank you for your testimony. A couple of quick questions.

Do we do anything right now through the Tax Code that essentially subsidizes American companies going abroad, outside the U.S. borders, to try to explore, research, find, secure, and return any sources of energy back to the U.S.?

Mr. MUNDACA. There are a number of elements of our Tax Code that we in the Administration feel may incentivize investment by American countries overseas, just through the tax treatment of income earned overseas versus the tax treatment of income earned here, in the United States. A lot of that does have to do with intangible value and the transfer offshore.

The Administration has put forward a number of proposals in the budget to deal with those issues, some specifically targeted to intangibles, some more general with respect to our tax system and how it treats foreign source income. I think we do need to look at that as part of overall—more fundamental tax reform. But these proposals we put forward, we think, can be moved ahead even outside the context of fundamental tax reform, because they address issues under our current rules that do incentivize investment overseas at the cost of investment here in the U.S.

Mr. BECERRA. And no one is saying that investment overseas is not good. And certainly we need every source of energy that we can find. And the sooner we can clean up the sources of those energies, the better.

But to the degree that we have precious dollars to invest through the Tax Code or elsewhere, should we try to focus those on domestically oriented resources of energy?

Mr. MUNDACA. Of course. That's exactly right. We need to make sure that our Tax Code does not give a rational U.S. company the incentive to invest dollars overseas because of the tax treatment of the return on that investment.

Mr. BECERRA. And do you believe, then, that the Administration will put forth some good proposals to try to help us try to move the incentives toward domestic production before we start rewarding folks for doing production—exploration and production—overseas to bring it back here to charge us for it?

Mr. MUNDACA. We have done a number of proposals already. We proposed to make the R&D credit permanent. We have proposed, as we have talked about here, some specific energy incentives. We, as well, have put forward a series of tax proposals with

respect to the taxation of income earned overseas, particularly with respect to transactions that look to shift intangible value overseas.

Again, it's part of a package. We think that rationalizes our tax system, and makes the investment decisions more tax-neutral, as opposed to now, where there are incentives to move investment overseas, at the cost of investment here, in the United States.

Mr. BECERRA. Well, I appreciate those words. And, Mr. Chairman, I hope we are able to follow up with the Secretary and others, to try to make sure that, as we provide those incentives, we do have a rational approach to try to allocate our precious resources principally here domestically, to search for the—those sources of energy. And, where possible, if it's a wise investment, to try to help American firms try to search out for that energy wherever it may come from outside the U.S. border.

So, thank you, the two of you, for your testimony. Mr. Chairman, I yield back.

Chairman LEVIN. And thank you, Mr. Becerra. This is a hearing that is a prelude to work on specific legislation. And we will take that very much into account.

I think Mr. Linder—I mean Mr. Nunes and Mr. Tiberi wish to exchange positions, is that—so that's fine. I think, therefore, Mr. Tiberi, you are next.

Mr. TIBERI. Thank you, Mr. Chairman. And thank you both for testifying today.

Kind of following up on what Mr. Camp talked about when he spoke, we believe on this side of the aisle of an all-of-the-above approach, and we believe that that will help create jobs, just across the board.

Mr. Mundaca, you stated, in response to Mr. Camp, that you didn't believe that the provisions in the President's proposal, in his budget proposal, his energy proposal, would not impact jobs in the domestic oil and gas industry. People in the oil and gas industry couldn't disagree with you more in Ohio.

In Ohio, we have 50,000 people that work in the oil and gas industry, mostly employed by small, family owned businesses. In Ohio, since the stimulus bill passed, we have lost literally hundreds of thousands of jobs. So jobs in Ohio right now is a big issue. It's the biggest issue. And this budget that the President has proposed has a lot of people worried, with respect to the issue of jobs.

Let me quote from a constituent of mine, who is in the oil and gas industry, with respect to this proposal that you have talked about today. He says—and I quote—his work “will stop,” and his industry “will evaporate overnight” if the President's proposals that you testified about are enacted.

Now, again, we have over 50,000 men and women in this industry. And the irony is when their businesses go away, when their employees go away, we will then rely more on foreign, out-of-the-country sources to supplement what is going to be lost in Ohio.

How does that jive with what you just talked about? How do you respond to that? This is a guy who is actually on the ground, an employer working in the industry, and he is not alone in saying that they will stop.

Mr. MUNDACA. Well, thank you for that. We can certainly engage further on what specific proposals may be impacting a par-

ticular taxpayer. Again, when we crafted these proposals and we looked at their effects, the overall effect on the industry is small. We don't expect the job effects to be significant. We look at this as an entire package of provisions to take out of the Tax Code, the tax preferences for fossil fuels, while we transition to a clean energy economy.

Again, we are very focused on jobs, and the Administration in general are concerned about the loss of jobs and getting us back on the path to creating jobs here in the United States.

Again, I would be willing to talk to you further about any of the specific proposals that may be creating these issues. But again, when we formulated these, we looked at those incentives, those subsidies in the Tax Code, that we could not see as being effective, and therefore, led to an over-allocation of investment to certain sectors at the cost of investment in others.

Mr. TIBERI. Well, reclaiming my time, in conjunction with this hearing, the Joint Committee on Tax issued a pamphlet in connection with the hearing that says that increases in the price of domestic fossil fuel could—and I quote again—“primarily result in substitution of foreign fossil fuel sources for domestic sources.”

So, essentially, what you are doing in the budget proposal—you called it incentives—you are going to raise taxes on domestic oil and gas producers in Ohio and in our Nation, taxes that would not be raised on foreign sources.

So, if you are raising taxes on these small businesses, and essentially businesses, jobs that exist today that will no longer exist tomorrow, how does that help our economy? How does that help our domestic energy business, when not only do employers and employees in my district in this industry say that, but Joint Tax even says that?

Mr. MUNDACA. Again—

Mr. TIBERI. And, by the way, it's kind of common sense.

Mr. MUNDACA [continuing]. Again, we look at this as a package of proposals. We have—

Mr. TIBERI. But aren't you raising taxes on just the domestic side and not the foreign side?

Mr. MUNDACA [continuing]. We have a number of provisions in here, as I mentioned, that address those subsidies we see in the Tax Code. There is also a provision in there with respect to those domestic U.S. companies that have operations overseas that are taking a foreign tax credit, with respect to payments we think really represent royalties, as opposed to foreign tax—

Mr. TIBERI. Reclaiming my time, last minute. Let me just give you his comments here, and I want you to address this. He says that you are repealing, specifically for small businesses, the percentage depletion, the marginal well tax credit, the intangible drilling costs. And also, the intangible drilling cost tax credit is necessary because that gives small businesses like his the edge, the ability to compete with the big guys.

How would you address that? If you take those away, he is gone.

Mr. MUNDACA. Again, we are looking to remove those provisions in the Tax Code that advantage one sector over another, that lead to an over-allocation of resources to one set of taxpayers, as opposed to another.

Mr. TIBERI. So you won't deny the fact that if you give the—if you take those away from small businesses, they say they no longer exist. Foreign competitors aren't impacted by it. Then how does that advantage employees in my state?

Mr. MUNDACA. Again, they're a package of proposals with respect to energy provisions. There are proposals we have included with respect to the foreign operations of U.S. companies where we think there may be too rich a tax credit available, with respect to foreign levies that are assessed against them. We also have, as we have talked about, incentives for transitioning to a clean energy economy.

We think the package, overall, is fair. It tries to remove from the Tax Code those provisions that are leading to distortions in investment and again, transition us to a clean energy economy.

Mr. TIBERI. So what do I tell my constituents who are out of a job, then?

Mr. MUNDACA. Again, we are willing to talk to you further about what particular aspects of the proposals may be impacting individual taxpayers. But again, we have identified those provisions that we do think lead to distortions in investment and over-allocation of resources, and prevent us from this transition we do need to make.

Mr. TIBERI. Thank you, Mr. Chairman.

Chairman LEVIN. Mr. Tiberi, we will be talking about that within our committee.

Mr. Doggett, you are next.

Mr. DOGGETT. Thank you, Mr. Chairman. And thank you, gentlemen, for your leadership in trying to move us from fossilized thinking and a fossil-based economy. I think it's particularly appropriate that you are here to testify about this in this Committee, since Federal policy, as a whole, on energy has relied much more on tax expenditures with preferences and exclusions and credits in our Tax Code than it has on appropriations and direct expenditures to advance energy policy.

As—just with reference to the last question you've been responding to, Mr. Mundaca, I would say I see a distinction between an Exxon Mobile, which last year reported over \$45 billion of profits and reported a tax liability of 0 on that \$45 billion in profits, no doubt helped by the fact that it had 20 wholly owned subsidiaries to help it avoid tax liability in the Bahamas, Bermuda, and the Cayman Islands.

I see a distinction between that and a small, independent operator somewhere in the country responsible for finding most of the new—particularly natural—gas that I think is important to help us transition to a more clean energy economy. And I think we have to consider that as we review your budget proposals.

But we certainly need to look at all of these issues if we are going to have both our tax expenditure policy complement our direct expenditure policy in moving us to our clean energy.

Let me ask you, Secretary Mundaca, specifically with reference to the ongoing discussion that we have in the extenders legislation that is pending here before Congress, you have called for extending certain expired provisions, but letting temporary incentives that benefit fossil fuels expire.

As we consider these provisions that are in current law, would you support efforts to improve these provisions in ways that are consistent with the goal of having a clean energy economy? That is, without getting into all of the specifics, do you welcome attempts by our Committee to improve these provisions, to continue the transition from a dirty energy economy to a more clean energy economy?

Mr. MUNDACA. Thank you for that question. Yes, we do certainly welcome that effort. We do need, I think, to have everything that we can look at on the table to look at, as we try to make these improvements, and we try to make these transitions.

As you know, the Administration proposed to extend, in whole, certain particular expiring provisions of the Tax Code. But we certainly do welcome the effort to look underneath some of those provisions to see if there are elements that should be improved as we look to extend.

Mr. DOGGETT. Well, and as we look at the various provisions we have—and not all of these, of course, are in the extenders—but we have here 132 pages of present Federal tax provisions dealing with energy that we are reviewing, as a committee, from the Joint Tax Committee today. And I think what we do need is more information in order to make an intelligent evaluation of which of those incentives work and which don't.

One of the most important pieces of information—and our colleague, Earl Blumenauer, is really principally responsible for this—is the request that there be a carbon audit done that I know you're familiar with, that Treasury has now engaged the National Academy of Sciences, but we need that information, and we need it soon to be able to provide a careful evaluation of this.

And then, as I look down the list of incentives that are in your testimony, we've got a dollar a gallon for biodiesel that's pending. I have at least one plant that's on cold start, about to close down, because there hasn't been an extension of that. On the other hand, I have got some folks that are saying that's diverting feed stock from other industries.

We've got \$.50 for alternative fuels, \$.45 for alcohol fuels. Whether those are the appropriate levels for the credit, and what good those credits are doing, is something we really don't have very good information on. It's one of the reasons that, on the extenders, I proposed a study to review the efficiency of these. But whether \$.45 is the right level for one—for alcohol fuels, or whether it should be \$.60 or whether it should be \$.25 or should be 0 is something we need to look to Treasury and the Energy Department for more information on than we currently have.

I see your testimony is basically saying, "This is what was in the extenders bill," or, "This was what was in the stimulus bill," or current law, and, "Let's give it—let's extend it a little longer." There may be justification for doing that, but I don't think we should extend it much longer without better information on both the carbon characteristics, and we need the Energy Department and the Treasury Department both more involved in that process of giving us the information to compare and contrast these incentives, all of which are not created equal.

Would you—either of you—care to respond about the role your departments can play in helping us provide that information and evaluate these tax expenditures in energy?

Mr. MUNDACA. Yes, I will. We understand the importance of reviewing all of these, and obviously, reviewing them on the basis of solid information.

Again, I thank the Committee for their leadership on these issues, for getting us the funding for the study that we're now talking to the National Academy of Sciences to do, with respect to a carbon audit of the Tax Code. It's an important step forward in getting the information we need to make these important decisions in a fully informed manner.

Mr. ROGERS. We value the opportunity to collaborate with Treasury on the 48C and 1603 programs. We look forward to other opportunities to do that. We feel a responsibility to justify our appropriations as part of the budget, and we feel a responsibility to help Treasury on the tax expenditures, as well.

Chairman LEVIN. Mr. Thompson.

Mr. THOMPSON. Thank you, Mr. Chairman, and thank you to the witnesses for being here.

I want to follow up on one part of what my colleague, Mr. Doggett, mentioned, and that's the importance of Treasury to be able to help us quantify where we go.

One good example of this is in our efforts through the Recovery Act to pursue renewable energy policy, we put in place some tax measures that would actually grow renewable energy in this country. And some of it has been extremely successful.

At the time, a number of us were concerned that that policy agenda would help drive jobs overseas. Specifically, by the expansion of renewable energy equipment that is good for this country, we were concerned that that equipment would be made in China and Japan and Germany, and were able to put language in the bill—and it's been referenced here; I think the chairman talked about it, the manufacturing tax credit component, which sadly is going to expire.

But that's an example of something that the Department can do on the front end to help identify these unintended consequences. We caught this one, and it was—what we did was good, we just need to continue to do it.

So, if we could get—or maybe hear from you today—some sort of commitment as to how we would continue to be able to work together and rely on you as a resource for that, I think that would be important.

And, Mr. Chairman, if it's appropriate, I have got some letters. As you know, I am trying to expand that, and I have got some letters here that state what it means for jobs in the United States of America if, in fact, we do expand that manufacturing tax credit. And I would like to submit those for the record.

Chairman LEVIN. Excellent. Without objection.

[The information follows:]

Mr. THOMPSON. Thank you. And if you could add anything to that, I am all ears.

Mr. MUNDACA. Thank you. We recognize, as both Mr. Rogers and I have testified, the importance of and success of the 48C cred-

it. And again, we thank the Committee for their leadership on this, their continuing support of this program.

Again, as we discussed, we have the incentives for individual consumers and businesses to buy this equipment. But we did need to provide the incentives to have the manufacturing facilities here in the U.S. to produce that equipment that we're incentive to buy. It's been a great success. We look forward to this important expanding, and again, thank the Committee and the House for what it did in the Recovery Act, in taking these important steps.

Mr. ROGERS. The only thing that I would add to that is the linkage between project development, manufacturing, and innovation is central to the competitiveness of the U.S., globally. And sometimes we forget a piece of that linkage. But what this Committee has clearly done is to link the project development and the manufacturing with 1603 and 48C, and then, with the R&D tax credit, the innovation side of this.

And if you think about those three pieces fitting together, good jobs grow and stay when you put those three pieces all together. If we lose a piece of that equation, all of a sudden we just get the development, we lose the manufacturing. By the way, the innovation goes too.

And so, one of the things we have to be cognizant of is how we keep those three pieces in balance in the Tax Code and in our incentive structures over time.

Mr. THOMPSON. Do you have any data that would give us an idea of what kind of job growth has been accomplished because of these tax—because of the tax policy that we put forward in the Recovery Act?

Mr. ROGERS. Sir, the direct jobs attributable to the 1603 program and the 48C program, to the best of our knowledge, are 60,000 for the first and 50,000 for the second—60,000 for the 1603 program across its life; 50,000 for the 48C program across its life. Those are the estimates, going in. Obviously, we will have to know what it is, ex post. But that is our best estimate at the current time.

Mr. THOMPSON. And that—and you drilled down pretty deep to get that? That goes all the way back to the—

Mr. ROGERS. That goes down to the specific projects and building up from the—

Mr. THOMPSON. But how about all the way back to the equipment used to manufacture the—

Mr. ROGERS. So we are then not going back all the way—if you then take a broader look at what's going on across the supply chain, the number is much larger, in terms of the total jobs generated. Those are just the jobs on the projects that we have been able directly to—

Mr. THOMPSON. Will you be able to get a more accurate and more inclusive number for us?

Mr. ROGERS. This is something we are working closely with the Council of Economic Advisors on, is how do we estimate the jobs across the full supply chain. And we can do it for pieces, and we will provide you with the pieces where we have good data.

Mr. THOMPSON. Thank you. Thank you, Mr. Chairman.

Chairman LEVIN. Mr. Thompson, excellent question. And I hope that we will have that information as we discuss specific legislative proposals.

Mr. Nunes, I think it is now your turn.

Mr. NUNES. Thank you, Mr. Chairman. Mr. Mundaca, I want to follow up just quickly on what Mr. Thompson was talking about. Those—I think, to use your words—he said “incentivize,” or you said that these are incentives for manufacturing these green technologies? So these incentives—yes. Wouldn’t those be the same thing as, say, incentives for domestic oil producers to produce oil here in this country?

I guess my question is, why is it—what’s the difference? Why is it okay to have incentives for green technologies, but—I think you said a little earlier that to incentive the oil industry, that that has no effect on domestic oil production.

Mr. MUNDACA. There are two points to consider, and what we considered when making these proposals. One is the effectiveness of what it is that we are proposing, what the effect of these incentives/subsidies are, and secondly, what they are trying to address.

We feel, as a general matter of tax policy, the Tax Code should be used to incentivize or subsidize an investment where the market itself is not providing the proper incentives, where the cost of an investment isn’t an accurate representation of either the benefits or the cost of that investment.

So, for example, on green technologies, what we don’t have built into the price is the positive externality, to use an economics term, of the lower greenhouse gas emissions, less pollution, et cetera, but we don’t—

Mr. NUNES. Well, I want to get into this. So that—I just had that quick follow-up, but I’m going to get into something similar on this.

So, my question about—I want to discuss China here. And you are very concerned about how we’re losing our edge to China in green technology.

Mr. MUNDACA. Yes.

Mr. NUNES. So, I just—we often hear this, and there are rhetorical statements that we often hear repeated by the Administration in the news media, but I just want to go into a few. We never talk about the actual numbers, okay? So—and these are just quick questions here, and I am sure you’re aware of these, but I want to get them on the record.

So, in 3 years, 2005, 2006, and 2007, China built 273 gigawatts of electrical generating capacity, while the U.S. built 32. You’re aware of that?

Mr. MUNDACA. Yes.

Mr. NUNES. Okay. Of the—225 gigawatts that China built were coal-fired power plants, 225 in 3 years; 40 gigawatts was hydroelectric; and only 5.5 gigawatts were wind and solar in China. You agree with those numbers?

Mr. MUNDACA. I don’t know the specific numbers, but I—

Mr. NUNES. I think it’s from the energy information—

Mr. MUNDACA. Right, I think the general breakdown is as I understand it, yes.

Mr. NUNES. So, during those years, the U.S. added twice as much wind and solar as China, even though China added nine times as much energy as we did, right, during the same timeframe.

Mr. MUNDACA. Yes.

Mr. NUNES. Okay. So now, the Administration basically—and everybody—says that we are going to have to increase, in the next 25 years, you know, to meet demand, we are going to have to increase our—I have the number here, it's about 270 or so gigawatts in the next 25 years that we are going to have to—somehow we are going to have to get this energy from somewhere.

So, I mean, we're not doing a very good job, if you look at the gigawatts we produce in the last 25 years. So, for the next 25 years, it just seems to me like—I mean do you guys believe that energy use and energy consumption is related to gross domestic product?

Mr. MUNDACA. Yes. And when we talk about, as you stated, we are losing our edge to China, I believe those statements are made in the context of the manufacturing facilities that produce the clean technology.

So, when a company is going out to buy the windmill turbines, for example, where can they look to purchase them? China has made huge investments in that sector of its economy, with respect to the manufacturing capabilities of—

Mr. NUNES. But you do agree, though, that GDP and energy consumption are tied together.

Mr. MUNDACA. Yes.

Mr. NUNES. So how is it when—I don't want to—I'm just going to paraphrase what the President said before the—I think it was the San Francisco Chronicle during the campaign. But he said that under his plans, that energy prices would skyrocket. You remember that quote, right?

Mr. MUNDACA. I don't remember the skyrocket part, but I do remember a discussion of—

Mr. NUNES. Well, I know he used the word "skyrocket," I know that.

So, you believe that GDP is tied to energy consumption. The President says that, under his plans, that the energy crisis will skyrocket. How, if we're going to increase prices of energy, how are we going to grow GDP?

Mr. ROGERS. Maybe I could address this. If you take a look at—wealth creation is tied to productivity across the economy. It's also tied to energy productivity. The United States is substantially more energy productive than China today, so the relationship between our GDP growth and China's GDP growth advantages us.

One of the things that we want to be able to do over time is to continue that advantage, to make sure that U.S. GDP growth continues with greater and greater energy productivity, because that, in fact, makes us more competitive, globally. It drives more wealth creation over time. And that's where these innovation-driven energy agenda really comes to roost.

What we are able to do is increase our productivity in the energy sector faster than a global economy, and create the—

Mr. NUNES. So my time is up. So with all the—I mean, but at the end of the day, the last 25 years and looking at the next 25

years, I mean we're not doing anything but talking about how much energy we are going to create. And you know, at some point somebody is going to call this what it is.

I mean it's almost like we're—the Administration is paying more attention to the actual tree, and they can't see the forest through the trees.

Mr. ROGERS. So this Administration—

Mr. NUNES. I mean we're not—no nuclear plants, I mean, no major sources of power. I mean at some point—Mr. Mundaca said that GDP is tied to energy use. And if we don't produce more energy, don't you guys think we are going to have some serious problems?

Mr. ROGERS. What this Administration has already done in the first 18 months is to re-establish the nuclear industry of the United States to fund, with a loan guarantee, the first nuclear power plant in the last 30 years. We are already on course to double renewable generation capacity in the first 4 years of this Administration. We are taking action now to actually change that equation that has existed, as you described—

Mr. NUNES. Right. So you are taking credit for nuclear power plants that were started under George Bush. But so—which is fine. But let's not—I don't want to get into a partisan debate here. But at the end of the day, China has 100 or so nuclear power plants on the drawing board, and we are talking about two.

I mean, this isn't a partisan issue here. I mean Republicans and Democrats got to figure out how we're going to grow our energy in this country, our energy, not just our—it's not going to happen through solar and wind, guys. Is it? You guys believe we can add all this energy with just solar and wind and two nuclear plants?

Mr. ROGERS. Again, the Administration is on record for asking for loan guarantee authority to fund the next 10 nuclear units, again putting in place the dollars behind making the first nuclear plants happen in the last 30 years. We also are on the record and have committed the funds to more than double renewable capacity in the United States.

Mr. NUNES. Right. But if we double renewables and we build 10 nuclear plants, it still doesn't get us to where we have to go.

Mr. ROGERS. And dramatically increase the energy productivity of the U.S. economy, so that we continue to be an advantage against China in a global race to—for wealth creation for U.S. citizens.

Mr. NUNES. Thank you, Mr. Chairman.

Chairman LEVIN. It's been, I think, useful. You went over, but I think a useful exchange.

And now we turn to Mr. Larson.

Mr. LARSON. Thank you, Mr. Chairman.

Chairman LEVIN. And then Mr. Blumenauer will be next, and then Ms. Brown-Waite.

Mr. LARSON. I want to thank you both for your testimony and your service to the country.

And along a similar theme that has been struck as it relates to manufacturing—and I appreciate the efforts both by the congress and certainly by the Administration to invest in alternative forms of energy—I have a specific concern about fuel cell technology.

And again, I compliment the Administration, to the extent that they have moved forward in this area. But I would note in alternative fuels, with respect to projects that were funded through 48C, as you have discussed earlier, and in section 1603, only 7 programs were fuel cell-related, whereas in section 1603, over 350 projects focused on solar electricity.

And while I clearly recognize the importance of other alternative fuels, I note that nations like Germany, nations like Korea, the aforementioned China and others, are moving aggressively forward in these areas. And while Congress has provided a health tax incentive, I would like to further understand the Administration of—the Department of Energy’s commitment along these lines, which is a value-added manufacturer that the United States really—we will lose manufacturing capability and our innovation capability if we continue to cede ground to other nations.

Recognizing that transitions to a hydrogen economy may be down the road, but not that far down the road, and stationary fuel cells already are used in—all across our Nation, and it just seems to me that, especially with a value-added manufacturing base like this, that we need to have more of an emphasis there. Would you care to respond?

Mr. ROGERS. Thank you, Congressman Larson, for that. The role of fuel cells is actually quite important. The stationary fuel cells and the efficiency that they bring today is actually something we were pleased that, under the 48C program, that UTC was one of the manufacturers who was successful in that.

We would look forward to opportunities to expand fuel cell manufacturing capacity as part of an extension of 48C. It’s one of the areas where we would like more applications to be able to fund more manufacturing. We were quite limited, both in applications and in the ability to fund.

And so, that’s a specific area where we see significant upside, particularly around the stationary fuel cell capability. This is an area that you have been quite helpful in your leadership on, and the Secretary clearly understands the role that those can play, and the efficiency of those technologies now, and the innovation that that technology can support, going forward.

So, clearly something that we understand the role of. We would like to see more of it in the portfolio. Right now we are actually limited, in terms of the dollars, as we looked at the manufacturing side of that, and would welcome the opportunity to work with the Committee to extend that.

Mr. LARSON. Are you—excuse me, Mr. Rogers—is there something we should be doing, as a Committee? Are you suggesting that there is more that we could do in this area, specifically, as it relates to manufacturing in this vital—

Mr. ROGERS. The specific thing that we could do is the President has asked for \$5 billion in addition to—which would enable us both to fund more of the applications that originally came in that were good applications that we were unable to fund because we only had \$2.3 billion in manufacturing. So we have actually already gone through the process of ranking the rest of those, and so we could move that out the door quite quickly. That’s one block.

And, as we go forward, we have the opportunity to target sectors that were under represented in the first round of solicitations in the next round of solicitations.

Mr. LARSON. Well, I hope you will consider fuel cells, in that they were vastly under represented in the awards that were made. And I look forward to working with the Administration on that.

And I don't know if Mr. Mundaca would like to respond—

Mr. MUNDACA. Not much to add, except again to continue to make the plug for the additional funds for the extension of the 48C program. We think it was very successful. We did leave a lot of great projects on the table. We know there is interest from people who didn't apply to come back forward now.

So, again, we would greatly encourage the continued leadership of the committee on this issue.

Mr. LARSON. And, last, I know we're going to hear from another panel, and particularly from Boone Pickens, but the Administration's position on natural gas and the great resources that we have in this country—most recently, I guess, statements from people like Morgan Stanley, that there are being close to 200 years of reserves in shale.

Mr. ROGERS. The U.S. natural gas resources are an extraordinary endowment, one with—and it's been one of the most exciting developments, really in the last decade, is the depth of the resource that's available here, in the United States. It is clearly part of the U.S. solution for a long time to come, and we are quite excited about the developments that have occurred here.

It is one of the less-told stories. The Department of Energy spent 10 years investing in unconventional gas technology. In the nineties the industry said, "Hey, this is pretty good," and it was ready to go, and the industry took it from there. And it's been a great collaboration between government and the private sector, to open up vast new resources.

Mr. LARSON. Thank you.

Chairman LEVIN. Mr. Blumenauer.

Mr. BLUMENAUER. Thank you, Mr. Chairman. I would just begin by seeking your help to assist Mr. Camp in finishing his chart, which I thought was very useful, but it doesn't tell the story about what has happened in the course of the last 2 years. He has a little tiny increase in renewable energy, but he doesn't talk about what the impact was in installed energy. Installed energy in the last 2 or 3 years, we have seen renewables go up dramatically. We haven't seen any new coal plants. We haven't seen nukes in 25 years or more. No new hydro.

But what we have seen—my understanding is, and there is some great information from Pew; I know you have it—if we could just have the next chart that talks about what's happened with the incentives that we have had through the Tax Code, through the economic recovery package, that has produced something like 22.5 percent compound increase in wind, for instance, in the United States. That's the story. I think it's three times renewables over coal in 2009.

So, let's—if we could help Mr. Camp finish the chart, I think it would illustrate why what we're talking about is so important.

I am pleased in your testimony you talk about re-implementing the superfund tax. As it happens, I have legislation before this Committee that would reimpose the superfund tax that was allowed to expire, and has turned our superfund program into a stall, sue, and study program. And all of us have superfunds in or near our district sites that could benefit from this. I am hopeful that you will work with us on the Committee, so that we can have a hearing and get busy on enacting this specific provision that you are interested in.

In the main, I think those proposals make a lot of sense. I would ask for some evaluation about one of them, where you're talking about taking away the deduction for tertiary injectants, because we are in a—have a serious problem dealing with coal, carbon capture, and sequestration. This is an example of where some in the petroleum industry are able to sequester carbon, squeeze more productivity out of existing wells, and we are removing it from the atmosphere.

I think we have the potential of learning a way to deal with coal capture and—carbon capture and sequestration. This might actually be a negative. And I would respectfully request that you help us analyze what the impacts are.

I have got a concern about the way Treasury is valuing certain grants in lieu of the solar ITC. And because time is limited, I won't bother you with it now. But I would like to submit a vexing question that I got from one of my constituents about trying to make this program work, and being able to discuss this with your staff to see if we understand it right, he understands it right, and what might come forward.

Finally, I am—I have legislation, H.R. 4599, to create a direct payment program for the Recovery Act section 1603. I don't think we are going to be in a position where we want to just have a grant that may or may not continue over time that can be disrupted and actually doesn't necessarily go as broad.

The legislation I have would make it possible for other potential investors to be involved, like real estate investment trusts and tax-exempt entities opening up new avenues of capital. And I would love to have a chance to work with you folks in the Administration to analyze whether this might be a way to be able to do it more efficiently, expand the number of players that are involved, and do something that might be a little better in the long run than the Recovery Act's grant program under 1603.

And I welcome any comments that you would have about re-implementing the superfund or other aspects touched on in sort of this fuselage that I have thrown your way.

Mr. MUNDACA. Well, thank you for that, Congressman Blumenauer. A couple of things. You raised a lot of very good points.

On tertiary injectants, there are other incentives for carbon sequestration technologies. We should work together to make sure those are operating properly, and perhaps there is a way to have the tertiary injectants proposal, which we have, as you mentioned, proposed to repeal, work properly with the carbon sequestration incentives we would like to make available.

On, I think, the issue you raise under 1603 with respect to certain solar projects and valuation, we are aware of that issue. I believe there are meetings at Treasury today with an affected taxpayer who is questioning the methodology used for valuation. We will continue to engage on those, but welcome the opportunity to brief your staff and engage on that, if you would desire.

And then, as well, with respect to 1603, yes, we would very much like to speak about if there is a way to have that program made more effective.

Chairman LEVIN. Thank you very much. Ms. Brown-Waite.

Ms. BROWN-WAITE. Thank you, Mr. Chairman. And I thank the gentlemen for being here this morning.

The Senate climate bill now is apparently going to have some increases in gasoline taxes. Where is the Administration on this proposal of increasing gasoline taxes? And either one of you could—

Mr. ROGERS. We haven't seen the Senate climate bill as yet, so we are looking forward to it, as I'm sure this Committee is, as well. And at that point we will be able to evaluate the various elements in it. But we are not familiar with the provisions, currently.

Mr. MUNDACA. Yes, we haven't seen it yet, and we will assess it in the context of looking at the overall bill.

Ms. BROWN-WAITE. Okay. So the Senate, in a vacuum, has come up with this. They haven't consulted with Energy Department at all. Is that what you're telling me?

Mr. ROGERS. We have, from time to time, had conversations with various senators about various provisions, but we are not familiar with the provisions of the Senate bill that you described, and specifically the gasoline tax provisions. We read about them, too.

Ms. BROWN-WAITE. Well, at a time when, you know, the economy is struggling, this would be the least positive time to ever add a tax increase on gasoline.

The other question I have is I have a nuclear power plant in my district. And they have applied for an—to build another one about 10 miles away, also in my district in Florida. And what they wanted to do to “create jobs,” because I thought that's what this Administration was about, they sought permission to do some pre-construction, basically ground moving, and were denied.

How can we say that we are encouraging nuclear power, when this kind of obstruction exists in the building, in the construction of nuclear power?

And then I have another question about a tax break. So if either one of you gentlemen would like to, respond to that.

Mr. ROGERS. So I'm not familiar with the specific decision in the case of the plant in your district. I am aware that the works are actually being constructed on several nuclear power plants in the United States currently. And so I suspect there are some unique situations there, but I'm not familiar with the specific case you cite.

Ms. BROWN-WAITE. It happens to be Progress Energy. If you would like to look into it and get back to me, I would appreciate it.

The other thing is I've got several small renewable diesel refineries. I have one in my district and another one near my district. And the owners of these two businesses were led to believe that if

they bet their life savings to invest in renewable energy, that the tax credits would be there to make this business model viable.

Well, we all know the Senate failed to pass the extenders bill. And many of those businesses actually had to stop production of that renewable diesel almost immediately, and the other one has limped on for months. The owner that was contacted, his name is Stu Lin, and he has tapped his remaining savings to service the company's debt and keep 30 people working for him, off the unemployment rolls.

After speaking with Mr. Lin on Tuesday, the issue became crystal clear. Here is what he said to me, and I'm going to quote him, "If extenders aren't done in 30 days, I am closing my doors. I am not kidding. I have tried my best. I just cannot rely on the government as a business partner any more."

And he went on to say, "The government makes a big deal about consumer confidence surveys. Why on Earth would 30 guys working for me have any confidence?"

You know, I think we need to realize that when we're talking about jobs, it's important that, you know, it's not just talking about them, but helping out there in the private sector to create these jobs. Now, obviously, these two firms are—had created jobs. One of them is still holding on to 30 employees.

But when I'm back in my district and people say to me, "Where are the jobs," I tell them, "Unfortunately, it's up here in Washington, because the bureaucracy is growing." It's not the private entrepreneur down there who is getting any help.

Could—I would like to hear from you. And I know that this is a follow-up to Mr. Doggett's question. You know, why aren't we pushing this more? Why isn't the Administration pushing that more in the Senate so that these businesses can continue?

Mr. MUNDACA. Thank you for that. I share your desire to move the extenders bill as quickly as possible, and we are doing all that we can. I think if you have suggestions about what more we can do, we are certainly willing to talk.

But we would like that bill to be completed as soon as possible. We have had some encouraging signs. But again, I think there are still major issues with respect to offsets that need to be discussed. We have been involved in those discussions in trying to supply as much as we can to move this forward.

But again, I do share your desire to get that bill done, and on the President's desk as soon as possible.

Ms. BROWN-WAITE. These are real jobs. Thank you, Mr. Chairman. I know I went over a little bit.

Chairman LEVIN. Okay. If I might add, I am hopeful that the extended bill could pass before Memorial. And I would hope we could have bipartisan support for it, which hasn't been true.

There is the issues which need to be worked out, but clearly that bill—which has now passed the Senate, as well as having passed the House—needs to be worked out. And we are trying very diligently to work out the issues and see if we can pass it here in the House, and to pass it in a—one form or another. And the Senate is going to require 60 votes there. And I would hope we could work together on a bipartisan basis.

Up until now, the extended bills haven't passed on a bipartisan basis here, and it did pass in the Senate with, I think, five or six Republican votes. So let's work on it, and try to get it done well before Memorial break.

All right. Next—and thank you for raising that—next, Mr. Kind.

Mr. KIND. Thank you, Mr. Chairman. Thank you for holding this important hearing, and I want to thank our witnesses for your presence and testimony here today, and the Administration's strong support in trying to work with us and the American people to develop a new energy policy for a new century. And one way of doing it is obviously through tax incentives and the code that we have working with us.

But even outside of the issue of climate change or global warming, this is the right thing to do for our Nation, as far as getting the economy back on track, creating good paying jobs, for national security implications, to be better stewards of the natural resources that we have, and empowering people in their own communities, so they have more control over their energy destiny. And through a combination of this, and hopefully working in a bipartisan fashion—not only on the extenders bill, but also hopefully with a future tax incentive bill that we will have coming up before this Congress—and working with the Administration, we can put those policy proposals in place in order to achieve the desired results.

Let me just cite a quick study for you. And I want to ask both of you for your comment on this. But last year McKinsey and Company issued a report which states that the U.S. could cut its energy use up to 23 percent below the projected U.S. demand level by 2020, just by boosting efficiency, and saving over \$1.2 trillion in energy costs.

And I believe one of the best ways to create jobs and improve energy efficiency is by creating incentives for conservation like energy-efficient retrofits such as is the basis of a couple of bills that I have introduced, one with Mike Thompson, H.R. 4455, Expanding Industrial Energy Efficiency Incentives Act, and H.R. 4226 that I have introduced with Representative Reichert from Washington, Expanding Building Efficiency Incentives Act, just by creating the incentives for buildings to be more energy efficient, improving the bottom line of most companies, which I think is going to lead to direct job growth, then, which is exactly what we need in this country.

And I am wondering what the Administration's position is on incentives for increased building efficiency, as being offered in a couple of the bills that I have cited, and other ideas that are percolating around here.

Mr. ROGERS. Energy efficiency is sometimes referred to as the first fuel. It is the highest return investment that we can make in reducing greenhouse gas emissions, and in reducing our dependence on foreign oil and other sources that are at risk.

So, clearly, a focus on energy efficiency is enormously important. The President has talked about the Home Star program, and I understand that that's actually ready to be introduced here in the House today.

The opportunities in the industrial sector are enormous. One of the programs that we funded additionally under the Recovery Act

are a set of industrial energy efficiency audits that go out and give businesses, if you will, "Here is the menu of investments that you can make." These turn out to be high-return investments for businesses. One of the great things is if you give a business owner a way to save money, they act on it very, very quickly. And so it's one of the things that we have been quite excited about.

Same thing is true in the building sector. We have a building stock that is not efficient on a global basis. Where the investment opportunity puts money back in people's pockets, it makes the environment cleaner. And so these are high-return investments for the U.S. economy. I actually worked on some of the earlier pieces of that in my former life, and believe that this is one of the highest return investments that we can make, as a Nation. It makes us healthier, it makes us wealthier, it makes us safer, all at the same time.

Mr. KIND. Well, I have been in conversations. Obviously, one of the largest manufacturers in my district in western Wisconsin, a train company producing high efficiency chillers, and they indicated to me that with the right incentives, there is no reason why that plant can't expand, create jobs right in the domestic market in order to meet an increasing domestic demand, as long as, you know, the standards for efficiency get updated and the incentives are in place. So, again, I think this is a tremendous opportunity for job creation right in my area.

But what I have also noticed in western Wisconsin is an increase in investment and production of biogas, methane gas from landfills and that. What is the Administration's thought as far as that being a part of the energy puzzle that we're moving forward on?

Mr. ROGERS. So two observations. First, the—one of the opportunities we had under the 48C program was to invest in at least 25 different appliance manufacturers, because the opportunities, whether it's air conditioning or consumer appliances to improve efficiency, is very, very high. And the U.S. has a set of the leadership positions in these technologies. We really want to extend that.

In terms of biogas, clearly an important part of the equation, both from the energy side and from the environmental side. The methane emissions are quite large. That has serious CO<sup>2</sup> implications. And so again, you get a double benefit: you reduce pollution and you improve the energy balance. And the technology has moved a long way to making that compatible, just with the existing gas grid.

Mr. KIND. Let me finally ask you—I wish I'd brought the article along; I just read it and I forgot—it was a Wall Street Journal about how Europe is way out ahead of us in regards to landfill use for energy purposes, and why the United States is lagging in that area. And I guess maybe we can follow up with you at some point and find out why that is, because I think we're missing a great opportunity here.

Thank you, Mr. Chairman.

Chairman LEVIN. Thank you. Mr. Pascrell.

Mr. PASCRELL. Thank you, Mr. Chairman. Mr. Chairman, the credit we have been talking about here in section 1603, Mr. Mundaca, the sole requirement to get the credit or grant is that the alternative energy facility be in the United States of America.

That's the sole requirement. There is no incentive, there is no requirement, for domestic content that I can find. Taxpayer dollars have been and are being used to fund the purchase of foreign-manufactured goods and components for use in such projects.

I want to go back to what my good friend from Wisconsin just talked about. How can you have an energy policy and you not have a manufacturing policy? It would seem to me that both of them go hand in hand, that if you do not have a strong manufacturing national policy to stabilize the base of the infrastructure, the infrastructure continues to crumble and continues to be out of the 21st Century and still back in the 19th century.

I think that this is a critical message to take back to the Administration, that they must develop a manufacturing policy to ensure manufacturers in this country that they are serious about this, that this is not simply an esoteric thing we're talking about, when we talk about energy policy.

In light of the reports of foreign parts making up the bulk of 1603 projects, what steps is the Administration taking to see that a domestic content incentive or requirement is included as part of the 1603 program, going forward?

Mr. MUNDACA. Thank you for raising those important points. Again, the Administration did and does recognize the importance of addressing the manufacturing aspect of this, the supply side, not just the demand. 1603, as you mentioned, is the demand. You're buying the components. The 48C that we have been talking about, that the Administration is proposing to more than double, is with respect to the construction in the United States and the manufacturing facilities that are going to supply the components that people need to transition to clean energy.

Mr. PASCARELL. Well, what would it take to provide in 1603 such a provision? Because, you know, I can cite some projects under this 1603, these projects, where most of the parts of that particular project came from China, or came from another country. I don't see what the purpose of that is, if we are trying to create jobs here, and trying to strengthen our manufacturing policy.

Now, look. You can talk all you want about strengthening the manufacturing policy. I am asking you a very direct question. Show me where you're talking more—you're doing more than talking, this Administration, about establishing a manufacturing policy whereby—and I will repeat, if I may, Mr. Chairman—you are stabilizing the infrastructure of the manufacturing sector of our economy. Show me.

Mr. ROGERS. So when the Vice President asked for the additional \$5 billion for the 48C program, he explicitly did that in the context of a view that said we have to grow domestic manufacturing. It is not enough just to grow domestic development. We have to grow development, manufacturing, and innovation together, because unless we do that, all of a sudden we innovate and the jobs go overseas, or we develop and we import.

So, it is clearly the Administration's position that we need to be making that investment in manufacturing. That is why we have asked for the additional funds.

Mr. PASCARELL. And it would seem to me to make sense, then, based upon what the Vice President has said, that we provide a

portion of 1603 to direct that those parts be manufactured in the United States of America. Otherwise, we are defeating the very purpose of what we are trying to do. Aren't we?

Mr. ROGERS. The vast majority of parts under the 1603 program are, in fact manufactured in the United States. And what the 48C program is doing is enabling us to raise the domestic content, systematically.

The challenge that we face is if we were—the U.S., particularly against certain components, has significant limitations in domestic manufacturing capacity today. So if we were to impose a buy American provision on it, what it would do is it would actually restrict the number of projects that we can do. Our task is to grow that manufacturing base.

Mr. PASCRELL. Mr. Chairman, I hope you were listening to the very distinguished panelists, both of them that we have. They are saying that we don't—he is saying that we don't have the capacity to build the parts that we need in manufacturing in this country, which is my very point, because we have shut down manufacturing in this Nation, for a number of reasons—which is not the subject of this panel.

But what the gentleman is saying—what Mr. Rogers is saying; excuse me—is that we don't have the capacity, even to manufacture these parts. And yet we know we had the capacity to manufacture these parts at one time. We don't have a manufacturing policy, Mr. Chairman, period. And we can't compete with China unless we do that.

Chairman LEVIN. And the purpose of 48C is to help develop a manufacturing policy in the U.S. And we will talk another time about what requirements there may be in terms of our WTO obligations. That's a different issue, though it's a very relevant issue.

So, if we might go on—and we will talk a lot about it—48C is an effort, a major effort, to develop what has not been true here, a manufacturing policy for the United States.

Now, let me suggest this. Those who haven't questioned have been very patient. I think this is going to work out okay. We are supposed to start the next panel at 1:00. We are supposed to have a lunch break. There is lunch available for those who want to grab it across the hall. And I'm not sure when the votes will be on our tax bill. It's a Ways and Means bill that's on the floor now, I think, and that's why I think Mr. Camp is not here.

Mr. DAVIS, you are next.

Mr. DAVIS of Kentucky [continuing]. Thank you, Mr. Chairman. I think Mr. Pascrell brings up a very germane point on the issue of slating manufacturing and energy policy together.

I have a very strong belief, based on my professional experience in manufacturing, that we do have the capacity to produce these parts. But from a regulation and energy standpoint, it's prohibited.

You know, one statement that I think ties in Mr. Nunes's comments, that are very complimentary to what Mr. Pascrell said, is that—dealing with the issue of increasing GDP and increasing energy costs at the same time. You can't do that. It's not possible.

You know, when the President made the statement that his cap and trade program would “necessarily cause utility rates to skyrocket,” he has moved to enact on that, but what we're seeing, in

fact, is a reduction in manufacturing capacity, to Mr. Pascrell's point, in the very heavy industrial areas, the machine tool operation areas, that would complement the so-called green energy program.

And I think we run into a substantive issue here, that alternative energy is multiples of three, four, or five times the cost per kilowatt hour for industrial electricity to produce these same goods.

If I could shift subjects slightly to another aspect of industrial energy, the EIA has predicted that OPEC will have increased influence over the world market in 2010 and 2011, basically because of decreased production from the non-OPEC markets, including the United States. In the short term energy outlook, they go on to state that OPEC's share of world liquid fuels market is going to grow to a stunning 42 percent by the end of next year. And, in addition, what that would do is increase their ability to increase prices, because they control more of the supply chain.

Well, I'm glad the Obama Administration has shown some interest in expanding our offshore production. I'm a little confused why the vast majority of our resources are still off limits, and I am concerned about this, in conjunction with the reactionary restrictions on coal mining permits, and the Administration-backed proposals that support \$39 billion in tax increases on fossil fuels over the next decade. It's only going to hamper our effort to reduce dependency on foreign energy and maintain affordable electricity for millions of Americans.

Coming from a part of the country that has among the lowest utility rates in the Nation, our senior citizens are being faced with an across-the-board 40 percent rate proposed increase because of these very regulations right now.

Here is my question for Mr. Rogers. Do you think that restricting and limiting domestic energy production from proven energy resources like coal, and increasing taxes on domestic fossil fuels, will better enable us to reduce our dependency on foreign energy?

Mr. ROGERS. I think the set of programs that we are beginning to put in place under this Administration go a long way toward reducing our dependence on high-risk sources of energy.

Mr. DAVIS of Kentucky. I—

Mr. ROGERS. We have made a set of commitments to restructuring the transportation sector and changing the fuel mix in ways that will drive down gasoline demand.

Mr. DAVIS of Kentucky [continuing]. If I could reclaim my time, sir, just one question. You talk about higher-risk sources of energy. How is it going to be—I'm trying to understand. Are you putting coal, which is the majority of energy production in the United States—are you going to say that's high-risk energy production? Just yes or no.

Mr. ROGERS. There is a good deal of pollution risk from coal. There are important risks on different sources of energy. But clearly, coal is a risky energy source.

Mr. DAVIS of Kentucky. Even though coal production will comply with EPA clean air standards.

The question then, though, that you haven't answered is, by limiting their production, how are you going to enable us to reduce our dependency?

If I see my constituents having a 30 or 40-percent increase in their utility rates, that's not having a positive effect on the region that actually makes goods and produces energy and grows food in the United States. I am trying to understand this.

Mr. ROGERS. So under the Recovery Act, we are investing \$3.4 billion to try to demonstrate that carbon capture and sequestration is economical within the next decade. So we are clearly trying to make sure that the coal that we produce in this country we can use in this country, both economically and environmentally and in appropriate fashions.

So—and I think the other part is if you take a look at the broad base of proposals we put forward, driving energy efficiency across the board for American homeowners, should reduce homeowner bills and—

Mr. DAVIS of Kentucky. If that's the case, then, every Democrat on the Committee voted against the \$7,500 tax credit for the purchase of energy star-rated home energy items in the stimulus bill last year in the energy title. It was my amendment. And I think there is a dissonance in terms of the stated priorities and what is actually being put in operation.

I think, finally, you know, if you feel that sacrificing fossil fuels for green energy is necessary, I think the real question is why would the Administration choose to pick winners and losers when the technology is clearly not there, A, to provide this cost incentive? And then, B, just as a follow-up, why, in fact, would we impose these increased rates, saying that it, in fact, is going to cut overall costs, when in fact it creates a disincentive for investment?

Chairman LEVIN. I think, Mr. Davis, your time is up. If you don't mind, let's move on so everybody can finish, unless—well, how about 10 seconds' worth, Mr. Rogers.

Mr. ROGERS. The good thing is we're not choosing winners and losers. We're running a great competition in the history of American entrepreneurship that has really created a competitive playing field across innovative technologies that will position the United States for long-term leadership across a range of energy technologies.

Chairman LEVIN. All right. Some liked your answer, and I think some probably did not.

Mr. DAVIS of Kentucky. Thank you, Mr. Chairman.

Chairman LEVIN. Mr. Crowley, you are next. And then, Mr. Davis, you are next, unless two others come before your turn.

Mr. Crowley.

Mr. CROWLEY. Thank you, Mr. Chairman. Let me first thank you for continuing this Committee's and this congress's vote to develop incentives for our Nation to wean itself off of foreign oil.

Pollution is an issue. We need to create green jobs in the new economy. Like Democrats said in the nineties, it is vital. But I believe the most important reason is our national security. The more we export our dollars to hostile oil-producing nations, the more we export our security and our national sovereignty. Green jobs isn't just a cute catch phrase, it's one of the most important national security actions we can take.

And I want to start my questioning about the programs set up by the Federal Government to increase domestic production of

green energy at home, and create jobs here in the U.S., while having the great effect of weaning the U.S. off of foreign oil and making us more energy-independent.

One program encourages green manufacturing domestically, including—that's what my colleagues have alluded to—legislation that I am in the process of developing with Congressman Scott Murphy of New York, who is both a businessman who has real-world experience in creating jobs in this country, but also someone who sits on the House Armed Services Committee, and knows the threats that our Nation faces every day.

Assistant Secretary Mundaca, how did Treasury, with the consultation of the Department of Energy, determine which projects would be chosen for the 48C domestic manufacturing program that was alluded to throughout many questions this morning? I have noticed a lack of awarding to the fuel cell community, as Mr. Larson alluded to earlier. Was there a list of those that had previous private sector venture capital investment consideration?

I believe that the American Government should help incentivize private sector manufacture in the U.S. So what were the lessons that were learned in this process, both positive and negative, from this tax incentive program? And before you answer that, I just want to—because time is—so keep that in the back of your mind, and time is of the essence here.

I want to get—my other question is I want to touch on the issue of ethanol, which was discussed privately before, and the Government incentives for the ethanol program in the Tax Code. Last year I introduced the Affordable Food and Fuel for America Act, which would phase out the \$5 billion a year subsidy for gasoline refiners who blend corn ethanol into gasoline, eliminate a tariff on imported biofuels, and increase funding for the cellulosic biofuel production tax credit.

I introduced that bill because I am concerned about the impact of the subsidy on our food prices, as well as our overall deficit, and as well as the impact that it has on green energy.

As the renewable fuels standard requires oil companies to buy and blend 12 billion gallons of ethanol into gasoline this year, and 15 billion gallons in the year 2015, we already have a mandated requirement for the consumption of ethanol in the U.S. So is this tax incentive for the production of ethanol still needed?

And, if you could, answer both those questions.

Mr. MUNDACA. Well, thanks. I will try to be brief. We look forward to working with you. This issue on ethanol has been raised, as you know, by a number of different congressmen, and we look forward to engaging on this as we take forward a more comprehensive review of energy policy and energy incentives in the Tax Code.

I am sure Mr. Rogers will have more to add on the criteria used for the 1603 program. We follow the statutory provisions that—we looked to a number of criteria in assessing the projects. As we mentioned, we had a lot of great projects that didn't get funded, not because they weren't good projects. You know, we simply ran out of money, which is why, on the 48C, we are looking to get additional money for that.

Fuel cells were some of the projects that were not funded but, again, technically met the requirements, just didn't get the funding.

Mr. ROGERS. And just quickly on the process, this was a broad-based competitive peer review process. We had almost 400 reviewers involved. We had technical reviewers, we also had business reviewers. And so each proposal got three reviews. Those that made it across a certain threshold then went through a set of peer—merit review panels to get two more reviews before we could make the final selection decisions.

And then, the only other piece that we layered on was the—on the margin we tried to make sure that we were focusing marginal dollars in high unemployment districts. And so, as a policy factor, what we tried to do is if the manufacturing facility was in a high unemployment area and it was on the margin, we brought it in.

Mr. CROWLEY. Let me just ask if you can further define a “high unemployment area.” Was that areas that had job loss recently, or was it communities that have sustained job loss over a period of time, many years, considered as well in that?

Mr. ROGERS. We were looking at the absolute unemployment rate in each of the different counties that—

Mr. CROWLEY. As defined by the Department of Statistics, or—

Mr. ROGERS. As defined—I believe it's a Department of Labor statistic.

Mr. CROWLEY. That's what I'm saying, labor statistics. So, okay. I would like to talk a little more about that with you at some other point, and not to take up the Committee's time. But thank you, Mr. Chairman.

Chairman LEVIN. Under the rules, Ms. Schwartz is next, and then Mr. Boustany. We know you have to go to the floor. So you—

Ms. SCHWARTZ. All right. We will try and do this relatively quickly. Two points I wanted to make, and I wanted to thank you for your testimony. I actually feel like this should be a little more exciting hearing, and—because I think some of the comments you have made are really important in how we are really moving ahead toward a cleaner, greener economy, and the producers of alternative sources, and it does it in a smart way.

So, I think we should be—I think, Mr. Rogers, you actually expressed this several times, about what the future brings and how we're really moving in a very different direction. While continuing, obviously, to use fossil fuels, we are really looking in other ways, both through clean technology and also energy efficiency.

So, one quick comment and then—which I would like you to consider. Some testimony has been submitted by some groups I have been working with on—they're usually referred to as historic tax credits. We are interested in—and I have been working with them. I have legislation to modernize the historic tax credits.

One of the best, most efficient things we can do is use older buildings, rather than build new ones, and I have—one of the pieces of my legislation actually provides additional incentives for more energy-efficient retrofits of older buildings. I think this fits in very well with what the Administration is trying to do. I would ask

the Administration to take a look at that, in working with the Committee, to possibly move ahead. Love that to fit into one of these pieces of legislation, moving forward.

Also, renovation of older buildings actually creates good jobs. It's reuse. We ought to make them more energy efficient at the same time. So I would ask you to take a look at that.

The other piece I wanted to talk about was really being able to extend the 1603 provisions to bio-refineries. I mentioned this to both of you earlier. You had talked about how important the biofuels production industry is, can be, should be, in terms of really adding job growth and also real economic value, and really using not food sources, but biomass that would be able to be turned into cleaner energy. We know that there are a number of industries—some in Pennsylvania—that are moving ahead on this.

One of the barriers is the high cost of building refineries. My understanding is, looking through the list of the very successful use of 1603, is that it has not been used for bio-refineries, and it's not really able to be.

So, my real question for you to look at—again, whether we could do that in legislation moving forward here or in any jobs package or in a future energy bill—is, is there a way for us to use tax incentives and grants, particularly in lieu—these are not companies that are making money, and so they really need to be able to get—use some of these kinds of provisions—for them to be included, these—the building—really moving to production.

This is for other kinds of biomass. We know this is potentially a great source of homegrown clean energy. And I want to see us be able to move ahead, use some of these tax provisions. And I think, Mr. Rogers, if you could, just briefly answer how you see that fitting in to some of the provisions we already have used so successfully in other areas.

Mr. ROGERS. So, first observation is that the 1603 and 48C programs, again, are among the most successful programs under the Recovery Act for job creation.

Another program under the Recovery Act has put more than \$600 million into 19 biofuel facilities to really establish the economics of cellulosic and next generation biofuels. The ability of the United States to take a leadership role—biofuels are enormously important for what we're trying to do in the transportation sector. The ability to reach the next generation of biofuels with the new technologies available is a very exciting area of innovation that we have been funding with the grant programs, and we would be happy to work with Congress to figure out what the appropriate tax structures are to move that forward.

The only other observation I would make is our general counsel has worked very closely with the states on historic preservation, trying to make it easier to do energy efficiency in historic buildings, and we have actually established some things with the Council of Environmental Quality to make that much easier for historic buildings. And so we would be happy to work with you on that, as well.

Ms. SCHWARTZ. That would be great. Thank you very much, and I yield back.

Chairman LEVIN. Thank you.

Mr. Boustany.

Mr. BOUSTANY. Thank you, Mr. Chairman. Mr. Mundaca, let me start with just a yes or no question. Is it the official position of the Obama Administration that we have an over-production of oil, U.S. oil?

Mr. MUNDACA. I don't think there is any official position on the level of production of oil.

Mr. BOUSTANY. Well, because it's in your written testimony, it is riddled throughout the budget proposal. And also, I received a letter from Secretary Geithner about a year ago that has the same statement. It basically says, "To the extent that credits"—referring to fossil fuel credits—"encourage over-production of oil, it is detrimental to long-term energy security." So, I find a little bit of an inconsistency here, and I have deep concerns.

We all want to get to a comprehensive energy policy. We know there are some very exciting biofuel possibilities down along the horizon. But the key question for this Committee is the transition strategy. How do we transition? And we need to have a realistic transition strategy.

And, Mr. Rogers, I was very encouraged to hear that you are excited about the new developments of shale, natural gas. And I think many experts in the field believe that natural gas is going to be a key component of our short-term transition strategy.

So, is it the position of the Administration to penalize American natural gas production? That's my next question.

Mr. MUNDACA. With reference to the tax provisions, again, as I have mentioned, what we are seeking to do is remove those subsidies from the Tax Code that we think are inefficient that—

Mr. BOUSTANY. I have heard that. But I think there is a little bit of a disconnect, as probably has been mentioned by Mr. Tiberi and others earlier, in that when you talk to our independent oil and gas producers, these are the small companies. These are the ones that have been responsible for a lot of our domestic production, whether it's oil or gas—and particularly, natural gas now. They are going to be penalized by these provisions.

I have talked to a number of companies and just to put it in real terms—this is anecdotal, but I suggest you really need to go and listen to these folks. A small producer says, "I will produce 10 gas wells under current law." If these tax provisions, a repeal of these certain tax provisions occurs as proposed in the Obama budget, I will go from 10 wells to 1 well. So that's going to hurt our natural gas product of which—97 percent of it is domestically produced. It's going to hurt American jobs, American energy production.

And so, I have a deep concern about this, and I think before the Administration and this Congress moves forward with the repeal of these types of provisions, we better really understand the facts on the ground.

Now, I heard you earlier, in response to a question, saying that overall there would be no effect on energy production, or a very small effect. And by implication, on job production. I don't think that's right. I agree with what Mr. Tiberi said earlier, and I would urge you to speak to those who are in the business of doing this, to understand what the real impact is going to be.

I sent a letter to Secretary Geithner last year, asking what would be the impact on American energy production jobs, and it's not just

the producers, but it's the welders and the mechanics and all the others, a lot of blue collar jobs, good paying blue collar jobs. And I have yet to get an answer. And your statement earlier is not really backed up with any substantiation with regard to what this impact would be on jobs.

So, again, getting back to my original point, we need a realistic transition strategy. And I understand where they're trying to go with biofuels. The third and fourth generation of biofuels is very exciting. But we can't penalize current energy production without having all of this ready to go. You need the proper sequencing.

So, I would urge you, please, to speak to the industry directly to understand what the impact is going to be on American energy-producing jobs, and energy production in this country.

Mr. MUNDACA. Well, thank you, Congressman. We are more than willing to engage with anyone who has suggestions about the effects of these proposals.

I believe when Dr. Alan Krueger, Chief Economist of Treasury, testified before the Senate last year, his analysis indicated again less than 1 percent effect, with respect to production on oil and gas from these proposals, I think less than one half—

Mr. BOUSTANY. And there have been rebuttals to his suppositions and proposals.

Mr. MUNDACA. I understand, yes.

Mr. BOUSTANY. And so, I think it's incumbent upon the Administration and this congress to get the facts, and get the facts on the table.

Mr. MUNDACA. We understand.

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

Chairman LEVIN. And thank you. Mr. Davis of Illinois, and then Mr. Etheridge.

Mr. DAVIS of Illinois. Thank you very much, Mr. Chairman. And I want to thank the witnesses for their endurance.

Job retention, job creation. No matter who I talk to, if they're involved in public policy decisionmaking, are very much concerned about these issues and have them high on their priority list of problems that have to be met and resolved in our country. So there is a great deal of hope riding on energy conservation, green technology development, finding new sources of energy. And when people talk about where will new jobs come from, or where can we get jobs, this is one of the places that we seriously look.

Two questions. One, why should Americans really be so optimistic that this new emphasis will actually create jobs and work opportunities for those who find themselves lacking and wanting?

And two, many argue that labor supply in what we call disadvantaged areas, disadvantaged communities, are among minority populations, often don't have the skills necessary to actualize the opportunities that may very well exist. And so, my question there becomes what is the Administration doing or proposing that will provide the training opportunities to make sure that these affected groups can, in fact, make use of this new opportunity that we are all hoping is going to be created?

Mr. ROGERS. Let me take one shot at that, Representative Davis. The—we should be optimistic, because this is, at its core,

what the United States is best at doing. This is about innovation, entrepreneurship, and being ahead of the curve.

And the opportunity that we have, particularly in the clean energy arena, is a set of technologies where the United States has a clear global leadership position, where we have not historically converted that into the kind of manufacturing leadership position that creates the kind of long-term, sustainable, good-paying jobs that this country was built on in the post-World War II period. And our challenge is to really recapture that leadership, recapture leadership in manufacturing. And this Committee has been essential for making that happen.

To your point, if we can get the capital formation, particularly on manufacturing, we then have the challenge of making sure that we have a world class workforce that's able to take advantage of these opportunities. And so, we've been working very closely with the Department of Labor. Secretary Chu actually was out last week, talking about \$100 million that we were going to spend to train people to be able to implement the smart grid investments that we laid out, the smart grid investment grants, because it's quite clear that what it takes to maintain a smart grid infrastructure is very different than what it took to maintain grid infrastructure that was built on technologies from the forties.

And so, we are investing, in that case, \$100 million in partnership with the Department of Labor in a set of specific communities, trying to build those capabilities. And we have got to do that in multiple other areas to make sure that we have the workers who can take advantage of these opportunities.

Mr. DAVIS of Illinois. Is the collaboration also taking place with Treasury, in terms of the tax incentives that are part of the overall effort?

Mr. MUNDACA. They are. What we try to do—and some of it is longer term, some of it is shorter term—is carry out the President's focus on education and worker training. There are a number of tax provisions addressing that. The American Opportunity Tax Credit that was part of the Recovery Act, again, part of the longer term efforts to get American labor supply skills up to where they need to be.

And again, as well as incentivizing hiring of persons in disadvantaged communities, and disadvantaged categories, a work opportunity tax credit as well. So again, the Administration is very focused on this issue of increasing the skills in labor supply, and providing incentives for hiring people from categories that perhaps are disadvantaged.

Mr. DAVIS of Illinois. Thank you very much, Mr. Chairman. Thank you, gentlemen.

Chairman LEVIN. Mr. Van Hollen, your turn.

Mr. VAN HOLLEN. I thank you, Mr. Chairman, thank both of you gentlemen for your testimony. I am going to submit, in writing, a technical question regarding the scope of the residential renewable energy tax credit. I would appreciate if you could get back to me on that.

Two questions, one related to biofuels. And as we move toward the next generation of biofuels, based on non-food feedstock, many of us believe that the federal incentives should be technology-neu-

tral. So, for example, algae in other sort of next generation biofuels, would be on a level playing field with cellulose. And I assume the Administration shares that position, that as we try and design these incentives, they should, in fact, be technology neutral, so we are not providing a bigger subsidy, arbitrarily, to one or the other, that it's based on the science and the technology. Is that right?

Mr. MUNDACA. That's right. We look forward to working with you. These are difficult technical decisions to make about the level of subsidies that are in parity across different technologies. And again, we look forward to engaging on that to make sure we have done that right.

Mr. VAN HOLLEN. The next issue relates to the amount of investment as a Nation that we need to be making in clean energy technology in order to meet our goals, our National security goals, our jobs goals, our climate change goals.

And as much as we are doing now, it seems to me we need to take a quantum leap forward if we're really talking about the kind of jump that we want to make in this technology, and to be able to compete with the Chinese and others that are making enormous national investments in this area. In this connection, I want to commend the Administration, the Department of Energy, for working to get out the door the section 1703 loan guarantees, and those who are originally part of the 2005 energy legislation. And more of those projects have been financed in the last year than in the previous 4 years. So I commend you on that, and also commend you on working with the new authority under section 1705 as part of the recovery bill.

But my question is, just looking at those two programs and at least the amounts of money currently allocated to that, doesn't it make sense to look at how we can create a mechanism that will allow a lot more, in terms of leveraging private investment?

Clearly, I think we've done a good job when it comes to providing incentives for cutting edge technologies, but I am focused more on established technologies that have already been proven effective, where you have lots of people looking for capital on the sidelines. And as part of the energy bill that passed the House, we had a clean energy bank idea. There are different proposals floating around.

But I just want to get your sense about whether or not, given our current level of programming, you believe we can leverage what I believe is probably hundreds of billions of dollars of private investment that will be needed if we're going to reach the goals that we set out nationally, and that the President set out. What is your view of that path toward the future?

Mr. ROGERS. With the Recovery Act, we were able to make a downpayment on the Nation's energy and environmental future. And the 1705 program was critical to enabling us to begin to make loans.

The capital formation challenge ahead of us is very large. Energy has historically been one of the sectors that has been slower to innovate, in part because of the scale challenges and the capital formation challenges.

And so, as we look forward, we want to build on the successes of things like 1603 and 48C that this Committee has been so im-

portant in leading, because that created a tax incentive structure for driving us forward. And we need to make sure that that links up with how the capital markets create capital behind that.

And so, you know, as we have talked with the congress, we are looking for ways to make things like loan capabilities over a long period of time. Right now, we have a set of funding under the Recovery Act. We are going to run out of that. We've asked for more funds on nuclear, we've asked for more funds on renewable energy. And that's going to sort of take us through another budget period.

I think the opportunity and the challenge is, how do we get capital formation on a consistent and systematic basis across the next decade or two decades? And that, I think, is the opportunity both in the Tax Code and then, you know, as you described more broadly, the capital formation challenge is something we have to think about holistically.

Mr. VAN HOLLEN. Right. Well, I am looking forward to an ongoing conversation on that, because I think that what we have done is a very good start, and we would not be as far along as we are without the efforts that have been undertaken to date.

But I still think we've got to take a quantum leap forward, especially in finding ways to get a lot of the private capital, which I think is interested in moving into this area, but understand some of the risks. But given the fact this is a national priority, for security reasons and for jobs reasons, and for a whole range of other reasons, including the climate change issue, it seems to me we need to supercharge this effort, and we look forward to working with you on that. Thank you, Mr. Chairman.

Chairman LEVIN. Thank you. Under our rules, Mr. Heller, you are next. And then it will be Mr. Etheridge, Mr. Higgins, Mr. Pomeroy, and Ms. Berkley. So, Mr. Heller?

Mr. HELLER. Thank you, Mr. Chairman. I want to—

Chairman LEVIN. Unless you want to yield to—no, you don't want to do that.

Mr. HELLER. I feel sorry for him, I really do. Thank you, Mr. Chairman. And I want to thank the witnesses for being here today. And there is some light here at the end of the tunnel, so thanks for hanging in there for some of us here in the end.

I want to shift our attention briefly here to geothermal energy. In the State of Nevada, of course, it's a huge source of potential energy, and it's a safe, clean, and effective source that can be used for large-scale commercial or even small-scale residential. So it's very versatile.

I had a meeting in my office 2 days ago with the National Association of Counties. Mostly the smaller counties, the more rural areas in Nevada, and this could be effective in six or seven other western states. But this is their concern. I am glad you're here, because I told them I would bring this to your attention, and that is in last year's interior appropriations bill it essentially repealed the provision in the 2005 Energy Policy Act that allowed for revenue sharing with local counties. And the royalties are about 25 percent. When you have a community of 20,000 to 25,000, or a local county of 20,000 to 25,000, \$2 million to \$3 million can be pretty—it's a large amount of money. And they use that for all sorts of issues, whether it's for education or health care or some of the other wel-

fare causes, but they also use it to develop these renewable resources.

And so, there is some consternation right now that I am seeing with these counties because of the lack and the loss. And they are even more concerned, because the Administration, in this year's proposed budget, continues to promote this policy of removing these royalties to these local governments.

So, the question is this. And being here from the Treasury, Mr. Mundaca, to promote green jobs and renewable energy, would you agree that the goal of creating green jobs is negatively affected by this policy?

Mr. MUNDACA. I would have to look at it more carefully. I am not familiar—I don't know that there is a tax component to it, but I can certainly look into what the revenue sharing provision is that you are concerned about.

Mr. HELLER. Okay. To clarify, though, it is 25 percent. So it goes to these small counties, and they use it, of course, to develop this energy.

I have a bill out with Mr. Thompson, a bipartisan bill, that would reinstate these royalties. And I am certainly hoping to get the support from the Administration moving forward, so that we can help develop this.

Mr. Rogers, you mentioned something about wanting to double in 4 years. I think this really stunts the growth of geothermal energy if these smaller counties can't share in the revenue produced with this energy.

I want to touch on one other issue quickly, because I know my time is short. But that also has to do with transmission lines. Transmission lines are important, especially in large rural areas, in getting this energy from rural areas to the more urban areas. And we are making decisions with this Administration that runs contrary to the ability to put these transmission lines in place.

As an example, we have just listed as potential on the endangered species list a sage grouse. And sage grouse is currently a bird that is being hunted regularly in Nevada, and yet it's about to create massive—nearly insurmountable—hurdles to develop renewable energy in getting that power to the urban centers.

So again, I guess the question is similar to the above in stating one goal of promoting renewable power, and then acting in a completely different direction and counterproductive fashion.

So, I guess the question remains, what is the Administration's plan, if there is one, to address transmission lines needs in the west, and wouldn't you agree that this sort of management and conflicting policy goals is a problem? Mr. Rogers, I will leave that with you.

Mr. ROGERS. So, Secretary Salazar, Secretary Chu, Chairman Wellenbush have been actually working quite closely together on both the transmission siting issue and on the renewable siting question, because it involves all three of those different departments in making those decisions. One of the things that is actually working quite well is the collaboration across those departments, to make sure that we get some coherence across those programs.

So, we have been accelerating, as I think you may have seen, the siting of renewables in—through the bill of land management. And

there has been a very important collaboration that has expedited the pacing of that to move much faster than it historically had.

We are also doing the same thing around transmission. There is a very clear—in the west, the Western Governors Association has provided terrific leadership, in terms of creating an architecture for what the transmission system needs to look like in the west, and we are working very closely with them to make sure that that actually comes to pass. We started under the Recovery Act, actually through the Western Area Power Authority, making loans to one transmission line so far, and we have another set ready to go.

Mr. HELLER. Thank you. Thank you, Mr. Chairman. My time is up.

Chairman LEVIN. Mr. Etheridge.

Mr. ETHERIDGE. Thank you, Mr. Chairman. Let me thank both of you for your perseverance.

Mr. Davis talked about jobs, and let me carry that a bit further, because it's more than about jobs, it's really about jobs, the economy, and really, the long-term future. But I come from a state and from a district that has a lot of farmers, a lot of rural, small business people and communities that really rely heavily on energy. And the truth is, we have a designed policy in this country to have cheap energy. I mean that's what has driven our economy for a long period of time.

And so, an issue that will profoundly impact everybody back home is what happens to energy and how it goes up and down, and we know what's happened.

And it also has a significant impact on our economy. And it's been estimated that renewable energy, or energy efficient industry, has created or supports about 10,000 jobs, just in North Carolina alone. And so, whether you call it green energy or whatever you call it, it's win-win.

So, my question—because I think it does two things, it helps the economy and it also frees us from the grip of foreign oil. And in just one example, I have one company that happens to be in my district that was in the 31st year in a little small rural county, and they produced a substantial amount of the enzymes for alternative fuels. And they employ about 500 people and the whole global biofuels market operation, the R&D and Department of Energy projects, and others.

So, my question is this. These projects will be cornerstones, or projects like them for the next generation of domestic production in advanced biofuels, bio-based productions, specialty chemicals, et cetera. Can we expect the Administration to increase funding for programs such as bio-refinery assistance programs? Because I think that's a critical part of it, to expand this to include production of bio-based materials, chemicals, and products. I think we have to get beyond just fuels, but get to chemicals and products related to it.

Mr. ROGERS. We are clearly looking forward, Congressman Etheridge, to working with Congress to figure out what the scope of any provisions going forward are. Advanced biofuels are an important part of meeting our energy and environmental goals. Clearly, the enzymatic components to that are an area where U.S. innovation is putting us ahead.

And I think the opportunity, going forward, is to really structure both comprehensive energy and climate legislation and tax policies as part of that, to really make sure that we are advancing the state of the art quite quickly, and making sure U.S. leads both in innovation and in manufacturing of each of those pieces.

Mr. ETHERIDGE. Because those chemicals are a critical part of that right now.

Mr. Mundaca, you ran down a whole list of tax proposals that the Administration is looking at, as far as pulling back some of those brakes. And it looks like my time is out. But I would just say, what does the Administration have in place as a safety valve? Because as we start to move down this road, if we see huge spikes in energy costs, we're going to have a huge pushback, and we've got real problems.

Mr. MUNDACA. I will be brief. Yes, we do understand that. Again, our analysis of the ones we have proposed to pull are less than one half of 1 percent effect on production prices, et cetera. But obviously, we are open to further discussion of the effects of what we've proposed.

Mr. ETHERIDGE. Thank you, Mr. Chairman. I look forward to that opportunity.

Chairman LEVIN. Mr. Higgins, would you like to inquire?

Mr. HIGGINS. Thank you, Mr. Chairman. The United States has 5 percent of the world's population and about 28 percent of the world's economic growth. We're leaders in virtually every area of innovation. But I think in the development of alternative energy sources, we have fallen behind. And I think the rest of the world is rising behind us.

And I think the reason for that is that our tax incentives are highly fragmented. We have a lot of stops and starts. In order to send a price signal to the financial markets and to manufacturers to embrace this new technology, I think you have to have a very aggressive and sustained tax incentive program to get them to embrace this new technology.

Give you an example. It's a great American company called Applied Materials. Applied Materials makes the machinery that makes microchips that are in our computers. The Chief Executive Officer of Applied Materials about 6 years ago saw the volatility in the chip market. So he figured he had to add something new to the business line. Using nanotechnology, using silicon, Applied Materials decided to make the machinery that makes solar panels. A highly successful business. They have 14 factories throughout the world. Problem is, 95 percent of their business is outside of the United States.

Last year, the industry brought in—or that company realized \$1.2 billion in revenues. So why is it that there is this great American invention by an American innovator, but yet there doesn't seem to be the market in our country, which should be leading in this regard, relative to the product, the machinery, that he is creating?

As everybody has said here, you know, we use these tax incentives to signal to the markets. So they have to be stronger in both depth and duration to provide the private sector the kind of tax in-

centives that are necessary to embrace this economy, and create real jobs with a real future.

And I think, to underscore the importance of this, over the next 40 years we will add 2.5 billion people to the global population, and they will all consume energy. This is an opportunity that Germany has taken advantage of. This is an opportunity that China has taken advantage of. And this is an opportunity that quite—it's perplexing that the United States is not as effective in embracing this early on, and creating the kind of jobs in this economy.

Mr. ROGERS. So, thanks to this Committee, we are increasing U.S. competitiveness globally in these key areas.

I think, as you described, consistency in the tax message and a clear price on carbon and other pollutants are essential for making sure that we continue that competitiveness over a long period of time.

Mr. MUNDACA. Yes, I will be brief. We have heard the same concerns, even from Applied Materials themselves. They have come in to see us about the uncertainty in the Tax Code, the fact that there are changes from year to year, provisions expire. The Administration is very cognizant of the effects of having these temporary provisions on long-term planning.

We propose to make the R&D tax credit permanent. I think in the context of a comprehensive energy policy, we need to think about building in more permanent incentives, so that planning can continue, the businesses can know the incentives that are there today will be there in 5 years—most of them don't plan year-to-year, they plan at least 5 years out. They need to know what it looks like 5 years out on the tax side.

Mr. HIGGINS. Thank you.

Chairman LEVIN. Mr. Pomeroy, would you like to inquire?

Mr. POMEROY. Thank you. Thank you, Mr. Chairman. I represent North Dakota. We have coal, oil, wind, ethanol, biodiesel. We have it all, and I have got, therefore, 45 minutes of questions for you to get in in 5 minutes.

Let's start. Is basically increasing energy self-sufficiency a central tenant of the Administration's energy policy?

Mr. ROGERS. Yes.

Mr. POMEROY. Perfect. In that regard, let's talk about the biofuels, to begin with. The tax credit in support of biodiesel has expired. Does the Administration support restoration of this tax credit?

Mr. MUNDACA. We propose to make the tax credit available through the end of 2011.

Mr. POMEROY. That's good enough for right now. The tax credit for ethanol is expiring at the end of this year. Does the Administration support steps to continue to some dimension—we will talk about how long—the continuation of the ethanol tax credit, or does it favor having it lapse at the end of this year?

Mr. MUNDACA. Again, it's part of the general extender package that the Administration included in the budget. I have heard here today there are a lot of different views about that. We have offered to engage on that, but the budget proposal, again, was to extend it through the end of 2011—

Mr. POMEROY. Well, this was—to 2011. In this respect, the budget proposal is very well taken—maybe modest, but well taken. There are very strong feelings on both sides of the dais in favor of biofuels. We either have completely—the promise they propose, in terms of ramped up production, creation of discernable—you know, making a difference in our energy supply, increasing prosperity across rural America, putting people to work, generating throughout the entire distribution chain positive economic activity in excess of 100,000 jobs with ethanol alone, at the time we need it.

The—in addition to that, I—so I strongly favor continuing a policy that supports ethanol and domestic ethanol. That would mean continuing tariffs, as well. If you are moving toward self-sufficiency—if self-sufficiency is a central tenant of our goal, we don't want to move to imported ethanol, like we've been so dependent on imported oil.

Now, on to fossil fuel production. Mr. Rogers, your background in this area, senior partner at McKinsey, the oil—American petroleum practice a substantial part of what you did with McKinsey, I think you can give us some technical information that would be helpful. This business of intangible drilling costs actually—I don't know where the word “intangible” comes from, but this is—these are basically expenses of putting in the well and paying for people to do it, is that correct?

Mr. ROGERS. So I'm not an expert, actually, on oil and gas tax policy. So I would actually defer to Mr. Mundaca on that.

Mr. MUNDACA. That's right, they are the costs with respect to the planning going into the drilling. And the tax issue, as I'm sure you know, is whether those need to be included in the cost of the asset produced, and therefore depreciated over time, or whether they are immediately expensable.

Mr. POMEROY. My sense is that—and I don't mean to—I see that my time has elapsed. It deserves extensive discussion. But even wages, under the Administration's proposal, would be amortized. That makes no sense. I mean I don't believe we take the package of tax proposals relative to oil, as recommended by the budget, advance them without having a substantial impact on our continued developing domestic production.

The President now talks about offshore drilling. Well, offshore drilling? How about onshore drilling like places like North Dakota? These are heavily supported with the present tax structure. And I believe that the financing and the considerations of continuing this kind of development, especially with independent producers, will be impacted by the proposal. Thank you, Mr. Chairman, I yield back.

Chairman LEVIN. Ms. Berkley, you have been so patient. You have the last.

Ms. BERKLEY. Mr. Chairman, thank you very much for your patience, and thank you both. I represent Las Vegas, Nevada. We are a state with one major industry, and that isn't doing very well right now. So I look at energy independence and the development of renewable energy as a lifeline for the State of Nevada for many reasons.

One is I think developing renewable energies is important for our national security interests. I think it's important for our environment. But I think it's—it could be very important for our economy.

We can create a whole new economy based on green jobs and green technology. You know that our senior senator, the Majority Leader, is very engaged in these issues, and I support his efforts.

I am a former utility company attorney. I worked for Southwest Gas Corporation in a prior life, so I am a big advocate for natural gas, and I am glad that we are moving in that direction. But I want to talk to you about harnessing sun and wind and geothermal, as my colleague from northern Nevada spoke of, and the need to develop the—or create the transmission lines.

We, the State of Nevada, could become an exporter of green energy to the other western states, and we are very excited about that, as well. So I am glad that we are moving in that direction. We need to move there with all deliberate haste.

But there are a couple of things I wanted to bring up that—what I would like to see, and discuss this with you very briefly. I would like to see a modification of the combined heat and power, CHP, investment tax credit to include waste recovery systems, also known as recycled energy. As you know, recycled energy creates emissions-free clean power and currently receives no tax benefits.

I also would like to see a CHP tax credit increase from 10 percent to 30 percent for highly efficient systems. I have a letter that I would like to submit for the record that has—in support of this from 85 corporations, industry associations, and so forth.

I would also like to see—

Chairman LEVIN. Without objection, it's entered into the record. [The information follows:]

Ms. BERKLEY. Thank you very much, Mr. Chairman. I would also like to see the creation of a 30 percent tax credit for energy efficient motors. I have witnessed them personally at McCarran Airport in Las Vegas, and at our Las Vegas Convention Center. We have energy efficient motors powering the escalators. It has saved these public entities a small fortune in energy costs. We need to develop that. And if we can incentivize it with a 30 percent tax credit, it will not only lower our energy costs, but it will create very important jobs that certainly the people in my district can use with 13.9 percent unemployment in the State of Nevada.

What do you think about those two proposals?

Mr. ROGERS. Industrial combined heat and power facilities are very important for the competitiveness of U.S. manufacturing facilities. The opportunity in the United States for expanding that is very large, and it's something that we actually had \$100 million under the Recovery Act to fund. We were 10 times over-subscribed with great projects. This is an area that really is important for making U.S. manufacturing more competitive.

Similarly, things like high efficiency electric motors are quite important for the ability of U.S. manufacturers to lower their energy costs. Very high return investments. And to your point, I think the key question is how do we make sure that those manufacturers have the—and building owners—have the capital in order to fund those kind of projects.

Ms. BERKLEY. And the legislation that we will be considering, do you think that we will be able to put—do you think it's worthy of our consideration to put the tax credits in for energy efficient motors in our CHP?

Mr. MUNDACA. I have a copy, I think, of the letter you referenced with the list of the companies supporting and with the legislation, I think, from Representative Tonko and Representative Inslee as well, and we will certainly take a close look at that.

Ms. BERKLEY. I appreciate it. And one other comment in closing. For those of my colleagues who are so gung ho on nuclear power, if they can figure out what we can do with the nuclear waste, other than putting it in the State of Nevada, I would be more than glad to consider expanding nuclear power. But until we figure out what we're going to do with the waste, it's a no-go as far as the people that I represent are concerned.

Chairman LEVIN. And with that further example of the tenacity of our colleague from Nevada, to put it mildly—tenacity we admire—we want to thank you for your tenacity. From Treasury, you have been so helpful, and from the Department of Energy, we want to thank you for being here for so long.

I think this has been an eventful hearing, and has laid the groundwork and our panels will follow for some further legislation building on what has been undertaken in recent times.

So, thank you. I think what we will do is to adjourn—recess for 7 minutes, sending word out to everybody, our colleagues, that we will start with the second panel at 1:15.

And thanks again to both of you.

[Recess.]

Chairman LEVIN. The Committee will come to order. Thank you. It took an extra 5 minutes to have a cookie for lunch. Just wait a minute so our colleagues can gather.

All right. We have had a really interesting morning. We planned this so that our distinguished second panel did not have to be here for the entire morning.

I am not sure if you had reports on the testimony, but it was very germane, I think. We had some effective back and forth between our colleagues and the two representatives of Treasury and Energy.

Let's begin. Under our procedures, we will follow the same order, I guess, as we did this morning in terms of those who inquire.

I have been told that the Minority agrees we will try to limit our inquiries to 4 minutes instead of the five. Is that okay? We will try. I will try to enforce it.

Here we go. Thanking all of you on this very distinguished panel. I will introduce each of you, kind of go down the row. Then if you will just take over one after the other and submit your testimony. It will be in the record, but follow whatever procedure you would like in terms of referring to it.

First, no stranger to this place, we welcome you, Mr. Pickens, T. Boone Pickens, who is Chairman of BP Capital of Dallas, Texas.

Victor Abate, Vice President of Renewables with General Electric. We had the pleasure of visiting with the Chief Executive Officer of General Electric yesterday. He could not be here, but we are pleased, Mr. Abate, that you could be here.

Next, Dr. Jeffrey Sachs, who is known to many of us, who is the Director of The Earth Institute at Columbia University.

Next, Dr. Joseph Romm, who is a Senior Fellow at the Center for American Progress.

Finally, we also look forward very much to your testimony, the Honorable Karen Harbert, who is President and Chief Executive Officer of the Institute for 21st Century Energy at the U.S. Chamber of Commerce.

Welcome, all of you. More of our colleagues will be coming in shortly.

Mr. Pickens, welcome. We look forward to your testimony.

**STATEMENT OF T. BOONE PICKENS, CHAIRMAN, BP CAPITAL**

Mr. PICKENS. Thank you. Chairman Levin, and I have to mention my friend, Chairman Rangel, there on your right, because we have worked on this in the past, as you well know.

Chairman LEVIN. We did.

Mr. PICKENS. Chairman Levin and Members of the Committee, thank you for the opportunity to testify here today.

Let me begin by telling you something my father once told me. He said son, a fool with a plan can be a genius with no plan. He and my mother were worried at that point that they were raising a fool that had no plan.

America has not had an energy plan for 40 years. Every President since Richard Nixon has pledged to reduce our dependence on foreign oil. President Obama had pledged to eliminate our dependence on OPEC oil in 10 years. We can do that. It is not easy, but we can do it. If we do, President Obama will be the only one, the only President, to have made good on that promise.

We are witnessing the greatest transfer of wealth in human history, sending more than \$1 billion a day to foreign countries for oil. Not only that, but because this Committee has jurisdiction over trade, I know you will be interested in this.

In January 2010, our trade deficit for the month was \$37 billion; \$27 billion of that money was spent overseas to import oil. That means foreign oil is responsible for approximately three-quarters of our trade deficit.

When do we stop investing in OPEC and start investing in America?

With the plan I have outlined and spent a good bit of time, money and energy in promoting, we will enhance the economy, improve the environment and resolve the national security threat inherent on our dependence on foreign oil, much of it from OPEC and many nations who do not have our best interests at heart.

The Pickens Plan has 1.6 million members. They are the new energy army and they are with me here today watching this hearing on the Internet.

We have to go American for power generation. That means renewables like wind and solar, nuclear, natural gas and clean coal.

I am for anything that is American. Two-thirds of our foreign oil is used as transportation fuel. Building more nuclear plants or more solar wind farms will not make a dent in dependence on foreign oil. However, they will help, not on foreign oil though.

The only way we can solve the OPEC oil threat is by replacing their expensive dirty fuel with cleaner, cheaper American natural gas. Natural gas or anything else that is American. Ethanol. Anything American, I am for.

Study after study shows we are awash in natural gas. We have well over a 200 year supply by current estimates. We are going to look like fools if we do not use natural gas for transportation.

You have the legislation, the Natural Gas Act, H.R. 1835. It will provide tax credits to fleet owners to offset the cost of going to natural gas trucks as they retire existing vehicles.

The best group outside of the Marines—if we start out to give a mission to some group in America, the best group you could give it to would be the Marines. The Marines are not available for this mission, but this mission could be carried out by America's truckers. I think America's truckers look like Marines. Give them a job and they will do it.

If you Members of Congress point the way, we will start to solve our foreign oil problem.

Let's dismiss two concerns I hear over and over. First, Government does not have a role in this. Let the free markets work, they say. If you think OPEC is a free market, you are a sap.

China is using state owned banks to finance state owned oil companies to lock up decades of oil production all over the world, including Iraq.

This really does annoy me, that we went to Iraq 8 years ago, we spent \$1.5 trillion. We got 31,000 of our people injured and 5,000 were killed. We left Iraq with nothing that I can see.

Who got the oil? China. China did not put a dime into that. They did not lose one person. They are going to develop two oil fields in Iraq. One is the largest oil field in Iraq, which is Rumaila. It is 15 billion barrels. The largest oil field we have ever had in America is Prudhoe Bay, 14 billion barrels.

They are going to be given a field that is as large as the largest oil field America ever had, and we leave there with nothing.

Second, the skeptics say there is no natural gas fueling infrastructure. Forget it. Let's look at our free enterprise system. If you create the market, the private sector will build it.

Can you imagine what would have happened if we had told Henry Ford forget about building a Model T, there are no filling stations.

It is easy. That part is the easy part. The resource is the hard part and we have the resource.

This is about jobs. There is a lot of talk about the economy. We estimate the Natural Gas Act will put 236,000 clean natural gas trucks on the American roads. You will displace 5 percent of the foreign diesel demand each year and create more than 600,000 new permanent jobs, roughly the same number of temporary jobs created for the 2010 Census.

Each Class 8 truck, identified Class 8, that is a heavy duty 18 wheeler, Class 8, the heaviest of heavy duty, converted to natural gas creates six jobs. Each truck creates six jobs.

This is just the start of it. The worse thing you can do, and I know this came up in a meeting I was in today, but do not tax the industry at this point. It is not time to tax the domestic oil industry.

If you want to tax something, tax either foreign oil or tax gasoline, but do not take away from this industry and this country at

a critical time when we are trying to get off OPEC oil and get on our own resources.

I urge your action and I want to close with this. The best time to plant a tree was 20 years ago, no question. I have said that and you have, too. I should have planted a tree 20 years ago.

Just in case you did not plant it, and we do not have an energy plan in America and have not had for 40 years, so if you did not plant the tree 20 years ago, the second best chance to do it is today.

We have got to have an energy plan for this country. We cannot—I am running out of time. I will be 82 years old next month. I have to get the energy plan fixed for America because we cannot leave this to generations in the future.

My grandchildren and great grandchildren, and I have 13 of them, I cannot go out of here without having an energy plan, and we have the resources. We have the resources. All we have to do is a plan and you have to introduce it to America, and I promise you, we can carry it out.

Thank you.

[The prepared statement of Mr. Pickens follows:]

**Prepared Statement of T. Boone Pickens, Chairman, BP Capital**

STATEMENT OF T. BOONE PICKENS  
Chairman,  
BP CAPITAL

United States House of Representatives  
Committee on Ways and Means  
April 14, 2010

*Energy Tax Incentives Driving the Green Job Economy*

EXECUTIVE SUMMARY:

1. A key to producing environmentally responsible jobs is to:
  - a. Create jobs which cannot be "off-shored."
  - b. Create jobs which utilize domestic resources.
  - c. Create jobs which are high quality, long-term, and well-paying.
2. There are eight million heavy trucks on America's highways.
  - a. These trucks use approximately one-third of all oil used for transportation.
  - b. We import about two-thirds of our oil needs.
  - c. Moving a significant percentage of America's heavy truck fleet from imported diesel to domestic natural gas is the most effective way to reduce our dependence on OPEC oil starting today.
3. Passing the NAT GAS Act will create more than 600,000 new, high quality, long-term, well-paying jobs by jump-starting a natural gas vehicle (NGV) industry in the United States.
4. Natural gas is the only fuel we have that can fuel heavy trucks and make an immediate and significant impact on foreign oil.
  - a. Natural gas is an enormous opportunity to substitute our risky dependence on OPEC oil for a cleaner, cheaper, and abundant domestic alternative.

The *Wall Street Journal's* analysis of employment in America shows that we have shed 6.9 million jobs since the recession began in 2007. The most commonly quoted unemployment figure of 9.7 percent tells only a portion of the story – the U3 index. If we look at what many economists believe to be a more complete number – the U6 – then we see the unemployment rate is at about 16.9 percent; about the level at which it has stubbornly remained since May 2009.

The unacceptably high unemployment rate is not news to any Member of this Committee, nor of this Congress. Neither is the fact that these indices are likely to remain at historically high levels for the foreseeable future. What we are attempting to do is to find ways to put people who have lost their jobs back to work, and find ways for new entrants into the job market to find work.

I am here today, representing the 1.6 million Americans who are members of the Pickens Plan, to urge the Committee to consider the value of the bi-partisan NAT GAS Act (H.R. 1835) as a significant mechanism to increase job opportunities in the United States.

In the period leading up to the recession we deluded ourselves into believing that the manufacturing jobs which were being moved to China, and the IT jobs which were being moved to India, would somehow be replaced by a vague and undefined range of service jobs to augment the retail sector. While there has been some growth, this hope hasn't yet been fully realized. And, ultimately, many of these jobs don't pay as well as the ones that are being lost.

In January 2010 our trade deficit for the month was \$37.3 billion; \$27.5 billion of that was money we sent overseas to import oil. Put another way, three-quarters of our trade deficit is foreign oil. When the recession hit, and consumers withdrew from the marketplace, our naiveté in believing we could continue to churn dollars by handling and moving goods which were created elsewhere became painfully exposed.

We now understand that we need to protect every job in every sector from moving off shore, because it is quite likely that job will never come back, and another American will move to the U3 then the U6 index for an extended period of time.

The challenge facing us now, is to help develop new industries and new sectors which will produce jobs which cannot be, as the current phrase puts it, "off-shored." I believe, as do many, that the environmental and energy sectors are places where new long-term jobs, which cannot be

“off-shored,” can be created relatively quickly and for the long-term benefit of the nation – environmentally *and* economically.

Robert F. Kennedy, Jr. (with whom I co-hosted a briefing for House staff on energy imports last year) has been a leading voice in this area for many years. He has distilled the argument to its basic premise: “Good economic policy is identical to good environmental policy.”

China and other countries have followed Mr. Kennedy’s words closely and have made major investments in renewable energy and a workforce and infrastructure to support it. Sadly, we’re the ones falling behind.

As Kennedy has said on many occasions, jobs created to design, construct, and maintain a 21<sup>st</sup> century electric transmission grid cannot be off-shored. Those jobs will be created here and will remain here, because a transmission line in Michigan cannot be maintained by an offshore worker at a phone center thousands of miles away.

Similarly, jobs created to upgrade America’s natural gas pipeline system will be American jobs that stay in America. Jobs created to design, build, and maintain natural gas vehicles (NGVs) in America will not only stay in America, but may well *move to* America – a concept and goal we do not discuss nearly often enough.

We must be careful to avoid picking winners and losers in the fuels sector. As I have been saying since I introduced The Pickens Plan, “I’m for anything American” whether it be wind, coal, solar, hydro, nuclear, geo-thermal, ethanol, propane, or natural gas. Last year, Congress took an important step by extending and expanding tax credits for wind and solar as part of the stimulus package.

The recent announcement by President Obama to open certain off-shore areas to drilling is a welcomed sign to many; but in the grand sweep of transportation, even if the estimates of the amount of recoverable oil are correct, the American Petroleum Institute estimated it would “power 2.4 million cars for 60 years.” However, we have 250 million cars, light trucks and SUVs in America’s fleet, plus another eight million heavy trucks, so we will be adding only about five years to our national gasoline and diesel supplies. It is also useful to remember that

the five-year extension would not begin until about 10 years *after* exploration begins, so this is no quick fix.

Secretary of Energy, Dr. Stephen Chu has been promoting the growth of nuclear power plants to provide the electricity necessary to fuel the tens of millions of electric cars he expects on U.S. highways in the next 15-20 years. Nuclear provides approximately 20 percent of our current electric needs and, as we are all aware, produces no greenhouse gases when operating. However the issue of spent fuel disposal remains unresolved and the cost of dismantling a nuclear plant that has been taken out of service can be an order of magnitude more expensive than what it cost to build it in the first place.

Wind and solar energy are largely priced against natural gas because in the production of power, natural gas has traditionally been a "peaking" fuel. That is, when a coal, or nuclear powered plant cannot produce enough electricity on a hot August afternoon, natural gas powered plants can be fired up very quickly to handle the peak load; then simply turned off when the crisis has passed. Overall natural gas produces about the same percentage of electricity in the United States as nuclear.

Because natural gas has traditionally been the most expensive of the major electricity fuels, it has been used sparingly and is the basis for pricing electricity from wind or solar. This equation is changing because of the enormous amounts of natural gas that are now economically recoverable from the shale formations in North America due to the technological advances in drilling techniques.

In the recent past, natural gas was considered to be a declining resource which needed to be protected so that there was sufficient material to be a peaking fuel for power generation, a heating and cooking fuel, and as feed stock for the chemical and pharmaceutical industries.

Eighteen months ago the Potential Gas Committee, in conjunction with the Colorado School of Mines, issued its biennial report suggesting that including shale, America's natural gas reserves were now sufficient to serve our needs for the next 100 years which took a great deal of pressure off the need to husband its use.

Then, more recently, a J.P. Morgan study (including Canada) projected reserves of 8,000 trillion cubic feet (Tcf). Even if only half of that in-place gas is commercially viable for recovery, that more than doubles the reserve life of our domestic natural gas to over 200 years' supply.

Natural gas is an environmentally friendly fuel – certainly the most environmentally friendly of the fossil fuels. One of the reasons is, the molecular composition of methane is four hydrogen atoms and one carbon atom. When burned as a transportation fuel, the 4-1 hydrogen-to-carbon ratio creates a fraction of the greenhouse gases of gasoline and, unlike diesel exhaust particulate, natural gas particulate is not listed as a known toxic air contaminant.

Natural gas is one of the most widely distributed resources in America. Natural gas lines run up every street and down every alley of nearly every city and town in our nation. Natural gas is safe. Few people would cook over a stove in the kitchen of their home fueled by gasoline, but tens of millions of natural gas ranges are used to safely cook our meals every day indoors.

#### NATURAL GAS AS A TRANSPORTATION FUEL

Using natural gas as a transportation fuel would make a major impact on the job market at home well into the future.

As background, in 2009 the United States imported 4.3 billion barrels of oil at a cost of about a quarter of a trillion dollars. Keep in mind that this was in the depths of the recession. That represented about two-thirds of our oil needs. What was that oil used for? About 70 percent of it was refined into gasoline to power the 250 million-vehicle fleet of cars, light trucks and SUVs which I mentioned above, and diesel fuel was produced to power our heavy-duty trucks, from refuse and delivery trucks to 18-wheelers.

I have been urging – at some significant personal cost – that America take firm steps to reduce our dependence on foreign oil from an economic, environmental, and national security standpoint. For the purposes of the discussion before this Committee today, I would like to focus on the economic issues.

Prior to the availability of the natural gas reserves noted above, it was a complex calculus to figure out how to free up enough natural gas that would otherwise be used as a power-generation fuel, to be made readily available as a transportation fuel.

That is no longer a problem.

Natural gas is the perfect fuel to immediately reduce our dependence on foreign oil and – to the point of this hearing – jumpstart a natural gas vehicle industry in the United States. There are more than 12 million NGVs on the world’s roadways. Only about 130,000 of them are here in the United States for a variety of reasons. Previously discussed availability of natural gas was a principle reason. Traditionally low oil prices were another. A lack of sensitivity to the environmental impact of petroleum-based fuels was a third. And a typical American feeling that “if a crisis emerges we’ll figure out how to fix it; but in the meantime the status quo is working just fine.”

Each of those issues has changed. With the automotive industry growing only in terms of year-over-year figures from the worst year in its history, this is the time to develop a completely new paradigm for our national fleets.

Heavy-duty trucks use approximately one-third of the oil we import as a transportation fuel. And, because heavy-duty trucks either go home to the barn every night or, if they are over-the-road 18-wheelers, they tend to run the same routes on a regular basis. Therefore, the often-cited argument against NGVs: “we don’t have the refueling infrastructure” doesn’t apply.

If Henry Ford had decided not to build the Model-T based upon the availability of gas stations, where would be today?

The number and placement of natural gas refueling facilities – either compressed natural gas or liquefied natural gas – is manageable by the private sector and would be part of the job-creation equation.

Moreover, the construction of factories in the United States to build natural gas engines by U.S. workers, using parts manufactured in the United States, designed by engineers working in the United States, and maintained by mechanics in the United States would have a potentially huge impact on the job situation.

Upgrading America’s natural gas pipeline system would have an impact similar to upgrading the electricity transmission grid: Thousands of skilled workers employed on projects which will provide decades of benefits and which cannot be off-shored.

At the wellhead and at the refueling station, employees will be needed to produce the natural gas, and help get it into the vehicles that will be using it.

Some of these jobs will be replacement positions. But, we are already beginning to see a recovery in truck manufacturing. According to one manufacturer, the prediction for Class 8 truck sales in March 2010 was 8,000 but there were 10,000 sold – a 25 percent increase over projections. If that trend continues, then this is the perfect time to begin building replacement trucks to run on natural gas.

Many communities and installations are offering incentives to owners who replace diesel-powered vehicles with those running on natural gas. The ports of Los Angeles and Long Beach have hundreds of semi-tractors moving trailers from shipside to staging areas before they are moved around the country. In an effort to reduce air pollution, truckers who have invested in NGVs receive priority access in moving loads through the process.

In the San Diego area, refuse and recycling trucks are being transitioned to NGVs. These vehicles are among the least efficient on the roads because they spend most of their day idling, or traveling at walking-speed as they move from house-to-house, but they are both economically practical and remove harmful diesel emissions from their service areas.

More and more municipal transportation authorities are replacing buses that run on diesel to those running on natural gas. The transportation authority in Fort Worth, Texas just celebrated its 20<sup>th</sup> year of its natural gas-power bus fleet.

AT&T, which has one of the largest private fleets in the nation, announced that it is transitioning 15,000 vehicles away from gasoline and diesel to alternative fuels including 8,000 vehicles that will run on natural gas.

Natural gas vehicles are cheaper to operate than their gasoline or diesel-powered counterparts, but because the manufacturing infrastructure is not in place and sales of vehicles are low, the up-front costs are significantly higher. The up-front costs can be addressed by increased sales and achieving economies of scale in manufacturing – which have been done in other areas of the world. Transit buses running on natural gas can cost \$40,000 to \$50,000 more than a comparable diesel bus. An 18-wheeler can cost \$80,000 more. However, because natural gas is

significantly cheaper than gasoline or diesel, and because the maintenance costs are lower, these costs can be recouped over time. For a market in its infancy though, grants and incentives to offset the initial high differential cost are critical to speed market penetration, achieve greater sales to achieve economies of scale in manufacturing, and lead eventually a sustainable market.

A trash truck that uses some 10,000 gallons of fuel per year can recover its up-front additional cost in about four years and its owners can realize a life-cycle savings of up to \$80,000. This in itself is a good value proposition for fleet operators. But with incentives, payback can be shortened to less than a year making the technology and fuel even more attractive – and greatly increasing market penetration.

With the proper incentives, school districts can recoup the cost of school buses in about three years, and step-vans (such as those used for in-town deliveries) can see a payback in under a year-and-a-half and a life-cycle savings of up to \$66,000 per vehicle.

Keep in mind, that for each of those examples, refueling facilities are not an issue because they all return to a central location where they can be refueled and maintained overnight, if necessary.

The technology for NGVs is proven and is off-the-shelf. The fuel for NGVs is now abundant, available, and affordable. The only piece missing is the manufacturing infrastructure to build sufficient numbers of NGVs so the price comes down as efficiencies go up. But we've never let the challenge of infrastructure slow us down before and we shouldn't this time either.

The NAT GAS Act will provide the incentives for fleet owners to begin placing orders for NGVs in large enough numbers so manufactures will be able to ramp up; meaning they will hire the skilled workers to produce the vehicles.

Specifically, over the next five years the NAT GAS Act can help get approximately 236,000 clean natural gas trucks (heavy, medium and light-duty) on America's roads and augment the existing natural gas fueling infrastructure. This alone would help displace approximately 5 percent, or nearly 2 billion gallons, of diesel every year. Equally important, this program can create more than 600,000 direct and indirect jobs. This job count is based on manufacturing the natural gas fuel system hardware for vehicles, manufacturing and installing hardware at fueling stations, and manufacturing and constructing production facilities for liquefied natural gas

(LNG). The numbers are conservative in that they don't count expansion of natural gas infrastructure (wells and pipelines) nor service and maintenance jobs for maintaining fueling infrastructure or vehicles after they are built. The 600,000 jobs is about the same as the number of temporary jobs being created for the 2010 census – so this is the equivalent of hiring enough people for a decennial census every year.

Thinking about it another way, these jobs can be calculated simply:

- 141,000 Heavy Duty vehicles displace 2.035 billion gallons per year of foreign petroleum
- Each Class 8 truck put on the road creates 6 jobs
- Each Class 7 truck put on the road creates 3 jobs
- Each Class 5 & 6 truck put on the road creates 1.5 jobs
- In terms of foreign petroleum reduction, that translates to 3,328 gallons displaced per job

Development of fueling infrastructure is critical to having vehicles on the road. There are currently more than 1,100 natural gas fueling stations throughout the U.S. In California, there are more than 400 natural gas fuel stations with about 170 of those allowing public access for fleets and consumers – principally located in southern California and the San Francisco Bay area. The NAT GAS Act assumes market development and expansion in areas that already have natural gas fueling stations as well as expansion of station networks in new metropolitan areas. The planning cycle to design and construct natural gas fueling stations is about as long as the planning cycle to purchase and deploy fleet vehicles. The NGV industry envisions that fleet planning for both vehicles and fueling will take place simultaneously. The NGV industry also envisions deployment of critical masses of vehicles in areas where existing and new fueling stations can accommodate the vehicles. California's model for NGV deployment has shown that 30-50 strategically located stations in large metropolitan areas can sufficiently fuel more vehicles than contemplated under the five year scenario. These 30-50 stations are only the initial phase of developing the more extensive fueling infrastructure needed for broad expansion of NGVs and expansion of the market to consumers. The California model can easily be replicated in other metropolitan areas.

There is a similar deployment model for the trucking industry that will allow the growth of natural gas for the trucking good movement sector and eventually allow coast-to-coast transport

of goods from ports and manufacturing centers to markets. Under this model, stations can be built every 250-300 miles along significant trucking corridors. These stations will dispense both liquefied natural gas (LNG) for “18 wheelers” and compressed natural gas (CNG) for region-to-region of smaller trucks and consumer vehicles.

Among the most important data points for the NAT GAS Act is that its support is wide, deep and bipartisan. With more than 140 cosponsors in the House of Representatives, and Senate Majority Leader Harry Reid cosponsoring the Senate version, the NAT GAS Act is the kind of bill that every Member of Congress can get behind.

Recently the Western Governors’ Association (WGA), one of the most influential organizations on the American political landscape, wrote to Congress urging it to legislate incentives for development and use of natural gas vehicles (NGVs) as well as the requisite infrastructure NGVs require. Writing on behalf of the governors of 19 states and 3 US-Flag Pacific Islands, the WGA’s chairman and vice chairman, Montana Governor Brian Schweitzer and Idaho Governor C.L. “Butch” Otter, urged swift action on pending legislation, saying “The Western Governors’ Association supports the important goals of putting Americans back to work, improving the economy, protecting the environment, and helping our nation reduce its dependence on foreign oil. As a result, we ask that you include provisions to incentivize the use and development of natural gas vehicles (NGVs) and NGV infrastructure in legislation to be considered by Congress this session.”

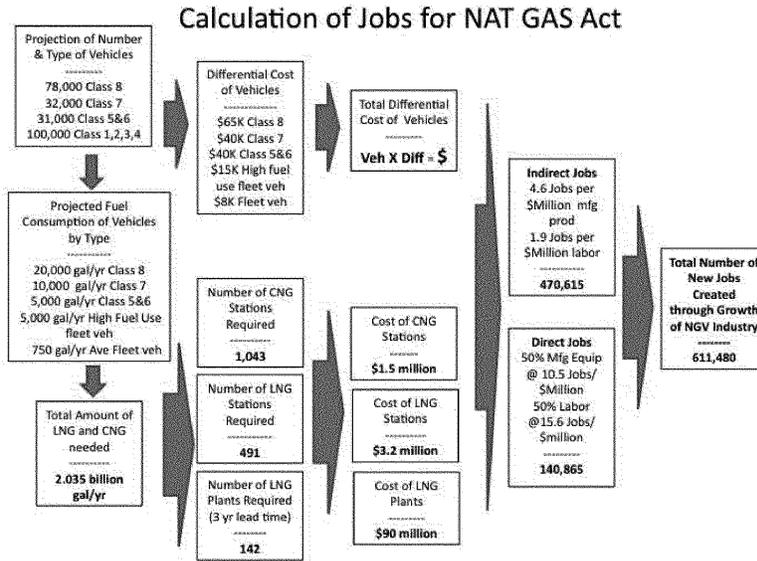
Other businesses of all sizes have thrown in their support, too. I can provide copies of letters from a variety of fleet and vehicle companies and municipalities, including engine manufacturer Cummins Westport, the Pepsi Bottling Group, Swift Trucking and the Metropolitan Atlanta Rapid Transit Authority (MARTA) that all support the passage of the NAT GAS Act.

Natural gas is an excellent example of how we can create green jobs – not just as a public works effort – but as a commercially viable, long-term enterprise which will reduce our dependence on foreign oil, add permanent high-paying jobs to the American roster, and which will allow the United States to claim its rightful place in doing the right thing to improve the global environment.

As Americans we have to look at green jobs and a green economy, not as a “feel-good” effort but as a global war to protect American jobs. Without going on a war footing and utilizing our enormous domestic energy resources we are effectively trying to fight a war without using any guns. That is an unsustainable position. We have the troops to win this war. If we could, we would use the United States Marines; but we have the next best force: America’s truckers.

As a nation, we’ve always risen to the challenge to do what’s best for America. Investing in our own infrastructure, curbing our addiction to foreign oil and supercharging our workforce will benefit every American for generations to come.

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Chairman LEVIN. Thank you very much.  
Mr. Abate.

**STATEMENT OF VICTOR ABATE, VICE PRESIDENT OF  
RENEWABLES, GENERAL ELECTRIC**

Mr. ABATE. Mr. Chairman and Members of the Committee, I am Vic Abate, the Vice President of Renewables at GE Energy, and thank you for the opportunity to testify before you today.

On behalf of GE, I would like to commend the Committee for its productive, pro-active positive steps over the past 5 years, and especially those taken at the height of the recent financial crisis.

The Energy Improvement and Extension Act of 2008 and the American Recovery and Reinvestment Act of 2009 made crucial tax

policy changes that avoided a forecast 50-percent decline in wind installations and related jobs and resulted in a surprising record year of more than 10,000 megawatts of new capacity added to the U.S. grid in 2009.

GE has been a significant contributor to this growth, since nearly one out of every two wind turbines installed in the U.S. is a GE wind turbine. Our \$6 billion wind business supports over 7,000 direct and supplier jobs in 30 states. This is more than a twofold increase from 2005 and has been driven by supportive renewable energy tax policies.

For example, two of our key suppliers, TPI Composites, a blade supplier in Iowa, and DMI, a tower supplier in North Dakota, are utilizing the advanced manufacturing tax credit program created in the Recovery Act to increase their capabilities to meet our growing demand.

Sustained tax support for wind has also helped increase U.S. domestic content from about 20 percent in 2005 to 50 percent for projects that were created in 2009. This was done while quadrupling production. This equates to an eight-fold increase in U.S. made wind components since 2005.

The Energy Improvement and Extension Act and the Recovery Act include significant tax incentives for combined heat and power, energy efficient components, manufacturing and smart grid deployment.

Another example of how these tax credits have worked can be seen at one of GE's appliances facilities. GE's Bloomington, Indiana refrigerator plant was slated to close in January of this year, potentially eliminating 547 full time jobs. Instead, the plant remains open today to produce high efficient refrigerators.

Over the past 5 years, tax credits have been very effective by adapting to a changing environment.

The environment going forward for green energy deployment will be especially challenging. The demand for wind generation to meet standards at the state level is down. Electricity demand is down. Natural gas prices are down. As a result, our wind customers are finding it extremely difficult to sign purchase power agreements with utilities at levels that can support project economics.

The challenges facing developers have flowed down to the turbine manufacturers who have seen new turbine orders decline significantly from the pre-crisis levels.

In this environment, the convertible tax credit is critical to stabilizing wind production for the next few years.

The section 1603 program of the Recovery Act is available through 2012 for wind installations, so long as construction begins no later than this year. Treasury guidance requires a detailed tracking system to satisfy the 5 percent safe harbor provision.

For a manufacturer that is mass producing 3,000 units a year, this represents a tremendous tracking challenge.

Without a legislative solution, we can see a 50 percent drop in wind installations in 2011 and 2012.

In the spirit of continued green energy tax policy innovation, I have included in my written testimony policy changes that the Committee may wish to consider, and that can have an immediate

impact on green energy growth, U.S. manufacturing, and job creation.

Some of these are simply the safe harbor requirement in section 1603, making available an additional \$5 billion in advance manufacturing tax credits, extending the manufacturing tax credit for energy efficient appliances, and creating a 30 percent ITC for highly efficient combined heat and power projects.

The ability of the U.S. to keep up in the global race for leadership in green energy investment, manufacturing and job creation is tied to our ability to be innovative with our tax and other energy policies.

We appreciate the opportunity to share some of our ideas with the Committee, and thank you for your time.

[The prepared statement of Mr. Abate follows:]

**Prepared Statement of Victor Abate,  
Vice President of Renewables GE Electric**

**U.S. House of Representatives  
Committee on Ways and Means**

**Hearing on  
"Energy Tax Incentives Driving the Green Job Economy"**

**April 14, 2010**

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**Written Testimony of  
Victor Abate  
Vice President, Renewable Energy  
GE Energy**

Mr. Chairman and members of the Committee, I am Victor Abate, Vice President of Renewables at GE Energy. Thank you for the opportunity to testify before you today on the critical role that energy tax policy has played and will continue to play in driving the growth of the US renewable energy industry and expansion of the clean energy economy and related jobs.

On behalf of GE, I would like to commend the committee for its proactive, positive steps over the past five years, and especially those taken at the height of last year's financial crisis. These steps helped give the renewable energy industry the confidence necessary to continue investing for the future.

These supportive policies have had an undeniably positive effect on the industry. In fact, in 2008 the US became the leading global installer of renewable energy technologies. However, there remains a strong and urgent need for continued, innovative tax policy related to renewable energy and energy efficiency, especially in the absence of climate change legislation or the enactment of federal renewable or clean energy standards. I am hopeful that the Committee will once again demonstrate its leadership and act to maintain and build on the momentum created within the clean energy sector.

GE Energy is a technology leader with more than 100 years of industry experience. Our global team of 85,000 employees operates in more than 140 countries. GE Energy's businesses offer a diverse portfolio of products and services including fossil power generation, gasification,

In this spirit of continued innovation in green energy tax policy, below are some changes that the Committee may wish to consider and that can have immediate, significant impacts on US industry growth, manufacturing, and job creation:

- Simplify the “safe harbor” requirement in Section 1603 by replacing the “commence construction” requirement with the requirement that the “convertible tax credit” applicant enter into a binding contract with a non-refundable down payment by December 31, 2010 to qualify for projects that go into operation in 2011-2012.
  - A possible alternative to simplifying the “safe harbor” requirement would be a “refundable” tax credit similar to that outlined in HR 4599 as introduced by Representative Blumenauer and others on this Committee.
- Extend bonus depreciation for renewable electricity.
- Amend the Section 199 domestic manufacturing deduction to exclude from its scope electricity generated from renewable energy assets.
- Make available an additional \$5B in advanced manufacturing tax credits, as proposed by the Administration.
- Extend the manufacturing tax credit for energy-efficient appliances.
- Remove the 50-MW cap for the CHP ITC and expand its applicability to the first 25 MW of any project, as specified in HR 4144 as introduced by Representative Inslee.
- Create a 30% ITC for highly efficient CHP and recycled energy projects, as specified in HR 4751 as introduced by Representative Tonko.
- Shorten the depreciable tax lives for smart meters to 5 years, and broaden the list of eligible technologies.

The ability of the US to keep up in the global race for leadership in green energy investment, manufacturing, and job creation is tied to our ability to be innovative with our tax and other energy policies. We appreciate the opportunity to share some of our ideas with the Committee. Thank you for your time.

nuclear, oil & gas, water, transmission, smart meters, energy-efficient appliances, and renewable energy technologies such as wind, solar, and biomass.

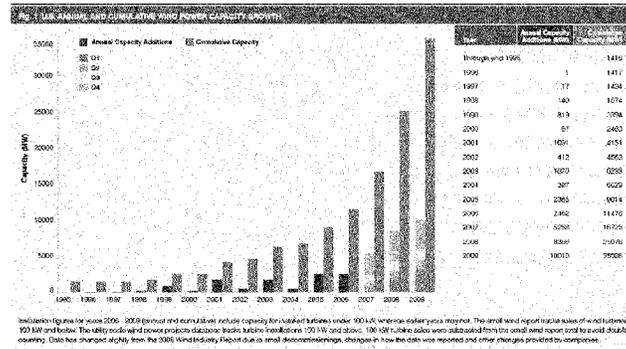
Today my testimony will focus on three themes:

- The critical role that tax incentives have played in the growth of renewable energy and energy efficiency in the US;
- Current challenges facing green energy in the US; and
- Possible tax policies to address these challenges.

Energy tax policy's impact on renewable energy

In 2008, the US surpassed Germany as the country with the largest installed capacity of wind power. Much of this can be attributed to the Renewable Energy Production Tax Credit (PTC) (Section 45). First created in 1992, the PTC went through several boom-bust cycles, expiring at the end of 1999, 2001 and 2003. But since 2004, the credit has been extended five times (in 2004, 2005, 2006, 2008, and 2009) without expiring, resulting in an average annual growth rate of 39% from 2005-09. (See Figure 1.)

Figure 1

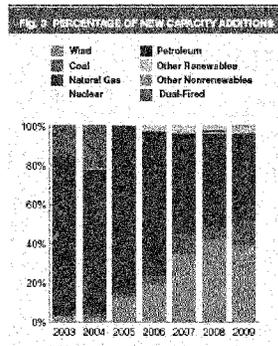


Source: AWEA.

The Energy Improvement and Extension Act (EIEA) of 2008 extended the PTC through 2009. The American Recovery and Reinvestment Act (ARRA) of 2009 extended the PTC through 2012; created the option to use a 30% Investment Tax Credit (ITC); and established a 30% ITC for advanced energy manufacturing. ARRA also made a crucial change to address the fact that the credit crisis of 2008 reduced the usability of tax credits to finance projects. Section 1603 of the Act made the tax credit “convertible,” so that developers could receive payments equal to the value of the ITC. This was a critical step in enabling renewable energy projects to be financed through the economic downturn.

These tax policy changes had a profound and immediate impact on wind industry installations, preserving jobs in 2009. In late 2008 analysts forecasted that, without tax policy changes, the renewable energy industry would see a 50% decline in installations and related jobs. Instead, with ARRA policies put in place, 2009 saw a record year of 10 GW wind installations, according to the American Wind Energy Association.<sup>1</sup> Wind accounted for 39 percent of all new electric generating capacity in 2009, second only to natural gas. (See Figure 2.) The US is currently the global leader in installed wind capacity, with over 35 gigawatts.

Figure 2



Source: AWEA.

<sup>1</sup> American Wind Energy Association (AWEA). 2009 Market Report. April 8, 2010.

The convertible tax credit, together with bonus depreciation provisions that expired at end 2009, played a central role in this record growth. Our analysis of government reports through March 2010 indicates that 50 wind projects, totaling over 4 GW in 25 states, have now qualified for convertible tax credits. Twelve of these projects, accounting for roughly 1 gigawatt, are utilizing GE wind turbines that were assembled in our facilities in Greenville, SC; Pensacola, FL; and Tehachapi, CA.

As a result of this growth, the industry was able to maintain its employment level of 85,000 American jobs in 2009. Wind jobs now exist in every US state. (See Figures 3-4.)

Figure 3

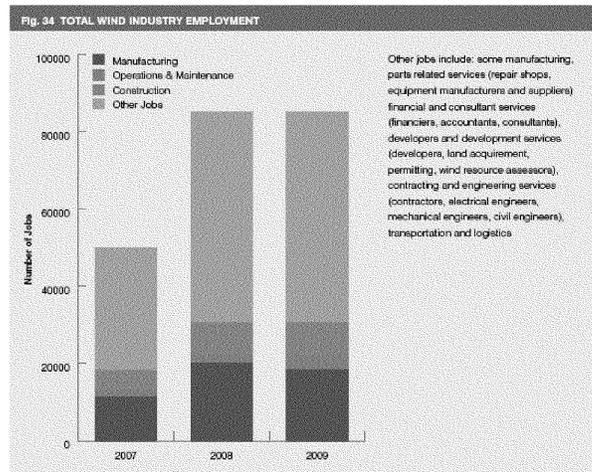
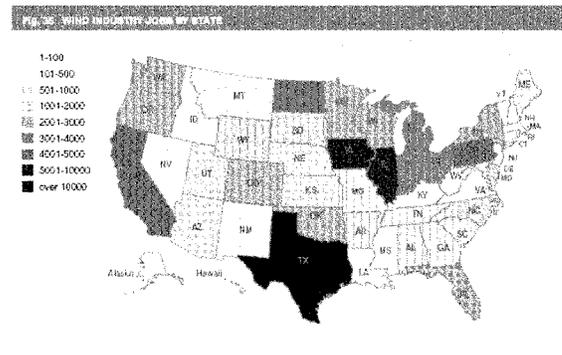


Figure 4



Source: AWEA.

Sustained tax policy support for wind has also helped increase US manufacturing and domestic content. Since 2005, over 100 wind manufacturing facilities have been added, announced, or expanded. The domestic content of wind turbines installed in the US has increased from 20-25% for projects installed in 2005 to 50% for projects installed in 2009—a period during which output quadrupled from 2.5 GW to 10 GW, according to AWEA. This means that the wind industry has increased US domestic manufacturing eight-fold since 2005.

GE has played a leading role in US wind growth, accounting for almost one of every two turbines installed. Our GE 1.5 MW turbine is the world's most widely-used platform, with 13,000 deployed globally. Since entering the wind industry in 2002, GE has invested over \$1B in technology, increased its wind turbine production 6-fold, and tripled its US wind turbine assembly sites, resulting in over 4,000 direct wind-related jobs in 30 states. These include manufacturing and engineering jobs in Pensacola, FL; Greenville, SC; Tehachapi, CA and Roanoke, VA; and professional jobs at our headquarters in Schenectady, NY, which recently added 650 jobs in Wind Engineering, Project Management, and Services. We have several hundred field service jobs performing on-

site work in 27 states, and scientists at our Global Research Facility in Niskayuna, NY. GE's new \$100M R&D facility near Detroit, Michigan, which was announced in June 2009 and is forecast to support 1,200 jobs, will employ researchers focused on advanced wind manufacturing techniques.

GE has also tripled the number of its wind suppliers and through them supports over 3,000 US jobs across 15 states—bringing the total number of US direct jobs related to GE's wind business to more than 7,000. These suppliers provide wind components and subcomponents such as blades, towers, bedplates, nacelles, gearboxes, generators, pitch and yaw bearings, hub castings, and cables. Several of our wind suppliers, including TPI Composites and DMI, have received awards under the Manufacturing ITC.

#### Energy tax policy's impact on energy efficiency

In today's highly competitive economy many companies have turned to energy efficiency to help sustain their growth. The EIEA of 2008 extended and increased the energy efficiency requirements to qualify for manufacturing tax credits. By increasing the production of super-efficient appliances, Congress sought to reduce energy use by U.S. households—residential energy accounts for over 25% of total U.S. energy consumption—while increasing green manufacturing jobs.

These manufacturing tax credits helped GE and other appliance manufacturers deliver on both objectives. The most recent industry data show that between 2005 and 2008, the efficiency of the products targeted in the EIEA—refrigerators, clothes washers and dishwashers—increased by 15-30%. The tax credits have also preserved existing jobs and created new ones. GE's Bloomington, Indiana refrigerator plant was slated to close in January of this year, potentially eliminating 547 full time jobs. Instead, the plant remains open today to produce qualifying refrigerators. Some previously laid-off employees have been recalled and more recalls are planned. In total, the energy-efficient appliance tax credits have made more than 5,000 GE U.S. appliance-manufacturing jobs more secure. However, the future of new and potential U.S. appliance manufacturing plants is unclear, as the tax credits are scheduled to expire at the end of this year.

Another tool to promote and encourage energy efficiency is the Investment Tax Credit (ITC) to support Combined Heat and Power (CHP) projects. CHP is the simultaneous generation of electricity and useful thermal energy, at or near the point of use. By capturing heat that otherwise would be wasted, CHP systems are highly efficient and generate significant reductions in CO<sub>2</sub> and other emissions in comparison to systems where the heat and electricity are purchased separately off the grid. One example is a paper mill using a gas turbine to generate sufficient electricity for its operations, while utilizing the excess heat off that turbine to generate steam for industrial needs. Another example is a tomato greenhouse with a gas reciprocating gas engine which powers lights and heats and cools the greenhouse while fertilizing the tomatoes with the CO<sub>2</sub> from the exhaust, enabling a year-round growing season at a low operating cost. Congress recently enacted an ITC for CHP, but it is limited to a 10% credit for the first 15 megawatts of projects up to 50 megawatts in size. Due to these limitations, the ITC has not resulted in substantial new deployments of CHP systems.

Tax policy has also played a critical role in deployment of "smart grid" technologies. Electric meters and other grid technologies have historically evolved at a very slow pace, resulting in depreciation rates of up to 20 years or longer. The EIEA of 2008 helped spur deployment of the smart grid by shortening the depreciable tax lives for smart meters and other technologies from 20 years to 10 years, helping to mitigate the risk of stranded assets and offset a portion of the higher costs associated.

#### Challenges facing green energy

As these examples show, the ability to adjust and refine energy tax policies is critical to their effectiveness. The current challenges facing wind illustrate this issue further. Over the past five years, tax credits proved effective in a favorable environment of ample State RPS-driven demand, high natural gas prices driving attractive PPA prices, robust electricity demand growth, and availability of low-cost financing. In this environment, utilities facing State RPS requirements "went long" on wind, which led to the boom period of 2006-09.

Today the environment is radically different. The rapid increase of wind turbine installations has satisfied much of State RPS near-term demand; electricity demand is down; gas prices are down, resulting in very low and unattractive PPA prices; and, as an outgrowth of the financial crisis, project financing has become more expensive. As a result, our wind customers are finding it extremely difficult to sign power purchase agreements with utilities at levels that can support their project economics. An investment firm recently argued that "PPA demand will deteriorate significantly in 2010," citing these and other factors: reduced state RPS demand; uncertain national RPS and carbon policy; increased utility rate-basing of wind projects; slower growth in US electricity demand; reduced competitiveness with conventional power; and concerns over grid integration.<sup>2</sup> The challenges facing project developers have flowed down to turbine manufacturers, who have seen orders decline to approximately 30% of 2007-08 levels.

With developers expected to see continued PPA price pressure over the next few years, they will require all available tax policy incentives to make their projects financially viable, including the convertible tax credit. The Section 1603 program is available through 2012 for wind installations, so long as construction begins no later than this year. Treasury guidance provides a 5% "safe harbor" for determining the start of construction. For the turbine supplier to support the developer in satisfying this requirement, it appears that the supplier must be able to trace the specific turbine activities that relate to the specific developer's contract and aggregate to 5% of the project cost.

This is a reasonable requirement for a product that has limited production and is specifically designed for each project. However, wind turbines are a mass-produced product: GE alone manufactured approximately 3,000 in 2009, with 95% of the components interchangeable among contracts using the same turbine model. Therefore, turbine suppliers negotiate large blanket purchase orders with component suppliers eighteen months or more prior to turbine shipment, but only identify the component to a specific contract about two weeks prior to shipment. This makes documenting compliance with the 5% safe harbor difficult. Without a modification to this provision, it is likely that the safe harbor will not be available and

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<sup>2</sup> Macquarie Equity Research. *Wind Farmers: The Struggle for PPAs*. March 9, 2010.

annual wind installations for the next 3 years will fall to 50% or less of 2009 installation levels.

Toward a new green energy tax policy

Over the past decade, Congress has been responsive and creative in developing tax policies to support green energy—and in adapting these policies to new realities. Just as the 2008 “credit crunch” environment forced Congress to innovate and adjust tax incentives, today’s “PPA pressure” environment calls for policymakers to take a fresh look at its current energy tax policy.

GE believes that, in order to sustain long-term development of green energy projects, manufacturing, and jobs, the US must establish a price on carbon and provide demand certainty by setting national standards for energy efficiency and renewable/clean energy. However, we also recognize that these policies—if and when they are enacted—will not take effect overnight. This means that energy tax policy will continue to play an important role in determining the direction that the US takes with respect to green energy.

It is critical to recognize that the US is falling behind in the race to deploy green energy. China, which led the world with 14 GW wind added in 2009, has set a long-term target of 100 GW wind by 2020 and considering an increase to 150 GW. The EU has a binding Directive of 20% renewable energy by 2020, which is expected to drive over 170 GW of new wind capacity. Without a similar long-term policy, the US can be expected to “place third” in the near future.

For a variety of reasons, US energy tax policies for green energy have been deliberately structured for the short-term. We believe that it is necessary to rethink this approach if the US is to remain a global leader for renewable energy and energy efficiency and a leading creator of green energy jobs. Without immediate near term policy changes, the US green energy manufacturing base will retrench, resulting in the US becoming a major importer of renewable and energy efficient technologies when federal renewable/clean energy policy or climate change policy is enacted.

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Chairman LEVIN. Thank you.  
Dr. Sachs.

**STATEMENT OF JEFFREY SACHS, PH.D., DIRECTOR, THE  
EARTH INSTITUTE, COLUMBIA UNIVERSITY**

Mr. SACHS. Mr. Chairman and Members of the Committee, thank you for the opportunity to be here with you. This is an unusually complicated topic because we do not have one objective here, we have at least three fundamental American objectives here.

The first is energy security. Second is U.S. technological leadership, and the third is a low carbon economy.

If we do not aim for all three of these, we are not achieving any kind of real solution for this country, and many of the solutions

that you hear and that are proposed are solutions for one or solutions for the other of these, but they do not reach the full range of the three core solutions that we are going to need.

Let me also say while job creation is obviously part of this, the way to understand job creation in this is that a sound energy policy will make a sound economy. The direct jobs at stake are very small relative to the size of the economy, but energy is fundamental for the health of the economy and fundamental for our competitiveness.

If we do not have plentiful energy, if we do not have secure energy, if we do not have environmentally safe energy, we will have devastation for tens of millions of jobs.

This is not in my opinion principally about creating jobs for the individuals who sell wind turbines, with all respect. I love GE but that is not where the big issue of employment comes from. The big issue is whether we have a sound energy policy in this country that allows for our economy to grow and to create plentiful jobs.

Fortunately, the United States has many alternatives right now, and arithmetic is extremely important here because the alternatives must be large scale to be meaningful. There are a hundred ways to produce energy, but there are only a few ways that count for an economy that is the size of the U.S. economy and in the context of the world economy.

Those include large scale deployment of solar and wind power, the revival of the nuclear industry, the safe deployment of large scale natural gas deposits that have been found, and major technological changes, for example, the transition to electric vehicles and the flexibility that would allow to our energy system.

These technology options are extremely exciting. They each involve 10 to 20 year national efforts. They are not something that can be accomplished from 1 year to the next. This, I think, is extremely important to note.

I will not describe these individual options although one can mention and probably I should mention very quickly, in scalability, solar, wind, nuclear carbon capture and sequestration, something we have talked about for a decade but have not really done almost anything on, conversion to electric vehicles, and energy efficiency in a variety of ways, smart building, smart grids, smart machinery.

I do not believe, by the way, that biofuels passes this test. Certainly not the first generation biofuels which are ecologically and from a food supply relatively a disaster. They just do not pass muster when one looks either at any aspect of it, carbon, ecology, food price impacts and all the rest.

These large scale technological transformations are not easy to achieve because they are a mix of market incentives and many other things. They are the development of pre-commercial technologies, complementarities of public infrastructure and private investment.

We have a very unclear regulatory framework on nuclear, very unclear on carbon capture, very unclear on large scale grid issues. We have very unclear public acceptance and we completely lack a road map.

I want to agree with what Mr. Pickens said. We have absolutely no plan right now. I listened to the Administration. There are 100

good ideas, but there is no plan. This, I think, is the most damaging part for our country, that we do not have a framework that comes close to getting this right.

What is a plan? In my view, it is a clear national commitment with targets and time tables, public funding of R&D for pre-commercial technologies guided by a long term strategy, public funding for pre-commercial demonstration projects, such as electrical vehicle deployment.

In targeted cities, carbon capture and storage, long distance transmission grids. Long term tax and other market incentives for targeted energy systems.

I would strongly urge that this Committee urge, even insist, that the President and the Administration set forth for the first time an overall strategy designed to meet the three goals of energy security, technological leadership and transition to a low carbon economy.

Within that, it would be possible to identify strategies in each of these respective areas.

I think at this point, Mr. Chairman and Members of the Committee, we just do not know the net effect of our policies right now. We do not have in almost any major area of technology a clear road map, and we are paralyzed.

We have been paralyzed in many of these areas for more than a decade, and we will not get out of the paralysis until we have a plan, and that, I think, within that framework, then the tax policy will find a natural role because it is extremely important at a number of places.

We are nibbling around the edges right now without a real national strategy and we are not making the large scale technological transformation that we need to do the arithmetic right for our country.

With all respect, if you look at the arithmetic, how much energy we use, what it means for China to be doubling every 8 to 10 years in size, today's article about China becoming a major coal importer, what all of this really adds up to for our security in the next 20 years, we have not gotten started yet frankly on organizing a proper scaled, significant 10 year effort of an integrated strategy.

Thank you very much.

[The prepared statement of Mr. Sachs follows:]

**Prepared Statement of Jeffrey Sachs, Ph.D.,  
Director, The Earth Institute, Columbia University**

**Committee on Ways and Means**

**Hearing on Energy Tax Incentives and the Green Job Economy**

**Professor Jeffrey D. Sachs  
Director of the Earth Institute  
Columbia University**

**April 14, 2010**

US Energy policy should aim for three simultaneous goals: **energy security** for the US, **technological leadership** in cutting-edge energy systems, and the efficient transition to a **low-carbon economy**. A sound energy policy must pass all three tests. Otherwise, we will spend tremendous effort and find ourselves once again in crisis.

A sound energy policy will create jobs and lots of them, but mainly on a time horizon of a decade, not of months. We should view energy policy as one key to full employment, with significant impacts being felt over a three-to-five year period and continuing to rise throughout the coming decade. Energy policy will not solve the short-term jobs crisis over the next 18-24. Yet unless we have a sound energy policy, the short-term jobs crisis will become a long-term jobs crisis.

Energy security means safe and assured access to plentiful energy at reasonable prices. Our current policies do not ensure this. The world market for petroleum is tight and likely to get much tighter over time, as China, India, and other emerging markets continue to achieve rapid economic growth with rapid increases in automobile ownership and other demands for petroleum. The scramble for oil resources in the Middle East will threaten continued instability and conflict. The simple arithmetic of offshore oil shows that even in the most optimistic scenarios,

America's offshore oil hardly registers in significance when compared to the increases in world demand. The US will therefore face steeply rising prices to meet our energy needs unless we take steps to alter our production and use of energy resources.

Fortunately, the US has many large-scale alternatives, including large-scale deployment of solar and wind power, and a revival of the nuclear industry. The recent discoveries of significant natural gas deposits are also promising, but potentially pose severe environmental challenges unless properly developed and deployed. A major shift to any alternative energy source will require a time horizon of twenty years and a consistent public policy, backed by public support. Any alternative energy sources should meet the three tests of security, technology, and low carbon.

The technological options are very exciting, and can potentially transform not only the United States but in fact the entire world economy to sustainability and increased prosperity. The key is to develop new technologies to harness alternative energy sources, and to deploy energy in new ways, for example by transforming automobiles from the internal combustion engine to electric vehicles. At least five major areas of technological change are paramount.

Large-scale solar and wind power. The US has vast untapped solar and wind resources that require various technological advances to bring to full utilization. There are important improvements possible in power generation, energy storage, and energy transmission, all of which will significantly lower costs and improve reliability.

Nuclear power. Nuclear power must remain a significant option for the United States because it offers the prospect of safe and plentiful energy assuming that the challenges of waste storage and security of facilities are properly addressed. Dozens of countries around the world will scale up their nuclear power industries in the

coming decades. The US should be among them. US leadership can help to develop improved and safer technologies, and to help guide the safe management of a potentially very dangerous industry.

Carbon capture and sequestration. The continued use of fossil fuels is not only inevitable in practice, but also desirable as well to ensure continued economic growth and prosperity. Yet the continued use of fossil fuels without a solution to the carbon problem poses grave threats to US and international security. The most promising option is to develop and deploy systems to capture and sequester carbon dioxide emitted from power plants. The two major technological options are CO<sub>2</sub> capture at the site of the power plant or CO<sub>2</sub> capture directly from the air.

Conversion to electric vehicles. The hundred-year dominance of internal combustion engines is very likely coming to an end, with the major question being which economies will lead in the new electric-vehicle age. EVs offer several enormous advantages: zero-emission vehicles; greater flexibility of fuel choice (to power the grid); smarter cars; and smarter traffic design and overall urban mobility. EVs promise the convergence of three classes of technology: automotive systems, information and communications systems, and energy systems.

Energy efficiency: smart buildings, smart grid, and smart machinery. There are tremendous advances possible in energy efficiency through improved building design, smarter grids, and more efficient appliances. As with vehicles, the gains will come through synergies of systems design, linking power generation, smart grids, and more efficient end-users.

America has the potential to create major new industries around these advanced technologies, drawing upon our engineering strengths, national marketplace, innovative consumers, and deep capital markets. Yet the incentives and strategies are poorly designed. Price signals are only a part of the story. For every major technological system, we face multiple problems:

- Pre-commercial technologies
- Complementarities of public infrastructure and private investments
- Unclear regulatory framework
- Unclear public acceptance
- Lack of a roadmap

The idea that a simple corrective such as cap-and-trade legislation can bring about large-scale technological systems change is mistaken. To bring about the changes that will be needed in any of these areas, much less all of them, requires a far more coherent national strategy than trading of emissions permits. Technological changes of the scale that we must contemplate will require all of the following:

- A clear national commitment with targets and timetables on deployment and emissions reduction
- Public funding of R&D for pre-commercial technologies, guided by a long-term national strategy
- Public funding for pre-commercial demonstration projects, such as for electric vehicle deployment within targeted cities, carbon capture and storage, and long-distance transmission grids
- Long-term tax and other market incentives (e.g. feed-in tariffs) for targeted energy systems

I would strongly urge that the President set forth to the nation an overall energy strategy designed to meet the three goals of energy security, America's technological lead, and transition to a low-carbon economy. Within that overall strategy, separate chapters would deal with solar power, wind power, nuclear power, electric vehicles, energy-efficient buildings, energy-efficient appliances, and smart grids and transmission systems. In each area, the strategy would combine public and private R&D, demonstration projects, public infrastructure, incentive pricing, and

regulatory framework. The core of the strategy will be a framework to 2020, with a clear recognition that the scale of the challenge will require large-scale technological transformation carrying us to mid-century.

Without such guideposts, the US will continue to be paralyzed, as we have been in the past two decades. We will see our technological lead eliminated by China and other competitors, and our auto industry, for example, unable to sustain its current very fragile recovery. We will see jobs disappear under the burden of increasingly inefficient infrastructure and outmoded technologies unable to compete. And we will be unable to provide leadership on the global cooperation needed to reduce greenhouse gas emissions.

For each of the policy chapters, it will be possible to specify a set of milestones to 2015 and 2020. We can envision realistically the minimum levels on new solar power, wind power, electric vehicles, and transmission systems that can be put in place by 2015 and 2020. We can set targets on re-licensing or new licensing of nuclear power plants. We can establish a portfolio of carbon-capture-and-sequestration programs, with targeted goals in scientific and engineering advances.

Regarding the critical role of the Ways and Means Committee, tax policies will be vital in the overall policy framework at several points: R&D incentives; demonstration projects; and especially on pricing and incentives for low-carbon technologies, through feed-in tariffs, tax rebates, and other incentives to consumers. The needed incentives should be long-term, offering predictability in pricing and tax incentives of a decade or more, something that cap-and-trade prices, which fluctuate day to day, are very unlikely to accomplish. If inventors and businesses know that they stand to receive a net benefit of, say, \$30 per ton of CO<sub>2</sub> avoided during the coming decade to 2020, for example through a combination of advantageous feed-in tariffs for low-carbon energy sources coupled with small and rising levies on carbon emissions, the market's supply response of R&D, demonstration projects, and deployment would be dramatically accelerated.

To the extent possible, there should be a roughly level playing field across technological choices, for example, tax and other incentives that offer *roughly* comparable financial incentives per ton of CO<sub>2</sub> emissions avoided. The dream of a completely level playing field is a dream however. Large-scale technological change will require distinctive policies for each sector that will guarantee a certain non-comparability across sectors.

Most importantly, energy policy should be constructed as a decades-long framework, one that can secure our future in the 2020s and beyond, our global technological leadership, and our long-term environmental sustainability. In the past our policies have been haphazard, unsystematic, short-term, and shifting. They have aimed to address problems over a time horizon of months rather than years. The most important step, therefore, is to take a firm hold of the medium-term, and thereby get the job done. This would also have a major ancillary benefit, of enabling the US to lead on global negotiations once again. Our current international stature in this area is dreadfully compromised by our national confusion and indecision on energy policy.

Necessarily, I have not gone into detail on any specific measures or technologies, and of course would be happy to do so in response to specific queries.

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Chairman LEVIN. Thank you very much.  
Dr. Romm.

**STATEMENT OF JOSEPH ROMM, PH.D., SENIOR FELLOW,  
CENTER FOR AMERICAN PROGRESS**

Mr. ROMM. Chairman Levin, Members of the Committee, thank you for inviting me to testify.

I worked in the House as a Science Fellow and I served as Assistant Energy Secretary. My message here and in my book “Straight Up,” is simple, our energy policy is a Ponzi scheme. Michigan and the country face ruin if we do not change it.

Let’s start with oil. Why do the majority of veterans of the Iraq and Afghanistan war support clean energy and climate legislation? Because they know we cannot keep sending \$1 billion a day overseas to buy oil.

In October, Deutsche Bank forecast \$175 a barrel of oil price in 2016. The International Energy Agency’s chief economist said in August bluntly, “We have to leave oil before oil leaves us.”

More domestic production will not solve the problem. President Bush said in 2006 “America is addicted to oil. You do not break your addiction to alcohol by switching from imported beer to domestic.”

Same for our oil addiction. Last year, the Energy Information Administration analyzed opening the entire outer continental shelf to drilling. The result? In 2030, U.S. gasoline prices dropped a

mere three cents a gallon. Three cents a gallon, from opening the entire outer continental shelf to drilling. Not the solution.

In 2005, President Bush said “I will tell you, with \$55 oil, we do not need incentives to the oil and gas companies to explore.” That was \$55 a barrel. Today, we are at \$80 a barrel and rising.

We just do not need those oil incentives, yet last month the Senate passed a tax incentive bill that includes subsidies for completion of oil wells, low sulfur diesel, refined coal facilities, and fuel from coke. Why? Why are we doing this?

Every year, fossil fuel consumption kills over 20,000 Americans from air pollution alone and causes half a million asthma attacks, according to the American Lung Association.

A 2008 study found prenatal exposure to coal burning emissions was associated with significantly lower average developmental scores and reduced motor development for 2 year old children.

Three year old children like my daughter, they do not vote. It is up to us to stop subsidizing harmful fossil fuel pollution.

The worse idea yet is subsidizing coal to liquids. I sat through many liquid coal briefings for the Defense Science Board Taskforce. No independent group has yet found a net societal benefit for making liquid fuel from coal. Any significant production of liquid fuel would use up increasingly scarce water resources. Worse, it would all but guarantee the worse case projections for climate change.

When my brother lost his Mississippi home in Hurricane Katrina, I started talking to the Nation’s top climate scientists. What they told me then is what the scientific literature says now—keeping our current energy policy risks a staggering nine degree Fahrenheit warming and five or more feet of sea level rise by century’s end.

If we did not have any greenhouse gases, the planet would be 60 degrees Fahrenheit cooler. Carbon pollution traps heat. That is why they call it a “greenhouse gas.” Think of it like a blanket. Some people claim that if you keep putting more blankets on, you will not keep warming. They just want us to stay addicted to fossil fuels.

Carbon pollution is also poisoning the oceans, threatening all marine life. As a recent documentary on ocean acidification put it, imagine a world without fish.

Senator Lindsey Graham said in January “The odd thing is you will never have energy independence until you clean up the air, and you will never clean up the air until you price carbon.” He also said “Every day we delay trying to find a price for carbon is a day that China uses to dominate the green economy.”

Our competitors understand the fossil fuel Ponzi scheme. They understand that in the future, we are not talking about a few million clean energy jobs, all jobs are going to be clean energy, or else we are just not going to have a livable climate, and that is why their governments outspend us.

They are trying to corner the market in the technologies that we invented. We invented the modern solar cell. They are dominating the market.

We cannot make an economy just inventing stuff and letting other people deploy and manufacture it. That is not the road to high wage jobs for millions of Americans.

Until we have a carbon price, we need tax incentives for clean energy. The good news is those tax incentives work.

The multi-year tax incentives for clean energy that the Committee supported in 2008 and 2009 helped save the U.S. renewable energy industry during the harsh recession.

They helped increase the share of domestically manufactured wind turbine components in U.S. wind farms from under 30 percent in 2005 to over 50 percent today, an amazing turnaround.

We need to add or extend several incentives, including the section 48(C) clean energy manufacturing tax credits, the cash grant in lieu of investment tax credit, and incentives for energy recycling.

Finally, let me just end by saying the Center for American Progress' Action Fund just released two reports, one on energy taxes and one on natural gas for heavy vehicles that I would like to request you place in the record.

Thank you.

[The prepared statement of Mr. Romm follows:]

**Prepared Statement of Joseph Romm, Ph.D.,  
Senior Fellow Center for American Progress**

Written Testimony of Dr. Joseph Romm  
Senior Fellow, Center for American Progress Action Fund  
Before the Ways and Means Committee of the U.S. House of Representatives  
Hearing on Energy Tax Incentives Driving the Green Job Economy  
April 14, 2010

Good Morning Chairman Levin, Ranking Member Camp, and members of the committee. My name is Dr. Joseph Romm, and I am delighted to address you today about the energy tax code and the clean energy economy. I am a Senior Fellow at the Center for American Progress Action Fund here in Washington DC, where I edit the blog [ClimateProgress.org](http://ClimateProgress.org).

I served as Acting Assistant Secretary at the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy during 1997 and Principal Deputy Assistant Secretary from 1995 through 1998. In that capacity, I helped manage the largest program in the world for working with businesses to develop and use clean energy technologies. I hold a Ph.D. in physics from M.I.T.

I am honored to be given the opportunity to share my findings with you about how many existing provisions of the U.S. tax code directly inhibit the cost-effective commercialization and deployment of clean, homegrown energy, what can be done to remedy this, and how these actions will help jumpstart the U.S. economy and restore out leadership in what will certainly be the biggest job-creating sector of the century.

My new book *Straight Up* delves into the full nature of our current energy crisis problems and its solutions. It explains many of the unintended and uninternalized side effects that our nation's addiction to fossil fuels has on our economy, our national security, and on our environment. All of the findings I will discuss with you today are based on research conducted by me for my book and my blog, or are based on research conducted by my colleagues at the Center for American Progress Action Fund.

In my testimony today, I would like to stress three main points:

**First, strong government action is needed to address our mounting energy challenges.** Our over-reliance on fossil fuels, which harm human health, our billion-dollars-a-day addiction to imported oil, the economic threat posed by peak oil, our declining international competitiveness in energy technologies we invented, and the threat of human-caused climate change present a grave danger to our economy, our national security, and our children's health and well-being. They are caused in large part by our out-of-date, uncoordinated, and counter-productive energy tax policy framework.

**Second, our existing policy framework, including our tax policy, is inadequate to address the challenges we face.** To address these problems, our nation needs to replace our existing patchwork of energy tax incentives with a comprehensive energy strategy -- something we have not had for decades. We urgently need a shrinking cap and a rising price on carbon, which the House passed last year. We also need to eliminate the perverse subsidies hidden in our tax code that perpetuate our energy problems; increase transparency of government spending on energy tax incentives; and make existing tax incentive programs for clean energy more efficient, stable, and forward-looking.

**Third, addressing our problems creates a real economic opportunity.** Addressing our energy and climate problems will create immediate and sustained economic growth, by fostering markets and demand for new technologies and new jobs in new industries; by freeing market forces and reducing uncertainty of our investors thereby unleashing a flow of private-sector capital to tackle our nation's energy challenges; and by catalyzing innovation, our nation's first and greatest competitive advantage.

I will elaborate on each of these core points in the testimony that follows.

**I. NEED FOR ACTION**

The United States sits at a profound crossroads in its energy and economic future.

Continuing the status quo will shackle our infrastructure and our economy for decades to the inexorable rise of volatile imported fuel prices; to outmoded and wasteful methods of production that rob our industries of the ability to compete internationally; and to the increasingly likely prospect of catastrophic climate impacts in a world that is 9-degrees Fahrenheit warmer.

Meanwhile, the path of action will lead us toward economic prosperity and greater international competitiveness by driving demand and growing markets for the technologies of the future here at home; by utilizing America's greatest competitive advantage: innovation; and by avoiding the need to dramatically reshape our society in response to the imminent and severe consequences of unabated human-caused climate change.

As Larry Summers, Director of the National Economic Council, said recently: "Which has a greater danger going forward: that we will, in the name of comprehensive energy policy somehow do too much that will affect energy markets by encouraging efficiency or encouraging exploration, or that we will again miss the opportunity, that we will again not act strongly enough with respect to a gathering storm?"

Here's what we can expect from a continuation of the status quo:

**Cost of Energy to Increase, in part because of peak oil production**

According to the Energy Information Administration's *International Energy Outlook 2008*, world energy consumption is expected to expand by 50 percent from 2005 levels by 2030. This means energy prices will rise uncontrollably as ever-increasing demand outstrips our planet's finite and limited supply. As an example, energy prices rose throughout the Bush administration, and the average family spent over \$1000 more on energy in 2008 than they did in 2001.

In October 2009, Deutsche Bank's report, *The Peak Oil Market: Price dynamics at the end of the oil age*, forecast a \$175 a barrel oil price in 2016. Dr. Fatih Birol, the chief economist at the International Energy Agency (IEA) said in August, "We have to leave oil before oil leaves us." The UK's *Independent* opened its interview of Birol:

Dr. Birol said that the public and many governments appeared to be oblivious to the fact that the oil on which modern civilisation depends is running out far faster than previously predicted and that global production is likely to peak in about 10 years – at least a decade earlier than most governments had estimated.

Similarly, in February 2009, a Merrill Lynch research report warned of steep drops in existing oil production meant that we needed to replace an amount of oil output equal to Saudi Arabia's production every two years.

A March 2009 McKinsey report concluded, "the potential looms for liquids demand growth to outpace supply creating a new spike in oil prices as soon as 2010 to 2013, depending on the depth of the economic downturn."

More domestic production will do nothing to stop oil at \$150 a barrel – and then \$200 a barrel. Last year, the U.S. Energy Information Administration report, "Impact of Limitations on Access to Oil and Natural Gas Resources in the Federal Outer Continental Shelf" analyzed the difference between full offshore drilling (Reference Case) and restriction to offshore drilling (OCS limited case). **In 2020, there is no impact on gasoline prices. In 2030, US gasoline prices would be three cents a gallon lower with full offshore drilling.**

Finally, the peak oil problem is graver than it appears for one simple reason: Replacing oil in the transportation sector requires strong government action two decades before a peak because of the time needed to replace vehicles and fuel infrastructure. That was the conclusion of a major study funded by the Bush Administration's Department of Energy in 2005 on "Peaking of World Oil Production." The report notes:

The world has never faced a problem like this. Without massive mitigation more than a decade before the fact, the problem will be pervasive and will not be temporary. Previous energy transitions (wood to coal and coal to oil) were gradual and evolutionary; oil peaking will be abrupt and revolutionary.

**Fossil fuel dependence threatens our economic security**

- The volatility of the oil market during the last 30 years has cost the U.S. economy approximately \$8 trillion.
- The United States currently imports approximately 70% of its oil. In doing so, we export tremendous domestic wealth—the United States spent \$475 billion on foreign oil in 2008 alone.

**Fossil fuel dependence also threatens our national security**

- Because nearly 40% of our oil imports come from potentially hostile or unstable regimes, and 92% of conventional oil reserves are in these nations, U.S. dependence on oil weakens our international leverage and undermines our foreign policy objectives.
- Inefficient use and overreliance on oil burdens the military, undermines combat effectiveness, and exacts a huge price tag—in dollars and lives.
- Our energy grid's inefficiencies and inadequacies pose a threat to our domestic military installations and their critical infrastructure, which are unnecessarily vulnerable to deliberate or accidental incident.

**Fossil fuel dependence harms our health and that of our children**

The U.S. National Academies reported in October 2009:

A major 2009 report by National Research Council examines and, when possible, estimates "hidden" costs of energy production and use — such as the damage air pollution imposes on human health — that are not reflected in market prices of coal, oil, other energy sources, or the electricity and gasoline produced from them. The report estimates dollar values for several major components of these costs. The damages the committee was able to quantify were an estimated \$120 billion in the U.S. in 2005, a number that reflects primarily health damages from air pollution associated with electricity generation and motor vehicle transportation. The figure does not include damages from climate change, harm to ecosystems, effects of some air pollutants such as mercury, and risks to national security, which the report examines but does not monetize.

Nearly half those damages were from transportation. Natural gas, which accounts for 20% of our nation's electricity generation and the "vast majority" of heating demands, only costs us a little over \$2 billion dollars annually in unseen costs.

These costs almost certainly underestimate the actual health costs of fossil fuels. The NRC estimated the total mortality due to our fossil fuel consumption at 20,000 people each year—10,000 due to coal alone. But the American Lung Association has reported that coal power plant pollution causes 24,000 premature deaths every year by itself. In addition, ALA has estimates that coal pollution causes more than 550,000 asthma attacks, 38,000 heart attacks and 12,000 hospital admissions.

A 2008 study by the Columbia Center for Children's Environmental Health (CCCEH) found

Closing coal-fired power plants can have a direct, positive impact on children's cognitive development and health....

[P]renatal exposure to coal-burning emissions was associated with significantly lower average developmental scores and reduced motor development at age two. In the second unexposed group, these adverse effects were no longer observed; and the frequency of delayed motor developmental was significantly reduced.

In November, the *Lancet* medical journal published six new studies that make clear "Climate change is the biggest global health threat of the 21st century." One of the papers followed 352,000 people in 66 US cities." Kirk R. Smith, professor of global environmental health at UC Berkeley and lead author of the paper, said:

Combustion-related air pollution is estimated to be responsible for nearly 2.5 million premature deaths annually around the world and also for a significant portion of greenhouse warming. These studies provide the kind of concrete information needed to choose actions that efficiently reduce this health burden as well as reduce the threat of climate change.

And that brings me to human-caused climate change itself.

**The science is clear: Climate Change is real, fast, and dangerous**

Yes, the 3000-page review of the scientific literature by the United Nations Intergovernmental Panel on Climate Change in 2007 had a couple of "trivial errors" in it, as the *Washington Post* put it.

But as a physicist who writes on climate issues, I've read much of the original literature and talked to dozens of the leading climate scientists. The real story was captured in a recent headline in *Scientific American*: "Despite Climategate, IPCC Mostly Underestimates Climate Change."

The British Royal Academy, the oldest scientific body in the world, and the Met Office, part of the United Kingdom's Defence Ministry, further noted that "even since the 2007 IPCC Assessment the evidence for dangerous, long-term and potentially irreversible climate change has strengthened."

The basic science is clear. Naturally occurring heat-trapping gases keep the planet about 60°F warmer than it would otherwise be, giving us the livable climate we have today. Since the Industrial Revolution, humankind has spewed vast quantities of extra greenhouse gases into the atmosphere, principally carbon dioxide from burning fossil fuels, causing more and more heat to be trapped. And so it is warming.

National Oceanic and Atmospheric Administration climate monitoring chief Deke Arndt said in October, "The last 10 years are the warmest 10-year period of the modern record. Even if you analyze the trend during that 10 years, the trend is actually positive, which means warming."

It may have seemed like a cool January in parts of this country, but globally it was the hottest January in the satellite record. And while it may seem counterintuitive, we actually get more snowstorms in warm years.

The Bush administration itself concluded in a major 2008 report, "It is well established through formal attribution studies that the global warming of the past 50 years is due primarily to human-induced increases in heat-trapping gases." That study noted we're already seeing more extreme weather events, especially intense precipitation.

In the past million years, the climate was primarily driven by natural cycles initiated by changes in the earth's orbit, which led to emissions of greenhouse gases, an amplifying feedback that caused rapid warming after long ice ages. As preeminent climatologist Wallace Broecker wrote in 1995, "the paleoclimate record shout out to us that, far from being self-stabilizing, the Earth's climate system is an ornery beast which overreacts even to small nudges."

Now we are punching the beast in the face by emitting billions of tons of global warming pollution a year. If we don't act quickly, then, by mid-century, CO<sub>2</sub> concentrations in the air will reach levels not seen in 15 million years, when it was 5° to 10°F warmer and seas were 75 to 120 feet higher, a 2009 study concluded.

Indeed, many studies make clear we risk 9°F warming this century alone. And that isn't the worst-case scenario, that's what is projected to happen we stay anywhere near our current emissions trajectory. The plausible worst-case scenario, as the Met Office warned last year, is 13-18°F over most of U.S. and 27°F warming in the Arctic – and it could happen in 50 years. But "we do have time to stop it if we cut greenhouse gas emissions soon."

The good news is that sea levels don't rise as fast as temperatures, but the bad news is that everywhere you look around the planet, ice is disappearing much faster than expected, including the dynamic disintegration of the great ice sheets on Greenland and Antarctica. Whereas the IPCC had ignored dynamic effects and predicted sea levels might rise perhaps only 1 to 2 feet this century if we took no action to reduce emissions, major studies since 2007 put the estimate at 3 to 7 feet, enough to generate 100 million environmental refugees or more.

Other studies warn that the U.S. Southwest could become permanent dust bowl post-2040, with Kansas above 90°F some 120 days a year. A 2010 study in *Nature Geoscience* found that oceans are acidifying 10 times faster today than 55 million years ago when a mass extinction of marine species occurred. We are literally poisoning our oceans. Unrestricted burning of fossil fuels threatens a new wave of die-offs. The title of a recent documentary on ocean acidification put it bluntly, "Imagine a World Without Fish."

The cost of unrestricted greenhouse gas emissions are nearly incalculable. A 2009 report by the International Institute for Environment and Development found the "net present value of climate change impacts" of \$1240 trillion on our current emissions path. Reducing emissions sharply offered a 6-to-1 savings over trying to adapt.

#### **The US is Falling Behind in Advanced Manufacturing, Innovation**

- China is a leading manufacturer of photovoltaic cells, second only to Japan, and it is set to be the world's leading manufacturer of wind turbines by the end of 2009.
- A March study by the Pew Charitable Trusts, based on data from Bloomberg New Energy Finance, found that China was outspending the United States in clean energy by \$34.6 billion to \$18.6 billion in 2009.
- The United States had less absolute renewable power capacity than either China or the 25 member nations of the European Union as of 2006.
- The United States was investing far less in renewable energy annually in 2007 than Germany, which has only one-third the population of the United States and an economy that is less than one-fourth our size.
- The European Union committed to having 20% of its final energy coming from renewable sources by 2020 and China is working to have 16% come from renewable sources by 2020. Sixty-six other countries worldwide have indeed committed to nationwide standards, but our Congress has yet to set any, though the House climate bill did have a relatively weak new standard.
- Cars in China that get about 36 miles per gallon will be required to get 42.2 miles a gallon in 2015—an 18 percent increase over the next six years. European emissions agreements pushed mileage in Europe to about 40 mpg by 2006 and are on track to meet their target of 47 mpg by 2012. America, meanwhile, is aiming for only 35.5 mpg by 2012.

To remedy this, new transparency measures are required. My colleagues Richard Caperton and Sima Ghandi put forth the following set of prudent suggestions:

- Tax expenditures need to be held to the same standards as other government spending. This means Congress should clearly state the goals of expenditures, should contain sunset provisions so that they expire and are re-evaluated, and should require periodic reviews of their effectiveness. Any safeguard that is designed to prevent wasteful spending should also be applied to tax expenditures.
- Congress should provide a rationale for each tax expenditure. When Congress decides to provide financial support to an industry through either a tax expenditure or direct spending, they should state why the chosen method is better than the other.
- Congress should hold agencies responsible for budgeting tax expenditures. Agency budget requests that are sent to Congress should include the tax expenditure spending programs that support their policy areas. Just as agencies are required to explain and report on their direct spending request, they should perform the same exercise on each tax expenditure within their purview. This exercise would hold agencies responsible for explaining how all forms of government spending it uses support its policy areas, and it would empower Congress with the ability to cohesively examine how spending streams work together.
- Congress should adopt standard practices for reviewing tax expenditures. A good start would be to ensure that each expenditure is covered by a requirement that the Joint Committee on Taxation, the Congressional Budget Office, or the relevant agency report on the expenditure's history, size, and effectiveness.

#### **Streamline and maximize beneficial subsidies that level the playing field**

No industry should be permanently reliant on subsidies. That goes double for industries, like fossil fuels, that have the lion's share of the market and many unmodified cost to Americans' health and well-being. On the other hand, there are situations where energy tax expenditures can be used to promote the social good, by incentivising investment in clean energy technologies.

#### **Production Tax Credit**

One example would be the "new technology credit." This is also known as the "production tax credit", or PTC, and is found in Section 45 of the tax code. As my CAPAF colleagues explain in their new report:

The credit is given to wind generators—as well as to other renewable energy technologies, such as biomass—and is currently worth roughly 2.1 cents for each kilowatt hour of wind power generated. For each kilowatt-hour of electricity generated by a wind turbine, the company that owns that wind turbine gets a 2.1 cent tax credit.

To put this in perspective, a medium-sized wind turbine can generate 2 million to 3 million kwh per year, and the average price of electricity sold in the United States is 9.44 cents per kwh.<sup>8</sup> So if a company has a wind turbine that generates about \$250,000 in revenue, it will receive a PTC subsidy of \$55,000. This subsidy will, in a typical case, increase the company's after-tax profits by \$20,000, which means investors have a higher rate of return than they would without the subsidy....

The Joint Commission on Taxation estimates the production tax credit for wind at \$700 million in 2009. Unlike percentage depletion, the PTC does have a commonly understood goal: to increase the amount of electricity generated from renewable resources, including wind power....

## 2. ENERGY TAX CHANGES WE NEED

To be competitive in the 21st century, America needs what it has lacked for decades -- a comprehensive energy strategy across all aspects of government. This requires creating new energy policies that internalize existing market externalities such as the cost of carbon and reshaping our existing tax incentives, which perpetuate these externalities by distorting the energy market with perverse incentives.

As members of the House Ways and Means committee, you have the opportunity to fix a number of fundamental barriers to clean energy that are limiting its growth, its job creating potential, and by extension the future competitiveness of the American economy. Our energy tax policies must be revised to eliminate perverse subsidies, increase transparency, and streamline and maximize the use of incentives for clean energy technologies that create jobs while benefiting our planet.

### Remove Perverse Tax Subsidies

Governments around the world provide some \$300 billion each year to subsidize fossil fuels, with the US among the leaders. A great many of these subsidies are obsolete, regressive, and downright perverse.

For example, newly released research by my colleague Richard Caperton shows how the outrageous practice of allowing oil companies to claim "percentage depletion" results in billions of dollars of lost government revenue. The money goes instead toward oil company profits.

Oil companies receive a large amount of government spending through the "percentage depletion" system. Without this subsidy, an oil company would only be able to deduct an amount that equals an oil well's decline in value, as measured by the amount of oil drained from one of their wells in a year (say, 10 percent of the total amount of oil). This is called "cost depletion."

Percentage depletion, on the other hand, allows an independent oil company to deduct a percentage of revenue (currently, 15 percent per year for the first 1,000 barrels per day) generated from that well even if that amount exceeds the well's total value. This means that oil companies take deductions as long as a well is producing oil, without regard to how much, or whether, the well is still declining in value.

The Joint Committee on Taxation estimates the cost of percentage depletion by calculating the difference between the taxes companies owe under a percentage-depletion system and what they would owe under a cost-depletion system. They call the difference "excess of percentage over cost depletion."

The result: oil companies in 2009 were subsidized \$1.3 billion at the taxpayers' expense to deplete our nation's finite natural resources as quickly as possible, while spewing planet-warming gasses into the atmosphere.

Allowing oil companies to claim percentage depletion over cost depletion means that taxpayers are writing oil companies a blank check on top of their already generous tax breaks to cover the costs of pumping oil out of the ground, which are already above and beyond their already astronomical profits. But excess percentage over cost depletion is just the largest of a long line of handouts our current tax code gives to oil companies, including other tax breaks for oil exploration, purchasing of mining equipment, tax breaks for enhanced oil recovery, and expensing of so-called "tertiary injectants."

Please see the attached table put together by my colleagues at the Center for American Progress Action Fund, which gives an overview of energy tax expenditure programs.

## The cost of energy tax expenditures

Estimates of tax expenditures in fiscal year 1999 and fiscal years 2005-2007 (in million 2007 dollars)

Tax expenditure	Historical data				Forecast data		
	1999	2005	2006	2007	2008	2009	2012
Excise taxes (alcohol fuel exemption/volumetric ethanol excise tax credit)	921	1,578	2,627	2,990	3,536	4,454	0
Alternative fuel production credit	1,242	2,441	3,046	2,370	797	10	0
Expensing of exploration and development costs	97	410	695	860	899	739	340
Excess of percentage over cost depletion	321	621	77	790	807	822	813
New technology credit	61	253	521	690	981	1,166	1,263
Deferral of gain from disposition of transmission property to implement FERC restructuring policy	0	516	634	530	235	104	993
Credit for energy efficiency improvements to existing homes	0	0	235	340	153	0	0
Credit, deduction for clean fuel vehicles	103	74	112	260	153	135	70
Nuclear decommissioning	0	0	123	199	0	0	0
Deduction for certain energy-efficient commercial building property	0	0	82	190	174	94	11
Bioethical and small agri-bioethical producer tax credits	0	32	92	180	204	31	11
Capital gains treatment of royalties in coal	79	95	164	170	174	177	143
Exclusion for utility-sponsored conservation measures	103	84	112	110	112	115	121
Credit for business installation of qualified fuel cells and stationary microturbine power plants	0	0	82	90	133	52	11
Credit for energy efficiency appliances	0	0	123	80	0	0	0
Amortization of all geological and geophysical expenditures over two years	0	0	10	60	92	73	11
Credit for holding clean renewable energy bonds	0	0	20	60	82	104	110
Alcohol fuel credit	18	42	51	50	61	72.8	0
Natural gas distribution pipelines treated as 15-year property	0	0	20	50	92	125	152
Exclusion of special benefits for disabled coal miners	0	0	51	50	41	42	44
Five-year net operating loss carryover for electric transmission equipment	0	0	74	43	0	0	0
Exclusion of interest on bonds for certain energy facilities	139	84	41	40	51	52	55
Exception from passive loss limitation for working interests in oil and natural gas properties	36	42	31	30	31	31	33
Temporary 50 percent expensing for equipment used in the refining of liquid fuels	0	0	10	30	123	250	55
Credit for investment in clean coal facilities	0	0	0	30	51	83	275
Eighty-four-month amortization of certain pollution control facilities	0	2	10	30	0	0	0
Credit for construction of new energy homes	0	0	10	20	31	21	0
Electric transmission property treated as 15-year property	0	0	3	18	0	0	0
Treatment of income of certain electric cooperatives	0	0	0	14	0	0	0
Thirty percent credit for residential purchases/installations of solar and fuel cells	0	0	10	10	10.2	0	0
Partial expensing for advanced mine safety equipment	0	0	0	10	20	0	0
Expensing of capital costs with respect to complying with EPA sulfur regulations	0	11	10	10	31	52	0
Enhanced oil recovery	273	316	0	0	0	0	0
Expensing of tertiary injectants	0	0	0	0	0	0	0
Alternative fuel and fuel mixture credit	0	158	0	0	0	0	0
Credit for production from advanced nuclear power facilities	0	0	0	0	0	0	0
Pass through low-sulfur diesel expensing to cooperative owners	0	42	0	0	0	0	0
<b>Total (tax expenditures)</b>	<b>3,199</b>	<b>6,708</b>	<b>9,775</b>	<b>10,444</b>	<b>9,035</b>	<b>8,596</b>	<b>2,613</b>

Note: Total may not equal sum of components due to independent rounding.  
Source: U.S. Energy Information Administration.

Some argue these subsidies are necessary to facilitate domestic fossil fuel production, and that increasing domestic production will offset imports. However, there is no evidence that these tax subsidies are necessary to make exploring, drilling, and pumping oil economical in the United States. Even George W. Bush acknowledged the strength of market prices in attracting oil investment when he told the American Society of Newspaper Editors in 2005, "I will tell you, with \$55 oil we don't need incentives to the oil and gas companies to explore."

With oil currently at \$80 a barrel – and projected by many experts to return to record levels within a decade – there is no reason to keep spending money so fruitlessly. Bush himself said the following year, “America is addicted to oil.” You don’t break your alcoholism by switching from imported to domestic beer. That goes for our oil addiction especially since we have 2% of the world’s oil reserves but nearly 25% of its demand.

Yet despite this, the Senate just last month passed a bill that perpetuated even more perverse tax incentives that harm our economy. On March 10th, the Senate passed a tax extenders bill that included tax subsidies for such technology as refined coal facilities, low-sulfur diesel, depletion of oil and gas wells, fuel from coke or coke gas. These companies have received decades of subsidies already, and the time has come to ask them to stand on their own feet and stop relying on taxpayer’s money.

The Obama Administration FY 2011 budget would eliminate some of these perverse subsidies. The big five oil companies—BP, Chevron, Conoco Phillips, ExxonMobil, and Shell—made profits totaling \$656 billion during the eight years of the Bush administration. In 2009, they made an additional \$67 billion in profits (with Shell fourth-quarter profits projected). The *last* thing these companies need is billions of dollars of taxpayer-funded loopholes. The proposed budget would eliminate tax loopholes, including the counter-productive percentage depletion allowance, that would cost \$36.5 billion from 2011 to 2020.

The Budget notes that, “[it] is counterproductive to spend taxpayer dollars on incentives that run counter to this national priority. To further this goal and reduce the deficit, the Budget eliminates tax preferences and funding for programs that provide inefficient fossil fuel subsidies that impede investment in clean energy sources and undermine efforts to deal with the threat of climate change.”

#### **Stop investing in polluter pipedreams like coal to liquids**

While we clearly have too many existing tax subsidies for polluting fossil fuels, new perverse subsidies are sprouting up all the time. During my testimony on September 5th, 2007 before the House Committee on Science and Technology, Subcommittee on Energy and the Environment, I pointed out that government incentives for liquid fuels from coal were a boondoggle waiting to happen.

Coal can be converted to diesel fuel using the Fischer-Tropsch process. During World War II, coal gasification and liquefaction produced more than half of the liquid fuel used by the German military. South Africa has employed this process for decades.

The process is not more widely used today in large part because it is incredibly expensive. It costs \$5 billion or more just to build a plant capable of producing 80,000 barrels of oil a day (the U.S. currently consumes more than 20 million barrels a day).

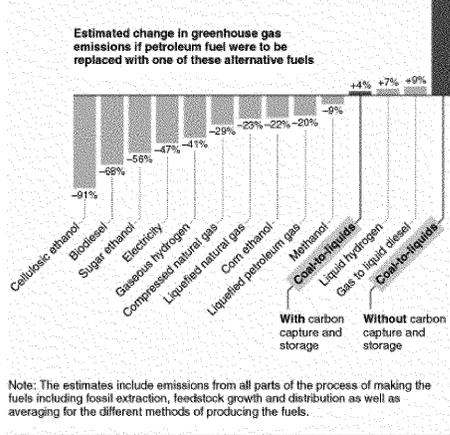
Five to seven gallons of water are necessary for every gallon of diesel fuel that’s produced (and double that if you coproduce diesel fuel and electricity from coal), according to the June 2006 report, “Emerging Issues for Fossil Energy and Water: Investigation of Water Issues Related to Coal Mining, Coal to Liquids, Oil Shale, and Carbon Capture and Sequestration” by DOE’s National Energy Technology Laboratory.

This is not a particularly good long-term strategy in a nation and a world facing mega-droughts and chronic water shortages from human-caused climate change. The heavy water demand is one reason chronically water-short China raised the capital threshold for liquid coal projects in an effort to scale back growth.

Worse than the water issue, the total carbon dioxide emissions from coal-to-diesel are about double that of conventional diesel, as the figure below based on EPA data shows (see figure):

### Comparing Fuels

The Environmental Protection Agency estimates that using liquefied coal as a fuel source instead of petroleum could increase greenhouse gas emissions.



Even with carbon capture and storage (CCS), coal to liquids still produces more greenhouse gas emissions than regular diesel fuel – and we are two decades away from large-scale commercialization of CCS.

Coal to diesel is a bad idea for the nation and the planet. A 2006 study by the University of California at Berkeley found that meeting the future demand shortfall from conventional oil with unconventional oil, especially coal-to-diesel, could increase annual emissions by 2.0 billion metric tons of carbon (7.3 gigatons of carbon dioxide) for several decades. That is more than current total U.S. carbon emissions and would certainly be fatal to any effort to avoid catastrophic climate impacts.

#### Increasing Transparency of Tax Expenditures:

Part of the reason why these companies can get away with such absurd subsidies is because of a fundamental lack of transparency in the tax expenditure system. In 2007 the federal government doled out \$6 billion in direct spending on energy and \$10 billion in additional under-the-radar tax-spending not subject to congressional or even agency oversight or review. In the official budget, there is no itemized listing of the trillion dollars in tax expenditures of which this \$10 billion in energy subsidies is a part. The only way to find the expenditures is to check a supplemental volume to the budget, known as *Analytical Perspectives*.

Altogether, less than 40 percent of total energy industry spending gets officially counted as “government spending” in the federal budget, and this number is shrinking as tax expenditures continue to balloon out of control. Between 1999 and 2007, government spending on energy subsidies doubled in size, with almost all of the increase coming from fossil-heavy tax expenditures, which are largely hidden from public view.

Also, unlike with percentage depletion, three different studies show that the PTC influences behavior. First, we can conduct a “natural experiment,” the results of which are illuminating. Researchers in a laboratory experiment often compare the effects of two different scenarios, one of which is the “control” and one of which has been modified, to determine the effect of the modification. In a “natural experiment” researchers find instances where a policy or similar factor changes and compare the before-change and after-change scenarios to determine the change’s impact.

The PTC has expired and been renewed several times in recent years, giving us a good “natural experiment.” Each time the PTC expires, we observe that investment in wind generation declines. Then, each time the PTC is renewed, investment in wind generation picks back up. The chart below indicates five different observation points between 1999 and 2006...

But Gilbert Metcalf, an energy economist at Tufts University, has conducted a more sophisticated econometric analysis of detailed data on wind facility investment that accounts for the possibility of this sort of “gaming” of the system and other factors that could explain the ups and downs of wind investment. His conclusion is unequivocal: “[T]he data suggest that much of the current investment in wind can be explained by the production tax credit for wind.”

#### **Cash grant in lieu of investment tax credit (ITC)**

The investment tax credit is found in section 48 of the tax code. It subsidizes certain renewable energy technologies. My CAPAF colleagues note:

Under the ITC, some renewable energy projects are eligible for a tax credit for a percentage of the initial capital investment (up to 30 percent depending on the technology). The American Recovery and Reinvestment Act, however, temporarily allows project developers to receive a cash grant from the U.S. Treasury for the same amount. Companies that receive the cash grants are no longer eligible for the tax credit.

The rationale behind the change was that companies that most needed the tax credit had no tax liability to reduce. In order to provide subsidies to these companies, the government needed to use direct spending instead of tax expenditures. This change essentially turned a tax expenditure into direct spending without changing the total amount of government spending....

The American Recovery and Reinvestment Act provides a “natural experiment” to show how transparency differs with tax expenditures and direct spending. Certain renewable energy projects are eligible for an ITC under section 48 of the tax code. Depending on the type of project the developer can get a tax credit for as much as 30 percent of their capital investment. ARRA, however, temporarily changed this to allow developers to get a cash grant from the U.S. Treasury in lieu of the ITC.

This temporary change has led to several significant outcomes. The primary result is that developers no longer have to be profitable to take advantage of the tax credit. Previously, developers that didn’t have significant tax exposure—which most developers don’t since their projects have yet to make money—had to identify a “tax equity partner” to take advantage of the tax credit. This “tax equity partner” would contribute money to the project and, in return, get to use all the available tax credits. But as fewer companies had tax exposure due to the economic downturn, fewer “tax equity partners” were available, making the tax credit less useful to developers.

ARRA's transition to a cash grant in lieu of the ITC has made financing renewable energy projects easier in the absence of a lively tax equity market....

#### **Eliminating passive vs. active credit limitations for renewable energy**

A report put together by Lawrence Berkeley National Laboratory showed that there are many ancillary benefits to issuing cash grants in lieu of an ITC, such as the elimination of the owner/operator and power-sale requirements, which limit freedom of project developers to do financial innovation and find efficiencies, as well as exemption from the Alternative Minimum Tax. I quote from that report here:

Quantitative analysis of these ancillary benefits may also inform the development of a policy agenda for community wind, by revealing which of these benefits are most valuable to the sector.

For example, further analysis of the 10.5 MW project highlights the importance of the 30% cash grant – and especially the relief that it provides from passive credit limitations – for passive investors in community wind projects. Specifically, choosing the 30% ITC over the PTC does not provide much value to passive investors, because the passive credit limitations require all tax benefits (including the PTC or ITC and depreciation deductions) to be carried forward – potentially for many years – until they can be fully applied against the project's own tax obligations. This delay reduces the present value of these tax benefits. Only if the project elects the 30% cash grant, which is not subject to the passive credit limitations, does it realize the full potential of wind's temporary ability to choose among these incentives.

Passive investors have not played a significant role in most community wind projects built in the United States to date – perhaps precisely because of the negative impact of the passive credit limitations on the value of the PTC. But if community wind is going to penetrate the broader wind market to any significant degree going forward, it may need to increasingly look to passive investors to finance that expansion. In this light, seeking to extend the very limited window of opportunity for the 30% cash grant – which singlehandedly removes the largest impediment to the participation of passive investors in community wind projects – may be a logical top policy priority for the community wind sector. Alternatively, exempting the PTC and ITC from the passive credit limitations could provide similar relief, though without the other benefits provided by the receipt of cash rather than a tax credit.

The members of this committee should investigate this potentially fruitful and inexpensive way of promoting investment in community clean energy.

#### **Manufacturing Tax Credit**

One of the most critical things we can do to foster domestic clean energy industries in this country is realize that demand-side incentives for electricity production is not enough. While incentives that target utilities to encourage them to invest in clean energy infrastructure are an essential component of a comprehensive strategy, they are not enough. You cannot build a market out of demand alone, you must also create incentives for supply. That is why Congress was wise to implement the Section 48C Manufacturing Tax Credits for investments in manufacturing facilities and production capacity for the clean energy equipment and technology.

However, the program, passed under the Recovery Act, was limited to \$2.3 billion, and was oversubscribed by nearly a 10-to-1 ratio. My colleagues at the Center for American Progress have advocated for an expansion of the program, and Vice-President Biden in December 2009 announced the administration's plans to add an additional \$5 billion to the program, leveraging, an additional \$15 billion in private capital.

Congress should recognize that each and every opportunity to create incentives for homegrown manufacturing of clean energy technologies are opportunities to grow our economy and make our industries more competitive internationally. Each opportunity should be nourished, and this program should be expanded to provide a stable flow of incentives for a fixed period of time, maybe 5 or 10 years, and then sunset.

#### **Energy Recycling, and Combined Heat and Power**

The transition away from fossil fuels, though inevitable, will not happen overnight and does not need to. Indeed, the House climate bill envisions the transition occurring over the next four decades. During that time, there are many steps that we can take through the tax code and elsewhere to dramatically increase the efficiency with which we use and conserve our finite supplies of fossil resources.

One way would be to expand the use of efficient combined heat and power, one of the simplest and cheapest steps we can take to reduce fossil fuel dependence while reducing emissions and creating jobs. Combined heat and power is a way of recycling energy. Power plants that produce steam, heating, cooling and other industrial facilities can tap into otherwise wasted heat flows to also provide electricity for free. This can increase the energy efficiency of industrial facilities by 50% or more, but currently, these technologies receive meager incentives from the government, with industrial energy recycling receiving no incentives whatsoever, and combined heat and power receiving only 10 percent investment tax credit capped at the first 15 Megawatts.

A letter signed by the Center for American Progress Action Fund and more than 60 companies and organizations states:

I urge Congress to pass ... Rep. Inslee's **H.R. 4144**, which would remove the credit's limitation to smaller projects by applying it to a project's first 25 megawatts. We also ask that Congress pass Rep. Tonko's **H.R. 4751**, which would provide a 30-percent investment tax credit for highly efficient CHP projects (those with efficiencies above 70 percent) and recycled energy.

According to the Oak Ridge National Laboratory, a large-scale expansion of CHP could provide 20 percent of U.S. generating capacity by 2030, generate \$234 billion in new investment, and create nearly 1 million new highly-skilled, technical jobs throughout the U.S. CO2 emissions could be reduced by more than 800 million metric tons per year, the equivalent of taking more than half the current U.S. passenger vehicles off the road.

Encouraging the adoption of these efficient job creating, energy-saving, and emissions reducing technologies would drive innovation and reduce our dependence on fossil fuels.

#### **More strategies**

I have made the case that production tax credits, cash grants in lieu of investment tax credits, and manufacturing tax credits, are all effective means of leveling the playing field and giving clean energy technologies the opportunity to compete. But why stop there?

The entrenched status quo of fossil energy, as noted earlier, enjoys special tax breaks and benefits for everything from depleting our nations oil reserves to exemptions from capital gains for coal investments to expensing of refining equipment, as noted in the table attached above. By granting these special benefits to fossil technologies and not to clean energy technologies, Congress has distorted the market and inhibiting investment, innovation, and job creation.

Capital-intensive clean energy sources have a different cost-profile than expense-intensive fossil energy, which, given current tax policy makes them artificially more expensive than fossil energy. According to the National Renewable Energy Laboratory:

"For example, if a conventional fossil power plant were required to purchase all of its fuel up-front and the fuel were treated as a capital investment from a tax and financing standpoint, the cost of power would be more than double. If this up-front capital investment penalty could be eliminated, [clean energy, in this case concentrating solar thermal] could compete directly with the most advanced and efficient fossil fuel technologies."

Why not allow renewable energy companies to deduct 100% of their capital expenditure on land and equipment for clean energy development, the way that fossil companies can currently deduct their spending on imported fuels as business expense?

In addition, there are several other existing clean energy tax incentives that need to be extended. These include:

- Clarifying the rules for the Residential Energy Conservation Subsidy Exclusion (26 USC § 136), to ensure that residential solar thermal or solar electric projects are eligible. As of now, there has been no ruling by the IRS on what exactly constitutes an "energy conservation measure." This should be made as broad as possible to encourage all clean energy technologies.
- Extending the Residential Energy Efficiency Tax Credit (26 USC § 25C) beyond its current deadline at the end of 2010 so that home owners can plan about the best time for them to upgrade their homes.
- Extend the Residential Renewable Energy Tax Credit (26 USC § 25D), which provides a 30% investment tax credit to homeowners installing solar thermal, solar electric, geothermal heat pumps, hydrogen, or small-scale wind power at their primary residence. Broaden this tax credit to also apply to Commercial properties.
- Strengthen the Modified Accelerated Cost-Recovery System (MACRS) and Bonus Depreciation (2008-2009) programs (26 USC § 168, 26 USC § 48), by reducing the current five-year depreciation path to 1 year. Or, alternatively, expand bonus depreciation to 100%. These alternatives have the same end effect.

We must replace the currently entrenched status quo of permanent tax-incentive life support for old and dirty energy technologies with smart, targeted incentives for cleaner technologies and more efficient practices. But we must also avoid repeating the mistakes of the past: creating permanent subsidies so that the industry does not learn to stand on its own two legs and become competitive internationally. While I argue for a fundamental shift in tax priorities away from fossil and toward clean energy and efficiency, I also believe that such a shift should come with a transparent and predictable sunset plan, to ensure that we are not creating industries that are permanently dependant on federal handouts the way our current energy system is.

Once we have in place a shrinking cap and a rising price on carbon dioxide emissions, then subsidies should be phased out for most major energy technologies once they achieve a significant market share.

### 3. BENEFITS OF ACTION

#### Clean-energy jobs are here

The clean-energy economy is already producing jobs in a variety of industries and occupations across the country.

- More than 750,000 jobs at more than 70,000 individual firms already exist in industries related to expanding clean-energy production, increasing energy efficiency, reducing greenhouse gas emissions, eliminating waste and pollution, and conserving water and other natural resources.
- These jobs require a wide diversity of education and skills—about 490,000 (65 percent) are in engineering, legal, research, consulting, or government administration sectors; about 197,000 (26 percent) are in renewable power generation, construction, systems installation, and manufacturing sectors.
- Clean-energy industries have produced these 750,000 jobs without sustained policy attention or investment. In contrast, the well-established traditional energy sector employs only 1.27 million workers, even after decades of government subsidies.

#### **Clean-energy industries are seeing high growth rates**

Green jobs consistently post incredible growth rates and are poised to expand on a massive scale.

- A June 2009 report from Pew Charitable Trusts shows that clean-energy jobs grew by 9.1 percent between 1998 and 2007, while total jobs grew by only 3.7 percent.
- Another report shows that the renewable energy industry grew more than twice as fast as the overall U.S. economy.
- And according to the 2009 Green Collar Jobs report from the American Solar Energy Society, renewable energy and energy efficiency industries can create 37 million jobs by 2030 as long as policymakers support their development.

#### **Investing in clean energy creates new high-quality, local jobs**

Investing in clean-energy jobs produces exceptional returns in terms of employment possibilities.

- After decades of intermittent support for renewable, Congress finally gave multiyear support to the wind tax credit. At the same time, more than half the states have embraced a renewable electricity standard. These two sustained boosts have helped increase the share of domestically manufactured wind turbine components in U.S. windfarms from under 30% in 2005 to over 50% last year.
- A 2009 study by the Political Economy Research Institute at the University of Massachusetts-Amherst in partnership with the Center for American Progress found that investing \$150 billion in clean energy produces a net gain of 1.7 million new jobs and reduces the unemployment rate by one full percentage point, from the current 9.4 percent down to 8.4 percent. It also creates pathways out of poverty by expanding job opportunities to low-income working Americans, with roughly 870,000 out of the projected 1.7 million clean-energy jobs accessible to workers with high school degrees or less.
- A 2004 study done by the nonpartisan Perryman Group in Waco, Texas in conjunction with the Apollo Alliance found that a \$300 billion investment in a clean-energy future would create over 3.3 million new jobs, spread across every state in the country.

#### **Clean energy is more labor intensive than fossil fuels**

Wind and solar photovoltaic industries offer at least 40 percent more jobs per dollar than coal, while optimized clean-energy investments among a number of industries would create over three times as many jobs as investing in carbon-based energy industries.

- The clean-energy sector produces more jobs per dollar than the fossil fuels industry because a larger share of clean-energy expenditures go to manufacturing, installation, and maintenance—far more labor intensive than the extraction and transportation sectors that comprise most fossil fuel jobs.

### Clean energy's potential is still untapped

We have barely tapped the country's potential for new energy production, even with all the gains the United States has made in transitioning to a cleaner energy economy.

- The wind energy industry has tapped less than one-half of one percent of wind's potential generation in the United States.
- The four states with the highest potential wind power generation capacity—North Dakota, Texas, Kansas, and South Dakota—are estimated to have a total potential of 4,500 billion kWh, which is enough to power the entire country.
- The United States Department of Energy estimates that if 5 percent of the nation's energy comes from wind power by 2020, rural America could see \$60 billion in capital investment. Farmers and rural landowners would derive \$1.2 billion in new income, and see 80,000 new jobs created over the next two decades.

### Clean-energy jobs can help rebuild the middle class

Clean-energy jobs provide employment in numerous sectors throughout the economy and for people of diverse backgrounds and skill sets, but many exist in the manufacturing and construction sectors—traditionally "middle-skill" sectors offering entry into the middle class for workers without four-year college degrees.

- From 2007 to 2008, new construction of residential buildings was down a staggering 39 percent and commercial building construction was down 17 percent.
- Roughly 30 percent of jobs generated by clean-energy investments will be in the construction industry. The Renewable Energy Policy Project concludes that a national renewable electricity standard of 25 percent by 2025 could produce over 850,000 new manufacturing jobs at existing manufacturing firms across the country.
- These jobs are evenly distributed across the country.
- Clean-energy investments generate jobs that cannot be outsourced throughout multiple sectors such as construction, installation, and transportation.

### Investing in clean energy will save Americans money in the long term

- **Savings:** The American Council for an Energy-Efficient Economy issued an analysis in July 2009 estimating that H.R. 2454 could save American consumers approximately \$750 per household by 2020 and \$3,900 per household by 2030.
- **Efficiency:** A recent report issued by the Political Economy Research Institute at the University of Massachusetts and the Center for American Progress finds that as little as \$2,500 invested in energy efficiency retrofits could lead to cost savings to consumers of 30 percent annually on average.
- **Renewable electricity:** According to the Union of Concerned Scientists, a renewable electricity standard to generate 25 percent of the nation's electricity from renewable energies by 2025 would create nearly \$65 billion of consumer savings in electricity costs by 2025.
- **Green Bank:** The creation of a Green Bank to help fund the transition to a clean-energy economy could provide favorable financing of renewable resources and allow investors a return on their capital. This will help keep costs low for consumers while making renewable energy competitive with current electricity prices.

**Conclusion**

Our energy problems and their solution are all interconnected. Sen. Lindsey Graham (R-S.C.) said in January, "The odd thing is you'll never have energy independence until you clean up the air, and you'll never clean up the air until you price carbon."

We need a serious price on carbon to have any chance of solving our interrelated problems of energy dependence, peak oil, clean energy competitiveness, clean air, and global warming problems. Until we have a shrinking cap and rising price for carbon, though, we need to use our tax code to correct existing market failures and to put clean energy on a level playing field with fossil fuels. To give businesses more certainty, clean tax credits should be extended for several years. At the same time, we need to stop subsidizing dirty energy.

In the conclusion to my book, *Straight Up*, I ask, "Is the global economy a Ponzi scheme?" This richest of all human generations has figured out how to live off the wealth of future generations. Investors (i.e., current generations) are paying themselves (i.e., you and me) by taking the nonrenewable resources and livable climate from future generations. To perpetuate the high returns that rich countries have been achieving in recent decades, we have been taking an ever greater fraction of nonrenewable energy resources (especially hydrocarbons) and natural capital (fresh water, arable land, forests, fisheries), and the most important nonrenewable natural capital of all—a livable climate. The next few years will determine whether or not we are all Bernie Madoffs.

The nation is going to wean itself from fossil fuels in the coming decades and adopt clean energy. That is a certainty. But the question of our time is, will we do it fast enough? And will we beat the other major countries in Europe and Asia, especially China, who are racing to be the leaders in this most important of all job creating industries.

Humanity has only two paths forward at this point. As President Obama said in April 2009, "The choice we face is not between saving our environment and saving our economy. The choice we face is between prosperity and decline." Either we voluntarily switch to a low-carbon, low-oil, low-net-water use, low-net-material use economy over the next two decades or the post-Ponzi-scheme-collapse forces us to do so circa 2030. The difference between the two paths is that the first one spares our children and grandchildren and the countless generations untold misery and gives us a serious chance at creating millions of clean energy jobs.

Chairman LEVIN. Without objection. You are next.  
[The information follows:]

**STATEMENT OF KAREN HARBERT, PRESIDENT AND CHIEF EXECUTIVE OFFICER, INSTITUTE FOR 21ST CENTURY ENERGY, U.S. CHAMBER OF COMMERCE**

Ms. HARBERT. Thank you. Thank you, Chairman Levin, Ranking Member Camp, and Members of the Committee.

I am Karen Harbert, President and Chief Executive Officer of the Institute for 21st Century Energy at the U.S. Chamber of Commerce.

I am delighted to let you know that in 2008, the Institute actually submitted a comprehensive plan to secure America's energy fu-

ture, to improve its environmental stewardship and grow our economy, and we would be delighted to continue to work with this Congress to actually implement those concrete 90 recommendations to put us on a more concrete path for our energy future.

Let me commend you on the timing of this hearing because just last week, Doug Elmendorf, the Director of the Congressional Budget Office, highlighted a report that forecast an increase in public debt from \$7.5 trillion at the end of 2009 to \$20.3 trillion at the end of 2020, if President Obama's fiscal year 2011 budget is enacted.

As we are examining energy policy, it is more important than ever that we look to options that do not further burden the taxpayer and provide the affordable energy that we need to restore the 8.2 million jobs we have lost in the current recession and create the more than 12 million jobs our Nation will need over the next decade.

Recognizing the U.S. energy demand will increase by probably 20 percent between now and 2030, we need a realistic plan that transitions us to a low carbon future while keeping our Nation strong and competitive.

It will take time. It will take investment. It will take technology, some of which we do not even have yet.

Investment on the order of 1.5 to \$2 trillion is needed in the electricity sector alone to keep it reliable for our economy, and for our transportation sector, we are still 94 percent dependent on oil, and to date, we do not have a substitute for oil. Today, less than 1 percent of U.S. passenger vehicles are plug in hybrid electric vehicles.

What are we going to do? First, we have immediate low cost benefits which can be realized by focusing on energy efficiency, particularly in the building sector and in the appliance sector.

We released a report yesterday about how Federal policy can encourage that, and rather than going through that report today, I will just ask that it be included for the record.

Chairman LEVIN. Without objection.

[The information follows:]

Ms. HARBERT. Let me talk a little bit about renewables, such as wind, solar, biomass and waste energy, and they are going to be playing an increasingly important role in our energy supply, yet today, wind and solar comprises less than 2 percent of our electricity.

We have to be realistic about the achievable expansion of this important and valuable natural resource.

Even under the Energy Information Agency's modeling of the Waxman-Markey bill and its significant carbon constraints, by 2030, it forecasts that wind and solar will only comprise 6 percent of our country's portfolio.

The history of fiscal incentives for clean energy in our country is basically checkered with a boom and bust type philosophy. We instead would propose that we extend the production tax credits for renewable energy for 8 years followed by a 4 year phase out, which would provide for longer term certainty for investors, but also provide a definite sunset, which would ensure that tax dollars do not continue to support technologies that are not commercially viable.

If you look at the U.S., when subsidies across the U.S. sector are compared, renewable resources continue to receive the largest percentage of Federal dollars, and the subsidies for wind and solar per unit of production are 80 times greater than that of natural gas and 25 times larger than that of nuclear.

Let's examine some other mechanisms which actually facilitate investment without further burdening the taxpayer.

Regulatory streamlining. Nearly every single energy project in our country is facing burdensome siting problems. We are suffering from a plague in our economy which is called the "banana syndrome." Build absolutely nothing anywhere near anything.

The Chamber has begun to catalog these projects, all the energy projects proposed over the last 3 years. We have recorded 380 projects, representing 250,000 jobs, and \$560 billion worth of capital investments that is on the side lines because of abuse of the permitting process. No type of project is immune. Over 40 percent of these projects are in the renewable area.

Congress can eliminate many of these obstacles by streamlining the approval process and giving investors the needed certainty.

One clear example where Congress can be very helpful is in interstate transmission. Getting approval to site and bid a transmission line can take upward of 10 years. We need to fix that by giving FERC the authority it needs.

Securing our energy future is in large part tied to the degree we are able to accelerate the deployment of capital. The Department of Energy's loan guarantee program is a good start, but we would like to see the endorsement for a clean energy bank like that discussed in the Senate.

It would be authorized to provide loan guarantees and other financial products and ensure projects which the conventional markets today try to avoid. A Federal approach that focuses on addressing market inefficiencies rather than competing with existing investors is an appropriate role for Government.

There are two other areas I would like to briefly highlight. One is nuclear. It is very important to recognize the tremendous benefits that nuclear provides for our economy, not only is it 70 percent of our emissions free electricity, but it is an economic engine with each plant contributing more than \$430 million to its local economy, employing 700 workers at wage rates about 36 above the local average.

We estimate that if the 26 plants that are currently pending before the Nuclear Regulatory Commission are built, 240,000 jobs would be created.

In the oil and gas phase, the oil and gas industry today employs about 9.2 million in the United States, and it would employ thousands more and it would contribute more in revenue if it was allowed to do so.

We want to reduce America's dependence on foreign oil and yet the proposals from the Administration will do the exact opposite, constrain domestic production and increase imports.

First, they are proposing huge new taxes, \$80 billion of new taxes on the oil and gas industry. We tried this back in the 1980s, and what happened? In 1986, imports jumped 19 percent.

The Joint Committee on Taxation's report to this Committee for today's hearing notes the potential for that to happen if these taxes are levied on the industry today. That is a dangerous signal for our economy.

Second, the proposal to actually expand production actually does not expand production. It only commits to studying future production and actually takes leases off the table.

In conclusion, to lay the ground work for our Nation's energy security, our environmental protection and our economic prosperity, we need to pursue policies that put more energy options on the table for America, do not pick winners and losers, and certainly do not add to our exploding Nation's debt.

Thank you.

[The prepared statement of Ms. Harbert follows:]

**Prepared Statement of The Honorable Karen Harbert,  
President and Chief Executive Officer, Institute  
for 21st Century Energy, U.S. Chamber of Commerce**

Committee on Ways & Means  
United States House of Representatives

"Energy Tax Incentives Driving the Green Job Economy"

**Testimony of Karen A. Harbert  
President & Chief Executive Officer  
Institute for 21st Century Energy  
U.S. Chamber of Commerce**

Wednesday, April 14, 2010

Thank you, Chairman Levin, Ranking Member Camp, and members of the House Committee on Ways and Means. I am Karen Harbert, President and CEO of the Institute for 21<sup>st</sup> Century Energy (Institute), an affiliate of the U.S. Chamber of Commerce. The U.S. Chamber of Commerce is the world's largest business federation, representing the interests of more than three million businesses and organizations of every size, sector and region.

The mission of the Institute is to unify policymakers, regulators, business leaders, and the American public behind common sense energy strategy to help keep America secure, prosperous, and clean. In that regard we hope to be of service to this Committee, this Congress as a whole, and the Administration.

Just last week Doug Elmendorf, Director of the Congressional Budget Office highlighted the results of a CBO report that forecasts an increase in the public debt from \$7.5 trillion at the end of 2009 to \$20.3 trillion at the end of 2020 if President Obama's Fiscal Year 2011 budget were to be implemented. As a percentage of gross domestic product, the debt would rise from 53 percent to 90 percent, CBO forecasted. The last time the percentage was that high was right after World War II.

So as we examine energy policy, it is more important than ever that we look to options that don't further burden the taxpayer or jeopardize energy security and offer the greatest return on investment to our economy.

The greatest challenge we now face as a nation is reviving our economy, restoring the 8.2 million jobs lost to the current recession, and creating the 11.8 million new jobs our growing nation will need over the next decade. Only a vibrant American free enterprise system can accomplish this goal.

**I. Scale & Scope of the Challenge: A Reality Check**

Underpinning America's national security, economic prosperity and quality of life is energy and its availability, affordability and reliability. Solving our nation's serious energy challenges requires a thoughtful and realistic transition to a lower carbon future that includes a portfolio of energy sources and the accelerated development and deployment of the necessary technologies. The Energy Institute strongly supports clean and renewable energy in addition to aggressive improvements in energy efficiency. However, I think it is critical to take stock of our current energy disposition before crafting new policies.

US energy demand will increase by 20 percent between now and 2030 and electricity demand growth could be as high as 30 percent. According to The Brattle Group, an investment on the order of \$1.5 to 2 trillion is needed by 2030 to maintain a reliable electricity sector. Both the electricity and transportation sectors are dominated by the least cost fuel sources: fossil fuels. In the electricity sector, wind and solar power comprise less than 2 percent of our electricity generation. Even under the Energy Information Agency's (EIA) modeling of H.R. 2454's ("Waxman-Markey") aggressive carbon regulations, wind and solar will only comprise six percent of the country's generation portfolio in 2030, requiring us to rely on other sources for the remaining ninety four percent of our electricity consumption.

And for our transportation needs, we are ninety four percent dependent on oil. The fact is that fossil fuels will remain the backbone of our national and global economy for the foreseeable future. Despite the valuable progress being made in the development of new energy sources and technologies, there is still no viable substitute for oil. To make a dramatic change, it will take time, money and technology.

Certainly there is a growing and valid concern about our nations' dependence on foreign oil, yet recent policy proposals from the administration will do little, and likely promote less domestic production and increase imports. First, the administration has proposed \$80 billion of new taxes and fees on the oil and gas industry over the next 10 years. We tried this in the 1980s.

History has demonstrated that this type of discriminatory taxation results in decreased domestic production of these vital fuels and correspondingly increased imports. In 1986 at the height of the ill-conceived Windfall Profits Tax, oil imports jumped 19%, one of the largest year-to-year increases on record. Greater use of domestic energy and decreased use of imported energy is one tenet about which we should all be able to agree. The Joint Committee on Taxation took note of this effect in the report it prepared for this Committee in advance of today's hearing concluding that, "any increase in prices for domestically consumed fossil fuels is likely to be attenuated, and the proposals could primarily result in substitution of foreign fossil fuel sources for domestic sources."

Moreover, increasing taxes on fossil fuels jeopardizes the more than ten million American jobs in affected industries. With our unemployment near 10% and our economy just beginning to flirt with recovery, the last thing we should be considering is raising taxes on an industry that could catalyze economic growth and increase our energy security.

Second, the administration has demonstrated its unwillingness to harness the tremendous economic and energy security benefits of tapping America's vast oil and gas reserves. The recently announced plan for exploration on the Outer Continental Shelf removes areas already open to leasing, delays leasing off of Virginia, and ultimately commits the nation to nothing more than studying new areas in the future. Banning, or potentially banning, the production of up to 90 billion barrels of recoverable oil, more than four times proven reserves for the country, is not consistent with improving the country's economic or energy security.

These two actions taken together signal nearsighted policies that do little to further energy security and most definitely could have significant negative economic impact.

The decisions we make on energy in the next few years will largely determine who we are as a nation for decades to come. We need to approach this thoughtfully and be crystal clear about the tradeoffs, timelines and costs to the American economy. We certainly don't want to find our economy in a worse situation than we are today.

Investing in research, development, and especially deployment of new technologies will ultimately pay major dividends. But it is important to remember that government should not be in the business of picking technology winners and losers and that research and development – while critically important – takes time. It is also critical to find the appropriate roles for government and the private sector. The role of the private sector in our future energy security is paramount and we should not seek to crowd out their participation, capital, innovations or expertise.

While I realize this Committee's jurisdiction is limited in this context to fiscal policy, it is important to realize that tax incentives are only one avenue to foster the deployment of clean technologies, and there are other instruments which, in some situations, may prove more impactful and less expensive over time.

## **II. Identifying the Real Benefits: Separating Fact from Fiction**

There is no question that the next best source of new energy is the energy we can save every day. Putting into practice more robust energy efficiency programs is a crucial component of our nation's energy security. Immediate benefits can be realized by increasing building efficiency and appliance standards, two areas with high energy savings potential. These actions would reap immediate economic and environmental benefits by better harnessing the energy we unintentionally waste every day. Initial groundwork has been laid in this area following

enactment of the Energy Policy Act of 2005, the Energy Independence and Security Act, and the American Recovery and Reinvestment Act of 2009, but substantial benefits are still in the offing.

The United States has improved its energy intensity – that is, energy use per unit of gross domestic product – at a steady rate since 1970 when it took roughly 18,000 btu to produce one dollar of GDP. Today, it takes a little less than half of that. At the same time, the United States can and should make further improvements.

Despite the substantial efficiency gains that have been made since the 1970s and improved rates of energy intensity, the projected growth in U.S. energy demand cannot be met with current electricity generation and efficiency efforts alone. More work is needed to expand and diversify our resources and accelerate energy efficiency gains across all sectors. We must increase efficiency throughout the entire energy delivery chain by employing new technologies and increasing use of novel applications, even as we make our buildings, appliances, lighting, and automobiles more energy efficient.

Renewable sources of energy such as wind, solar, energy-from-waste, hydropower, geothermal, and biomass will play an increasingly important role in our nation's energy supply as they continue to become more cost competitive with traditional energy sources. This is especially true for sources that can provide reliable baseload electricity. It is critical that policies are put in place to promote the development and deployment of all clean energy technologies, including renewables. This does not, however, mean that we should create a sector of the energy market that cannot, and will not, be sustainable over the long-term without substantial government subsidies.

Renewable electricity is enjoying robust growth, but we must be realistic in our expectations for its role. With solar and wind accounting for 1.8% of our overall electricity production, it remains a very small component. Conventional hydropower provided about 7% of generation in 2009, biomass 1.4%, and geothermal 0.4%.

Policymakers also need to be mindful of not singularly supporting some industries at the expense of others. A study released in March 2009 by researchers at Spain's King Juan Carlos University examined the economic impact of Europe and Spain's support for green jobs. The study concluded that for every green job created, 2.2 jobs were destroyed and cautioned that if a similar agenda is pursued in the U.S, we could lose 6.6 to 11 million jobs in order to create 3 to 5 million green jobs, resulting in a net loss of jobs. In addition to the devastating impact on job creation, the study also cautions that the bubble created by Spain's push to create green jobs through government intervention instead of market incentives was ultimately paid for by the consumer, resulting in an increase in electricity rates and an increase in taxes to pay for the enormous subsidies given to renewables.

A study of Denmark's wind industry conducted by the Danish Center for Political Studies (CEPOS) released in September 2009 concluded that "creating additional employment in one

sector through subsidies will detract labor from other sectors, resulting in no increase in net employment, but only a shift from the non-subsidized sectors to the subsidized sector." This also means that in many cases, jobs are being shifted from more productive sectors to less productive sectors, negatively impacting GDP. Proponents of unrestrained renewable energy subsidies continue to attack studies critical of that approach, but their findings are intuitive: government policies that drive capital to investments the market otherwise avoids results in economic inefficiencies. There are no free lunches. When such policies are targeted and limited in their length and scope the catalytic effect outweighs economic consequences. But European style energy subsidies are neither targeted nor limited and economic consequences have been pronounced.

In the U.S. an assessment of the current state of green job creation across the nation illustrates the shortcomings of an overreliance on subsidies. After a year, the \$5 billion to weatherize homes authorized in the American Recovery and Reinvestment Act of 2009 (also called the stimulus bill) has only retrofitted 30,250 homes, approximately 5 percent of its overall goal. In California, the program has created only 84 jobs and 849 homes have been weatherized - a miniscule number when compared to the state's 12.5 percent unemployment rate and 37 million residents.

### **III. Deployment Policy: Regulatory Burdens Frequently Trump Fiscal Incentives**

It is important to establish the specific rationale for all policy proposals, but especially in the case of furthering the "green economy." Ultimately we should be focusing on the deployment of clean energy technologies that will help us transition towards a cleaner and more secure energy future. Execution of this goal should not be prescriptive of specific technologies that further this goal; the country nearly always suffers when the government selects technologies. These policies should be clearly limited in time and scope, but for long enough a period of time that they achieve their goal.

#### **Subsidies**

The recent history of fiscal incentives for clean energy technologies is checkered with "boom-bust" intervals that inhibit private capital from being invested, never knowing whether the federal support will exist from year to year. Once a technology has realized the milestone of commercial deployment, it is incumbent on the government to allow American consumers, through the market, to determine whether such technology merits their purchase or not. Subsidizing a technology in perpetuity is a wasteful use of tax dollars and does not ultimately further the country's energy security. As such, we have supported extending the various renewable production tax credits for eight years, followed by a scaled phase out over four years. Providing long-term certainty for investors will ensure greater capital availability for clean

energy technology deployment, while the definitive sunset will ensure tax dollars do not continue to support technologies that are not commercially viable.

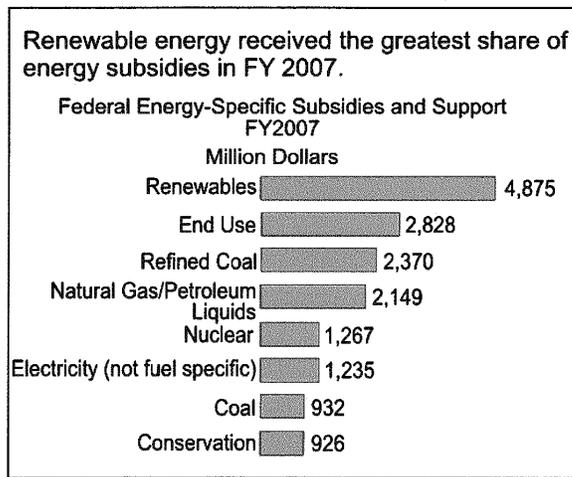
Many proponents of renewable energy cite Germany as a model for expanding the renewable power sector. However, after close examination it appears to be more of a cautionary tale. Nearly 20 years ago, Germany implemented the world's most aggressive renewable power deployment policy consisting of progressively greater subsidies. The goal was to provide significant federal support to push the technologies to reach greater scales of efficiency and to make them competitive in the power market much sooner. Bringing down the marginal cost of clean technologies is laudable and should ultimately be the goal of fiscal policy for energy technologies, but the German case demonstrates how perennial direct subsidies actually disincentivize technology evolution and have created a market that is hardly more sustainable today than it was 20 years ago.

In 2008 Germany was home to the largest installed photovoltaic *capacity* in the world and the second largest wind *capacity*. However *capacity* and *generation* are not the same thing and while in 2008 Germany had renewable facilities with the capacity to produce more than 26 percent of its electricity, renewables only generated 17 percent of total electricity. Coal accounted for more than 45 percent of electricity generated, while wind and solar accounted for only 7% of generation in spite of an estimated direct subsidy of \$100 billion from 2000-2010.<sup>1</sup> In 2009 on-shore wind required a subsidy of three times the per-kilowatt cost of the market price to make it competitive and solar required a subsidy of more than eight times the market price. To pay for this, German rate payers paid almost 8% more in their utility bills. When the German government proposed a 15% reduction in the current subsidy structure cabinet meetings were protested by workers from renewable manufacturing facilities. With the likelihood reduced subsidies, Germany's solar industry faces an uncertain future because even after 20 years of aggressive subsidies, the technology is still too expensive to compete with other sources, even with European Union climate regulations adding to the cost of conventional sources.

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<sup>1</sup> Economic Impacts from the Promotion of Renewable Energies: The German Experience. Rheinisch-Westfälisches Institut. October, 2009.

In the U.S., when subsidies across the electricity sector are compared, renewable sources have received the largest percentage of federal dollars and are the most expensive sources receiving subsidies except refined coal. The subsidies for wind and solar per unit of production are eighty times greater than that of natural gas and twenty five times as large as nuclear. Energy-specific subsidies have more than doubled since 1999.



Source: Energy Information Administration, *Federal Financial Interventions and Subsidies in Energy Markets 2007* (April 2008).

Rankings of subsidies and support based on absolute amount and amounts per megawatthour of generation differ widely, reflecting substantial differences in the amount of generation across fuels.

Subsidies and Support to Electric Production by Selected Primary Energy Sources			
Primary Energy Source	FY 2007 Net Generation (billion kilowatthours)	Subsidies and Support Allocated to Electric Generation (million FY 2007 dollars)	Subsidies and Support per Unit of Production (dollars/megawatthour)
Natural Gas and Petroleum Liquids	919	227	0.25
Coal	1,946	854	0.44
Hydroelectric	258	174	0.67
Biomass	40	36	0.89
Geothermal	15	14	0.92
Nuclear	794	1,267	1.59
Wind	31	724	23.37
Solar	1	174	24.34
Refined Coal	72	2,156	29.81

Energy Information Administration, *Federal Financial Interventions and Subsidies in Energy Markets 2007*, SR/CNEAF/2008-1 (Washington, DC, 2008).

Fiscal Policy has been, and will continue to be, an important tool on the federal government's menu of technology deployment policy options. Tax incentives can be powerful drivers of capital to specific markets, but there are also other mechanisms that can facilitate private investment *without* further burdening the American taxpayer.

#### **Regulatory Streamlining**

Nearly every new energy project, whether traditional or alternative, struggles with regulatory and siting burdens that at best increase the cost of production, and all too often result in the project being canceled. Nearly everyone is familiar with the term, "NIMBY" and how it applies to building new energy facilities, but it has evolved to an even greater threat to our energy security; "BANANA," or Build Absolutely Nothing Anywhere Near Anything. This would be humorous if it were not an accurate depiction of the situation energy developers face across the country.

A little over a year ago the U.S. Chamber began an initiative, "Project, No Project," as an effort to catalogue any energy project that has been delayed or scuttled. We have recorded over 380 projects representing 250,000 direct jobs and \$560 billion of capital investment. With unemployment at 10% and nearly every state scrambling to cover budget shortfalls, getting these projects built should be a top priority for everyone.

The average American would probably assume that these are projects like coal or nuclear facilities, which routinely draw the ire of organized activists. While many of the projects are traditional, most would find it astonishing that over 40% of them are renewable energy projects. Neither wind, nor solar, nor biomass is spared by the various obstacles routinely erected to block any new energy project. So while a company may decide to catch the green wave and build a renewable facility, and then obtain capital commitments from private investors seeking the federal income tax credit, it is still more likely than not to encounter obstacles in the permitting and siting process that increase the expense by drawing the process out, many times ultimately leading to scrapping of the project altogether. Congress can eliminate many of these obstacles by streamlining the approval process.

One clear example where Congressional action is absolutely necessary is interstate transmission. If the country is going to realize President Obama's goal of producing 25% of our electricity from renewable sources by 2025, it will require a significant build-out of solar in the southwest desert and wind in the upper mid-west because that is where those sources are most intense and most efficient; but unfortunately not where many people live. So developers will only build the renewable facilities if they can get their electricity to the major load pockets hundreds and thousands of miles away. Getting approval to site and build a transmission line across state lines is difficult to achieve, averaging upwards of ten years. And most transmission developers quit long before the ten year average because they cannot afford to have capital tied up in a risky project for a decade. Congress can solve this problem by granting the Federal Energy Regulatory Commission preemptive siting authority, much like it already has for pipelines. This one change, while not an easy political lift, will help facilitate significant build out of renewable power and without a cost to the American taxpayer.

#### **Concessionary Financing**

Beyond regulatory changes, there are additional steps the federal government can take to foster the necessary private sector investment needed to meet our future energy requirements that do not necessitate fiscal incentives. In fact, for new and emerging technologies, tax credits are not enough to encourage investors to take a risk on an unproven technology. Through the Export-Import Bank and the Overseas Private Investment Corporation, the federal government regularly provides a range of financing tools to U.S. companies to build clean energy facilities in other countries. Yet, no similar entity exists for deploying clean energy technologies domestically.

Indeed, securing our energy future is in large part tied to the degree we are able to accelerate the commercial adoption of new technologies, and that will necessitate an accelerated rate of capital formation. Federal and state governments can help leverage private capital to attain this goal by reducing investment risk and lowering the cost of capital. The Department of Energy's loan guarantee program created in the Energy Policy Act of 2005 is a good start, but it is not independent and is not authorized to offer assistance beyond loan guarantees. We strongly support the creation of an independent Clean Energy Bank that is authorized to provide

concessionary financing like loan guarantees, direct loans, and risk insurance to projects deploying new technologies that conventional capital markets avoid. This concept is effectively captured by the creation of the Clean Energy Development Administration (CEDA) in S. 1462, the American Clean Energy Leadership Act, sponsored by Chairman Bingaman and Ranking Member Murkowski.

A federal approach to clean energy deployment that focuses on addressing market inefficiencies rather than competing with existing market players and investors is the appropriate role for government. Public-private cooperation is essential and should be encouraged, but injecting federal dollars into private markets too often creates distortions that ultimately increase prices for consumers.

#### **Scaling up the Market**

The price of advanced and renewable technologies will most certainly go down once the size of the market expands. Ironically, many countries' trade policies currently inhibit the natural expansion of advanced technologies by placing heavy tariff and non-tariff barriers on clean energy goods and services. The U.S. should lead the charge in removing these costly barriers thereby creating larger markets and export and job opportunities.

#### **IV. "Green Job Economy" but a Fraction of the Energy Economy**

We must recognize that the marketplace is the most efficient allocator of resources, be it human or financial. Whenever government tries to pick winners and losers through excessive regulation, centralized planning, and open-ended subsidies, it tends to fail—and taxpayers and consumers lose. The government should not undercut the traditional energy sources that are truly the engine of our nation's economic machine through increased costs of production and limitations on areas open for exploration. We need a diverse portfolio that includes all of our domestic resources to increase our economic and energy security.

One also needs to recognize the tremendous benefits of and opportunities for the largest source of clean energy we have—nuclear energy. Accounting for more than 70% of our emissions-free electricity, nuclear power will be a major driver in our transition to a clean energy economy. Nuclear power is also an economic engine, with each plant contributing more than \$430 million to the local economies and employing up to 700 workers at wage rates 36% above the local average. We estimate that if the 26 reactors that have been proposed to the Nuclear Regulatory Commission are built, approximately 240,000 jobs will be created. The nuclear industry has already invested more than \$4 billion and created more than 15,000 jobs in support of nuclear expansion and construction hasn't even started yet.

The economic benefits of putting our homegrown resources to work for us are undeniable. The oil and natural gas industry alone supports 9.2 million jobs across the country and has the potential to employ hundreds of thousands more if policies that increase access to our domestic resources are implemented. In 2008 alone, natural gas production supported nearly 3 million jobs and contributed \$385 billion to our nation's economy. If oil and natural gas companies reduce domestic production as a result of increased taxes or other costs, much-needed jobs will disappear, and imports from some unstable areas of the world will no doubt increase to fill the void.

#### CONCLUSION

Our nation faces some extraordinary energy challenges in the years ahead, but these challenges are also an opportunity. When it comes to energy, we need it all. New technology is the cornerstone of any sensible energy policy. Today, these innovations can only be successfully brought to market if an appropriate and stable legal, regulatory, and fiscal environment is maintained over the long term. But ultimately, such ideas must stand on their own and meet the demanding tests of both consumers and the free marketplace. If we embrace a comprehensive approach and enact smart policies that do not further the growth of our nation's exploding deficit, we can lay the groundwork for energy security, environmental protection and economic prosperity and create the 20 million sustainable jobs our country needs.

The private sector has been - and will continue to be - the engine that drives America's economic recovery, and we must have the tools we need to create the path forward.

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Chairman LEVIN. Thank you. We are each going to take 4 minutes. Let me throw out a question that I hope might flush out what I think may be differences underlying different approaches.

If you do not mind, Ms. Harbert, I am going to take a sentence or two out of your testimony and go down the line and ask each of you to comment on it.

This is the quote. "Investing in research and development, especially deployment of new technologies, will ultimately pay major dividends, but it is important to remember that government should not be in the business of picking technology winners and losers, and that research and development, while critically important, takes time.

The role of the private sector in our future energy security is paramount, and we should not seek to crowd out their participation, capital, innovations or expertise."

We heard earlier from some of our colleagues warning against picking winners and losers. If I might ask, starting with you, Mr. Pickens, just comment briefly. I think there are differing underlying assumptions here that need to be discussed.

Mr. Pickens, your comment, and then you will have the last word, Ms. Harbert, if my 4 minutes are not up.

Mr. Pickens, your comment on what I just read.

Mr. PICKENS. It is not picking winners or losers because you only have one resource. It is already picked. There is only one resource we have in America that can move in an 18 wheeler other than diesel, which is imported. It is natural gas. You cannot move it with a battery.

I had this conversation with Senator McCain in August of 2008. He said we cannot be put in a position to pick winners. I said it is not a multiple choice question, Senator. There is only one resource. You need to understand it, embrace it, explain it to the American people and move forward and get an oar in the water.

We have to get something going. We cannot continue to talk about this subject forever. Now we are down to a point where we only have one resource. It is abundant. Fortunately, it is abundant.

You have four thousand trillion recoverable gas. J.P. Morgan says eight thousand trillion in place. You cannot recover all that. They know that. Four thousand trillion would give you the barrels of oil equivalent of three times what the Saudi's claim they have, which I do not think they have what they claim they have.

You will be three times in equivalent barrels of oil. You will have it in a cleaner, cheaper domestic fuel than the oil you are importing.

Chairman LEVIN. Mr. Abate. In your testimony, you seem to be picking winners and losers. What is your comment?

Mr. ABATE. The comments were more about where the market is today. When you look at the energy system and our energy resources long term, it is about diversification. The way we see it right now is with alternative energy being less than 2 percent, the question is is it going to be everything? No. It clearly can be more, 5–10–15 percent, and that is a journey that we can go down.

When you look at alternative energy, there is a portfolio of ideas in there. As a technology company, we have invested \$1 billion in wind. The cost of wind power has come down 80 percent in the last 25 years. It is now the most commercially scalable alternative resource globally.

That happened with research that was 10 years ago and then market support and the ability to deploy.

When you look at the alternative energy space, I do not see a problem that we cannot solve. The question is we just have to make it very clear as to the journey we are on that this is a space we want to continue to penetrate with, and you will see companies step up to the plate and continue to invest and build out.

You will see solar get more competitive. You will see other technologies become more competitive, as long as there is a long commitment that this is a journey from a diversification and security perspective that the country wants to be on.

Chairman LEVIN. Briefly, Dr. Sachs.

Mr. SACHS. Yes. Of course, we target technologies and have for decades. We would not have the Internet. We would not have a computer industry. We would not have a biomedical industry if we had not engaged heavily in federally supported targeting of technologies.

Here, we have many areas where we know we need to go. With electric vehicles, we know, for example, the battery technology is so important, but there are many other parts of the electric vehicle transition that needs Federal support.

Solar, wind, nuclear, the new grid, carbon captures, sequestration, are all very important large scale areas where we will have private and public research and development efforts that need to be complimentary to get the job done.

It is complementarities. That is how large scale technological change happens throughout our economy, and it is how it has happened for decades.

Of course, we aim at many opportunities. Which one ends up being the big winners, you are never quite sure. It is not to go one way. If we only drove 18 wheelers, maybe there would be one answer, natural gas, but we drive lots of things. We use energy for lots of things as well. We need to go down many different pathways.

Chairman LEVIN. My 4 minutes are up. I will leave it to others. Mr. CAMP says I can take more than 4 minutes.

[Laughter.]

Chairman LEVIN. Mr. Romm, be brief, if you would.

Mr. ROMM. I have heard the phrase "we cannot pick winners and losers" from back when I was at the Department of Energy in the nineties. The trick is not to pick winners and losers. The trick is just to pick the winners.

We know what the winners are. The winners are the technologies that give us clean air and clean water and that get us off oil.

The question is where do we spend the next dollar. Do we keep cropping up the technologies that are polluting the environment and have most of the market share or do we start vetting on the technologies of the future, the ones that China and Europe and Asia are trying to corner the market on, the ones that are going to generate all the high wage jobs.

At some point, governing is about making choices. I think we want to choose clean air, clean water and clean energy jobs.

Chairman LEVIN. Ms. Harbert, I quoted you, so you have the last word.

Ms. HARBERT. Thank you. I think actually everybody has made very good points. We are talking about a healthy economy, and a healthy economy depends on a diverse set of energy resources going forward.

Our investment strategy to spur the broad sweep of new technologies, those types of strategies should be diverse as well. Strength and diversity.

When government tends to get in there and manage those choices, it tends to pick the losers, actually not the winners, as we have seen by past government failures.

What we want to see is actually have investments made in a broad set of technologies and then to let the market eke out the efficiencies and the most competitive technologies rise to the surface.

That is good for the economy. It is good for the consumer, and ultimately it is great for exports.

We want to make sure that we are leveraging financial resources from Government along with private capital and expertise and not have one crowd out the other.

Chairman LEVIN. Thank you. Mr. Camp.

Mr. CAMP. Thank you very much. There has been a lot of good testimony today. One of the things that troubles me about what I hear is somehow oil and gas production tax credits do not work but they are fantastic when they come to wind, solar and renewables.

I guess my concern is given the pamphlet that the Joint Committee on Taxation gave us that said that if you increase the price of domestic fuels, and I am quoting, "It will primarily result in substitution of foreign fossil fuel sources for domestic sources."

You are not going to go to renewables. You are going to go to importing more foreign oil. Obviously, one of the things we want to try to achieve is energy independence here.

I guess I would ask Mr. Pickens and Ms. Harbert, how would increased taxes on domestic oil and gas producers affect our dependence on foreign oil in your opinion?

Mr. PICKENS. Excuse me. I did not hear you.

Mr. CAMP. How would increased taxes on domestic oil and gas producers affect our dependence on foreign oil in your opinion?

Mr. PICKENS. It will not. Take the IDC, the intangible drilling costs, and remove that, it cuts your cap X for the industry by 30 percent. There go jobs. There go wells drilled. There are reserves un-found.

The industry has gotten us in a spot where we are competitive. It is up to us now to go ahead and execute, which we have not done. You need to point to the natural gas and say this is going to go into transportation fuel.

I know a comment here about eight million 18 wheelers is not going to fix energy for America. No. Some place, you have to start. You have to start.

Let's say you do the eight million 18 wheelers. That is what we have in the country. Those go to natural gas. It is the largest target with the smallest number of people to carry it out.

If that happened overnight, it will not, but it will happen over 7 years, if that happened over 7 years, we would cut OPEC in half. That is 2.5 million barrels a day with only eight million 18 wheelers.

I am going after the most attractive, quickest target.

Mr. CAMP. I understand. Ms. Harbert, it is going to be some time before you can power a manufacturing plant with wind or solar.

Ms. HARBERT. That is absolutely right. You cannot put wind and solar in your gas tank yet.

Mr. CAMP. Not yet, and you cannot power a large manufacturing facility, whether it be an automobile plant or other manufacturing plant, with wind or solar yet.

If these incentives for domestic manufacturing of oil and gas and domestic production of oil and gas are taken away, as proposed in the President's budget, what effect will that have on our domestic oil and gas industry and our dependence on foreign oil and job creation?

Ms. HARBERT. I think it has three immediate impacts. The first is it is hard to explain if we want to decrease our dependence on foreign oil, why would we make domestic oil and gas more expensive, because what that sends to the market is a signal that says take your money elsewhere. That means take your jobs elsewhere.

If we take our money and our jobs elsewhere, that is bad for the economy. It also then does not bring more domestic resources of which we know now we have even more than we thought we had,

and those resources will not be brought to the benefit of our economy, so we will import more.

As I said, in 1986, we saw what happened when we enacted the windfall profits tax, on the very companies we are talking about. We increased our imports by 19 percent. We are still paying for that bad mistake. Do we want to pay for it again?

Mr. CAMP. Thank you. I see my time is expiring. Thank you, Mr. Chairman.

Chairman LEVIN. Mr. Rangel will inquire.

Mr. RANGEL. Thank you, Mr. Chairman.

Mr. Pickens, let's not talk about your age in terms of how we have to expedite doing the right thing because it scares me. You are going to live a long time but our time to get this time is short. I want to thank you for the great contribution you have made.

I just want to ask you quickly, since everyone seems to say that your program in terms of natural gas makes a lot of sense, have you run across any arguments that you would like to present or to state that we should be looking out for?

Is there any downside as to why we should pay more attention and provide incentives for the discovery of natural gas?

Mr. PICKENS. The natural gas is the cheapest—

Mr. RANGEL. We are with you. I am asking you have you heard anything contrary that you would want to share with us.

Mr. PICKENS. No. Let me add this one point. When somebody does say Boone, you do not know what you are talking about or Boone, there is something else, I always ask them okay, what is better than what I am talking about.

Then they say, well, I do not like yours. I say then you like foreign oil.

Mr. RANGEL. Makes a lot of sense. My time is going too fast.

Do you think there is a need for incentives for the oil industry to produce more oil?

Mr. PICKENS. I did not hear the question.

Mr. RANGEL. Do you think that it is necessary for the United States to continue to provide incentives to increase the production of oil?

Mr. PICKENS. Well, oil is not natural gas. You know that.

Mr. RANGEL. I know my question. I am concerned about your answer.

Mr. PICKENS. My answer is the incentives as you have given have not increased oil but has increased natural gas.

Mr. RANGEL. Do you believe it is necessarily to subsidize oil any further and we should concentrate on natural gas?

Mr. PICKENS. I would leave the industry as it because it is providing what we want. We have an abundance of natural gas.

Mr. RANGEL. Would you ever think that we should target these incentives and subsidies in other industries such as natural gas and alternatives and not consider just removing some of the subsidies as an increase in tax?

Mr. PICKENS. If I was going to tax anything, I would tax foreign oil. I would not tax your domestic industry.

Mr. RANGEL. Okay. Very good. Dr. Sachs, let me say publicly how proud I am of the work that you have done over the years in

so many areas and certainly America and the world has complimented you for these initiatives.

It seems that you agree with Mr. Pickens that we do not have a plan and that we should have one. I am certain the Administration would think they do have a plan.

Honorable Harbert, your testimony, is that on behalf of the U.S. Chamber of Commerce? I know it is mentioned in your testimony. Have they adopted the so-called "plan?"

Ms. HARBERT. This is a plan that we have presented on behalf of the Institute and the Chamber to the Administration and the Congress.

Mr. RANGEL. Dr. Sachs, have you had a chance to see or hear about the plan that the U.S. Chamber would have?

Mr. SACHS. Unfortunately, I do not know the details of the Chamber plan. I liked many things that I heard just now, but I do not know—

Mr. RANGEL. Could you help us out in the Committee by reviewing her plan and any other plans that has broad based support and see whether you can take the initiatives that the Administration has presented and see whether you could tie that up into something we could call a "plan" and that the Committee could look at, and feel free after we get that—we can feel free to see where people think priorities should be given so we can work with the Administration and tell them that what they have done may be a little bit disorganized, but we are going in the right direction? That would be very helpful.

Mr. SACHS. Congressman, I would be happy to do that. Let me add they acknowledge they do not have a plan at this point.

Mr. RANGEL. All the more reason I will be depending on you and anyone else that you would be willing to share your reputation with, and maybe we can get a plan going.

Mr. SACHS. Wonderful. Sounds good.

Mr. RANGEL. I yield back.

Chairman LEVIN. Thank you. Mr. Stark.

Mr. STARK. I thank the panelists for their input. I have two issues. Dr. Sachs and Dr. Romm are the only other MIT trained persons here.

I am concerned that under a cap and trade policy, economics being what they are, that extra amounts could be allocated and we would run into a trading frenzy in Iran or something else. In other words, the cap and trade thing could become a market fiasco. I think there has been some evidence of that where it just got too complex and carried away. That is a concern.

My other concern is that my suspicion is that my idea 20 years ago of a carbon tax might be a lot simpler. Some of you might like it. Some of you might not. I wonder if any of you would care to comment on that, Mr. Sachs, Dr. Romm and Ms. Harbert, whether that fits in.

Mr. SACHS. Congressman, I am not a fan of cap and trade. I think it would be a very cumbersome, complicated way to accomplish things that can be accomplished in a more straightforward and with more powerful incentives.

A carbon tax, for example, is a far more persuasive policy. The reason we do not advocate it in our politics is it has the “T” word in it, not because it is a poor policy.

Mr. STARK. Or a fee, whatever.

Mr. SACHS. Some combination of clear subsidies for low carbon and taxes for emissions is far superior from an administrative point of view, a transparency point of view, and an incentive point of view than the cap and trade, which is unpersuasive on all three counts.

Mr. STARK. Can the Chamber live with that, Ms. Harbert? Go ahead, sir.

Mr. ROMM. I think the central point is the outcome which is to reduce pollution and clean up the air. From my perspective, you need a price on carbon. You need a shrinking cap on emissions and a rising price.

The House already passed a bill that is called “cap and trade.” It is not a perfect bill. I actually think it is a very good bill and it would transform the U.S. economy.

It is entirely possible to design that system so that Wall Street does not get rich. You simply do not allow—you only allow the industries that are regulated to own permits. You do not allow anyone else to own permits.

Obviously, the term “cap and trade” has been quite successfully demonized. I think the people who do not want to take action to preserve clean air, clean water and a livable environment are going to go after any system and demonize it.

I think one has to keep one’s eyes on the prize, which is making polluters pay for their pollution and using that revenue to jump start the transition to a clean energy economy.

I do not really care what you call it. I think the House is to be commended for the bill that it passed. We will see whether you can get 60 votes in the Senate for anything like that.

Mr. STARK. Ms. Harbert.

Ms. HARBERT. I will just make two quick points. I think you raise a very, very good point, that people should be very concerned about. We are talking about creating the biggest market ever in the history of our Nation.

There is a great deal of concern that can be manipulated, that it will be very non-transparent, and there needs to be significant effort given to the oversight, not just of the market but also of the industries that have to comply with the market.

Second, the Waxman-Markey bill that was alluded to, if that is the cap and trade mechanism that people would want to support, let’s look at what the EI said that would achieve in terms of renewable energy expansion. It would take renewable energy, wind and solar, from 2 percent to 6 percent. We are creating a huge expensive market and we are just going to triple renewable resources.

What are we really achieving?

Mr. STARK. Thank you, Mr. Chairman.

Chairman LEVIN. Mr. Herger.

Mr. HERGER. Thank you, Mr. Chairman.

Ms. Harbert, in your testimony, you explain how difficult it is to get any type of energy project built, specifically, you noted that over 380 projects representing 250,000 direct jobs and \$560 billion

of capital investment have not been brought online because of regulatory barriers.

Of those 380 projects, I believe you testified that 40 percent were renewable energy projects. Can you give us a sense of just how significant these regulatory barriers can be?

Ms. HARBERT. They are almost insurmountable. If you talk to anybody in the energy industry, anyone in the manufacturing industry and other facilities that are applying for permits from the Federal Government and state governments, it is nearly impossible to break through this hugely burdensome process.

If we are going to be competitive and globally competitive with countries like China, we have to be able to get things built in this country, whether it is a wind farm, a solar array, a natural gas pipeline, a natural gas facility, we cannot get anything built.

Capital is on the side lines. Jobs are not being created. It is a huge, huge problem.

Mr. HERGER. Ms. Harbert and Dr. Sachs, you both mentioned in your testimony the need to expand the use of nuclear power as part of a comprehensive energy security plan.

I think this is a very important point that deserves to be discussed. I am a big believer in the "all of the above approach." We need to step up domestic production of all sources of energy and that includes renewable, but the fact is according to the Energy Information Administration, we get more energy from nuclear power than from all types of renewables combined.

At the same time, we are far behind other countries in maximizing our nuclear capacity. France, for example, gets over 75 percent of its energy from nuclear power versus about 20 percent here in the United States.

What are some of the specific policy measures either on the tax or regulatory side that would be effective in encouraging greater use of nuclear power in the United States?

First, Ms. Harbert.

Ms. HARBERT. Thank you for the question. You are right. There is a huge opportunity to expand the use of emissions free nuclear power in this country. Right now, it takes, one estimates, since we have not done it in a very long time, about 10 years to get a project through the permitting process, and in France, it takes five. In China, it takes five. We need to streamline the permitting process to get these new facilities to enter into our economy.

We also need to raise the loan guarantee authority that is currently within the Department of Energy so we can get more than the two or three that are going to be permitted with the current loan guarantee authority.

We also need to make sure that the risk insurance program that was authorized by this Congress is actually utilized and in sync with current capital costs, since they have gone up since this Congress initiated that program.

Let's streamline it. Let's make sure the loan guarantee authority is properly financed, and let's ultimately make sure that the manufacturing capability is brought back to this country so we can manufacture the components here in this country to supply what is a badly needed new supply of clean emissions free electricity.

Mr. HERGER. Thank you. Dr. Sachs.

Mr. SACHS. Congressman, I agree with those statements, but I would say that broadly, this is a matter of public acceptance and therefore, it is fundamentally a matter of political leadership, and that is as part of what I believe is vital, a comprehensive national plan with the arithmetic in it, mind you, so that we really see where we are going quantitatively.

The President could and should explain to the American people why nuclear power has a safe and important role as part of an energy strategy. With that, I think we would make much faster advances on the specifics that were just referred to.

Mr. HERGER. Thank you.

Chairman LEVIN. Mr. McDermott.

Mr. MCDERMOTT. Thank you, Mr. Chairman. Dr. Sachs, Dr. Romm, I agree with my colleague, Mr. Stark, or I think I do, that you are not going to get anywhere in this country unless the Congress sends a very powerful signal, either cap and trade or a carbon tax. You can comment in a second.

I have a second question I want you both to respond to. I want you to be policy wonks at the moment, not politicians. Do not bring in politics.

Tell me why you would spend one more dime on coal and clean coal technology and all this nonsense with all the water it takes and all the problems.

In the New York Times today, Germany has a story about the villages do not want to do carbon sequestration under the Earth. You already have the problems in the first plant built in the world to do this.

I would like to hear one reason why we should spend another dime on coal in this country.

Mr. ROMM. From my perspective, obviously coal has 50 percent market share in electricity or almost 50 percent. It has been declining in recent years.

I do not think as a matter of public policy that you throw a lot of money at 19th Century technologies that fundamentally are dominate in the marketplace.

The point of public policy is (a) is there some benefit like public health or the environment that is missing in the market or (b) do you have a new technology you are trying to get into the marketplace.

Coal has many detrimental effects and many health consequences for both the workers and the people who have to breathe the air.

I have a lot of questions about that. The only interesting technology in the entire arena of coal is carbon capture storage. Can you gassify coal, split out the carbon and bury it underground?

I think it is worth pursuing that as one of many technologies. I think the evidence is it is unlikely to play a major role for two decades. I would want to make one point very clear.

If we are not going to price carbon, I would not spend a nickel on carbon capture storage. If you do not price carbon, carbon capture storage will never ever make sense. It will always be cheaper to just vent the carbon dioxide.

Mr. MCDERMOTT. You are basically saying if we do not have either a cap and trade market or a carbon tax, coal, there should not be another penny spent on it?

Mr. ROMM. Honestly, I do not see why; no.

Mr. MCDERMOTT. Dr. Sachs.

Mr. SACHS. Congressman, quantitatively, coal is so important for the world energy supply, including our own, that if we were to rule out coal, our prospects economically would be far, far grimmer than if we can include coal.

We really need to check whether coal can be used safely, and we do not know that yet because in the last 10 years, we have not succeeded in making one real scaled project on carbon capture and sequestration.

Mr. MCDERMOTT. Why? Tell me why that has not happened.

Mr. SACHS. Because the previous Administration did not work hard enough at it.

Mr. MCDERMOTT. They were in the oil company pockets.

Mr. SACHS. I think one could have a lot of theories but they did have a future gen project which in 7 years, nothing ever happened.

I think this is a tragedy because this is the same amount of time that it took us to get a man to the moon and back, and we could not build one coal fired power plant to test carbon capture and sequestration during that period.

I would say, Congressman, it would be of the gravest consequence if we cannot use coal because it is by far the most plentiful fossil fuel on the planet, but we cannot use it the way we are using it now safely into future decades. We need absolutely to invest in analyzing the answer to your question, which is an unknown answer at this point.

Since China is going to use its coal, absolutely. Since India is going to use its coal, since countries around the world are going to use their coal, we better find out whether this is safe.

Since we have 25 states which produce coal, let me predict—you asked me not to—let me predict as a politician, we are going to use our coal, too. We better find out whether it is safe to use.

Let me say as a policy wonk, a carbon tax is so much more straightforward, simple, predictable, and will drive the results where we want, and the only reason we have not done it, they both do the same thing in terms of pricing, but we have an allergy to a word and we have twisted for 15 years our public discussion because of an allergy to a word.

They both have the same effect on consumer pricing.

Mr. MCDERMOTT. Thank you.

Chairman LEVIN. Mr. Neal.

Mr. NEAL. Thank you, Mr. Chairman.

Mr. PICKENS., I was intrigued by your comments that a good environmental policy can be a good policy for our economy as well. Like most in this town, I enjoy Tom Friedman's columns, and he has argued that reducing our dependence on foreign oil is geostrategic, geoeconomic, capitalistic, and patriotic.

You have cited a strategy that China has committed to with respect to acquiring oil and meeting their future energy needs.

Could you talk to us a bit about what China is doing and how it would impact their economy and where do you think the U.S. should be?

Mr. PICKENS. First, China has a plan and we have no plan. They are carrying out their plan. In the last 18 months, they have either bought or made loans that tie up oil around the world.

They made loans to Brazil. They have equity interests in Northern Alberta, which was announced yesterday, bought \$4.8 billion of the oil sands oil from Conoco-Phillips there.

They have loans to the Venezuelans. They have loans to the Iranians. They have equity deals, \$64 billion worth of equity in oil they have purchased, and they spent over \$200 billion.

I mentioned the Iraqi deal. I am telling you, these guys are everywhere. They will look at any oil deal in the world. A deal that has not been announced but will be shortly, they are buying 20 percent in the Santos Basin in Brazil.

What does that mean? Why did they not buy 100 percent? All they need is 20 percent to get in a position to control the other 80 percent.

They have a plan. What is going to happen, what we are going to find is in 2 or 3 years, that oil that would have been on the market is going to China. They have already made a deal for it. They are not in the market trying to buy it. They have bought it or tied it up in some fashion or another.

If we go out 10 years from where we are today and do nothing, we will be importing 75 percent of our oil and we will be paying \$300 plus a barrel for it.

We cannot stand it. That is \$1 trillion a year that will be going out of the country where today we are only spending \$350 billion.

It will be three times what we are doing now to buy oil for America. You know, you all talk about carbon and coal and these other things. This is a security issue that is absolutely—it will be a crisis state in less than 3 years.

This has to be addressed. How we get off oil from the enemy.

Mr. NEAL. Thank you, Mr. Chairman.

Mr. STARK. [Presiding.] Mr. Johnson from Texas.

Mr. JOHNSON. Thank you. I agree with everything you have said, Boone. I wish people would listen.

Ms. Harbert, you state the role of the private sector in our future security is paramount. I think we agree. We ought not to try to crowd out their participation, capital innovations or expertise.

From your perspective, is the private sector currently being crowded out by Government policy and control?

Ms. HARBERT. I think we are at a crossroads, Congressman, because at the moment we have the potential of being taxed and regulated into very uncompetitive positions, whether it is through the oil and gas industry and putting punitive taxes on a single industry that the other parts of our economy currently enjoy or whether it is on picking a winner and overly subsidizing for an endless amount of time another part of our economy or it is in the banana syndrome, where we cannot get anything built, so our capital markets are frozen because we cannot get anything built because of a burdensome regulatory process, or a very litigious society, where every project is brought to the court system.

There is more energy policy being set in the courtroom today than in the halls of Congress. That should be of grave concern to you as every project is being litigated in the D.C. Court, the Court of Appeals, to see whether we can take it forward.

We do have the prospect of being taxed and regulated and litigated into a very uncompetitive position.

Mr. JOHNSON. That is just Government control. You think the private industry can take care of themselves if we give them a chance without taxing them to death?

Ms. HARBERT. In every major crisis in the past, we have delved into the deep well of American innovation and we have succeeded. We have developed the technologies to solve whatever challenge we had, and that would equally apply to our energy and environmental challenges.

If we are allowed to innovate, if are allowed to deploy these resources, we have the markets and we actually have been able to break down the tariff and non-tariff barriers around the world to actually export our technologies.

We worry today about imported oil. We should be worried about imported intellectual feedstock, because unless we innovate and develop the technologies and sell them, the inverse will be happening.

I think it is a warning bell to the government that the private sector is looking to other markets. We have companies in the State of Texas, in the drilling area, that are moving to Europe, because it is easier to compete there, and they have less of a tax burden in Europe than they do in the United States, because of double taxation.

Mr. JOHNSON. You are saying we ought to lower taxes and not put some kind of higher tax on. Even incentives, I do not think, work as well.

Thank you very much for your comments. Boone, I appreciate what your comments have been. I agree with everything you have said. Mr. Chairman, I yield back.

Mr. STARK. Thank you. The Chair recognizes Mr. Yarmuth.

Mr. YARMUTH. I thank you very much, Mr. Chairman.

I want to ask Mr. Abate, as you know, GE's plant in Louisville, in my District, announced last year that it would bring back from China production of a hybrid heat pump, water heater, electric water heater, and begin manufacturing that high efficiency product and appliance part.

How can Congress help GE and other companies continue to increase U.S. production of great products and create more green producing jobs?

Mr. ABATE. Yes, Congressman. We are excited about that. As you know, there are several appliances that fall under this incentive. Currently, that incentive expires this year.

We would like to see that extended. We think it accomplishes a couple of great goals. One is energy efficiency and technology leadership.

If you look at what we are doing now with our appliance products, they are leading the world as far as energy efficiency, and as a result, reducing the demand, which is part of this whole climate problem as well.

We would like to see that program continue, and that is what we support.

Mr. YARMUTH. Thank you.

Mr. STARK. The Chair recognizes Mr. Doggett.

Mr. DOGGETT. Thank you very much. First, I agree fully with the emphasis that my fellow Texan, Mr. Pickens, has placed on energy independence, on reliance on American natural gas as a vital transition fuel, as we move to a cleaner energy future.

I think it is particularly important for places that are relying on coal to move to natural gas as well as some of our transportation fleets, and I also recall that the original Pickens Plan placed a great deal of emphasis on American wind power. I think it is clearly a vital component of our future.

I find any significant reliance on coal—I have always viewed the term “clean coal” to be a little like the term “dirty poison” or “safe poison,” a conflict in terms. A bit more problematic.

I support fully the effort of President Obama and his budget to eliminate wasteful tax expenditures for the coal industry, but find particularly problematic—you referred to this, Dr. Romm, in your testimony—the addition of provisions by the Senate in 2008 that they have stuck on the extender’s bill that we passed over here, specifically coal to liquids and the refined coal credit.

Let’s talk about coal to liquids first. That seems to me to be—you referred to it in your written testimony—a good way to waste a substantial amount of water, a substantial amount of tax money, tax resources, and to generate a product that is more polluting, carbon polluting, than if we just used the petroleum based products that we already have.

Mr. ROMM. No question about it. Like I said, I have sat through as part of the Defense Science Board actually a taskforce on Defense Department energy strategy, because the Defense Department itself is trying to figure out how to come up with secure liquid fuels.

There is just no study, no independent study that finds any net significant public value from coal to liquids. These are staggeringly expensive technologies.

It cost \$5 billion just to build a coal to liquids plant capable of producing 80,000 barrels a day.

Mr. DOGGETT. I think we can put a lot of natural gas trucks on the roadway for that.

Mr. ROMM. For that kind of money, you can get a lot of clean energy. You can get a lot more natural gas, and I am certainly a supporter of natural gas as a bridge fuel.

The other thing about coal to liquids is it uses a staggering amount of water. It is something like five to seven gallons of water are necessary for every gallon of diesel fuel that is produced, and double that if you co-produce diesel fuel and electricity from coal.

This country is not making more water. In many parts of this country, they are suffering with more and more water shortages.

I just do not think it makes a lot of sense as a matter of public policy to be subsidizing coal to liquids. I have a figure in here, a chart in here, which shows from the perspective of heat trap and greenhouse gases, coal to liquids is more than double that of regular diesel fuel and almost any conceivable alternative, including

just turning natural gas into liquid diesel fuel, which would also make a great deal more sense, frankly, than turning coal.

Mr. DOGGETT. This refined coal credit, it was the second one added on. It sounds a lot like the boondoggle that was called the "syn fuel credit" back in the 1900s where people would spray on a little coal tar or pine tar or starch theoretically to change the substance of the coal to milk the Treasury.

Can you comment on this refined coal credit and whether it offers any benefits?

Mr. ROMM. I just would like to say—

Chairman LEVIN. [Presiding.] Do it briefly. I have just been told we are going to have votes fairly soon. We are going to face a dilemma.

Mr. ROMM. I think it does not make any sense to incentivize the greater use of coal. The only context in which it makes sense is a climate bill that places a price on carbon and then you do want to find out if carbon capture and storage is viable.

These other coal tax credits are just subsidizing the combustion of a fuel that harms human health directly.

Mr. DOGGETT. Thank you.

Chairman LEVIN. Mr. Thompson.

Mr. THOMPSON. Thank you, Mr. Chairman. Thank you all for being here to testify.

Mr. Abate, one of the issues that I am interested in is the storage of renewable fuels. It is a problem right now. If we are able to solve it, we can do a lot of good, I think, by being able to address peak demand times and the like.

I would be interested to know what your company, GE, is doing to advance the storage of renewables and what you think Congress should be and could be doing to help along those lines.

Mr. ABATE. Yes, Congressman. I think you are correct to be talking about storage. Clearly, it is going to be a challenge that has to be addressed.

In our view, on a massive scale, it is more of a 2015 and beyond timeframe, other than places like Hawaii or other land constrained regions. The country currently has the ability to put in a lot of renewable power over the next several years and manage it with the system we have.

If you look at what we are seeing as the wind is continuing to get installed, it is very complimentary to natural gas.

This country has built hundreds of billions of dollars of tremendous gas turbine generation, very efficient combined cycle systems, so the way we are storing wind energy today is we are essentially leaving the gas in the ground or leaving the coal in the ground, and there are control systems to make that all work and they are really part of the focus we have now.

Longer term, we are investing in battery storage and other technologies. We just announced a battery plant in Schenectady. We are looking at this more as an R&D effort.

I think the question is the cost effectiveness going to be there. Today, if I sold a turbine to a customer that had storage capability, I do not think they would pay me twice the price for it, and you need to get to a point to be able to pay for the equipment that goes in it.

It is going to be cost challenged. Tax credits to support to continue the investment but long term, companies are going to need that to be able to get the penetration levels over 10–15–20 percent on a big scale.

Mr. THOMPSON. Thank you. Dr. Romm, we are told we can save about \$50 billion in energy costs by providing greater efficiency for energy industrial and manufacturing sectors.

What do you think Congress should be doing to help promote that?

Mr. ROMM. I think there is no question about that. I think a couple of these tax credits, the combined heat and power, the recycled energy, expanding that, I think that is critical.

The amount of energy that is wasted and wasted heat that goes up our smoke stacks is equal to all the energy Japan uses for every purpose.

Capturing some of that energy in industry and power generation is critical. Of course, the manufacturing tax credit that was in the stimulus, I think, has been very successful. It needs to be extended and expanded. I think there is probably general consensus on that.

Mr. THOMPSON. Mr. Pickens, you had mentioned that if you had to tax something, you would tax imported oil. I have heard from a lot of folks in my district that is something they think we should be doing, that will help drive us away from there, capture those tax dollars, and then use that to address our energy issues, use that money to address our energy issues here.

If we could do that and without running afoul of some of the trade stuff that we have to deal with, do you see any problems that might accrue from that, any externalities that might surface?

Mr. PICKENS. No, but I think you may have the trade problem on taxing the foreign oil, but I would not be opposed to taxing gasoline.

I think we are going to need money from somewhere. We know that. Gasoline tax, no question, it would cut consumption, and that would be good if we did that.

The cars would become more efficient. We will go to light duty, more to a hybrid, which is good.

Once again, anything that is American, I am for. If we could cut, for instance, let's say we could cut OPEC in half in 7 years, that would recover for us \$100 billion a year back into the United States.

I do not know valuable that is. Let me take you back to a point I want to make. I may not get a chance to do it. Go back to the security issue for 30 seconds. That is all I need.

The State Department recommends that we not travel to countries that we get 40 percent of our oil from, excuse me, 40 percent that the OPEC oil is from. Forty percent, they recommend we not travel there.

If that is not getting oil from a questionable source, I do not know what it is. Just say that 40 percent of the OPEC oil cut us off, you would be talking about two million barrels a day. You would be looking at 200 to \$300 a barrel of oil in a minute if that happened to us.

We have got to get loose from this.

Mr. THOMPSON. Thank you.

Chairman LEVIN. We are going to have four votes. I think in fairness to the panel, we should try to finish.

Mr. REICHERT, you are next. There are three or four others. Do you think you would agree to 3 minutes so we can finish? Let's try, okay?

Mr. REICHERT. I always seem to be in this position. I am just pleased to be here, sir. Thank you.

Chairman LEVIN. So am I.

[Laughter.]

Mr. REICHERT. Thank you, Mr. Chairman. I am pleased to take 3 minutes.

I want to focus on the job question. Ms. Harbert, if I could direct my question to you. We are here today to consider some tax incentives to spur development of new energy.

Americans want jobs. They want new energy, but they want that energy, as Mr. Pickens has said, to be American energy.

If it is natural gas or whatever else we can imagine into the future as the new energy source to power our vehicles and our factories, boy, would it not be nice to be secure, as Mr. Pickens also said, to have that security, have jobs, have the economy going, so there is a balance here that we have to strike, I understand.

I just want to ask you a question. We have been working together. The American people also need to know there is bipartisanship occurring here in this Committee.

Mr. KIND and I are working on a bill that actually puts together a package of tax incentives for energy efficient retrofits of homes and buildings. It is H.R. 4226, if you on the panel are interested in looking at it.

Not only is Mr. Kind a part of this, but Mr. Davis of Kentucky, Mr. Blumenauer, Mr. Thompson, Ms. Schwartz and others.

The question I have is you have noted the savings that such efficiency measures can produce, can you comment on the job creation potential of incentives for energy conservation and how retrofitting homes and buildings can get more Americans back to work, and second, still focusing on the job issue, which is the number one issue for Americans today, in terms of creating more immediate and sustained jobs in the near term, would you say energy efficient tax incentives bring a greater return on our investment compared to other energy incentives or large scale subsidies?

Ms. HARBERT. Thank you for that question. I will try and be brief. First of all, on energy efficiency, the next best source of energy is the one we currently waste every day, so we need to make it attractive for people who are moving new commercial buildings and are in existing buildings to actually put in the infrastructure necessary to save energy, and that will create manufacturing jobs here.

It will create the development of technology, some of which is GE and others, they will be selling the technologies and the appliances, et cetera, to improve the efficiency of what consumes a significant amount of energy here in the United States.

It is an opportunity to create some jobs and certainly to save energy.

On the broader question about creating jobs, we need to think about this, not just about creating green jobs, but about creating

a healthy economy. We need to create 20 million jobs over the next 10 years, and clearly not all of those are going to be green jobs.

We have to be realistic about what percentage of those are going to be in the energy industry versus how much are actually going to be in unrelated industries.

We need to make sure we have affordable energy, reliable energy, that will underpin a healthy economy and not self select which parts of the economy and which parts of the energy economy we seek to stimulate.

Mr. REICHERT. Thank you. Mr. Chairman, I yield.

Chairman LEVIN. Thank you very much. Mr. Larson and then Mr. Blumenauer.

Mr. LARSON. Thank you, Mr. Chairman. Thank you for this thoughtful and provocative hearing. I want to thank all of the panelists.

I especially want to give a shout out from the people at Augie's and Ray's in East Hartford to Mr. Pickens and thank him for being there back in November.

It seems as though there is great unanimity amongst the panel that we do not have and have not had for more than 40 years a plan as it relates to energy. It also seems there is general consensus about the need to be comprehensive in our approach.

There also seems to be an awful lot of consensus that in terms of natural gas, there is unanimity that this is definitely a way we should go.

Mr. Pickens raised an intriguing point. He said he was not opposed to taxing gas. Mr. Neal raised the point early on about Thomas Friedman and his articles about how we continue to export dollars abroad that essentially go into the hands of our enemies who essentially arm the very terrorists who are going after our troops.

A question to the panelists, and we will start with Ms. Harbert, would you agree with Mr. Pickens that if we are looking at something to tax, that gasoline perhaps is the way to go?

Ms. HARBERT. I will go back to something that Chairman Bernanke said earlier this week, which is we are in such dire financial straits, we are going to have to raise taxes or cut spending or do both.

I think before we decide what we are going to tax, we need to fully explore all the options so that we do not increase the burden on the American taxpayer.

Mr. LARSON. Would you be opposed taxing gasoline?

Ms. HARBERT. I think we are talking about how much and what the revenue would be used for. If it just evaporates, then it is not seeking to do anything useful for the economy.

Mr. LARSON. Let's say the revenue is put into building 18 wheeler trucks and powering them with natural gas, the plan Mr. Pickens has laid out?

Ms. HARBERT. I do not know how you actually put that revenue there. I think it is an excellent question. The question for policy makers to think about is how much in this economy and what would the money be used for ultimately.

Mr. LARSON. Let me go down the list of the panelists. I know our time is brief.

Mr. ROMM. I tend to prefer to raise the price on pollution rather than one particular fuel. I think the revenue should largely be given back to the consumers and businesses. Some used for clean energy. At some point, we are actually going to have to reduce the deficit, but I think the focus has to be on reducing pollution and promoting clean energy at this point.

Mr. LARSON. Mr. Sachs.

Mr. SACHS. I think a gasoline tax makes sense, but one that I do not think is fully reflected in our conversation today is the incredible opportunity with electric vehicles to absolutely affect positively many of the dimensions that we are talking about right now.

If we go to electric vehicles in a significant way over the next 15 years, our oil dependence drops considerably. We get clean vehicles. We have a much more flexible power system, and we get storage, by the way, of intermittent power sources because the batteries of a vehicle fleet will vastly provide the storage that we are going to need to smooth out the peaks of demand.

One thing that any comprehensive energy plan should have in this country is attention to the conversion of our fleet, the automobile fleet, not the 18 wheelers, but the automobile fleet, to electric vehicles. That is within reach and that is where America should take a technological lead, and this committee should help to do that, I think.

Mr. LARSON. Mr. Abate.

Mr. ABATE. I would just comment that relative to security and pollution, diversity and domestic content, I think there are many aspects and many ways you can go at this. The question is what problem are you trying to solve.

I would look at this more holistically than just one particular target.

Mr. LARSON. Mr. Pickens.

Mr. PICKENS. It was my idea. I like it.

[Laughter.]

Chairman LEVIN. I think that ends that discussion. That is the best short answer we have heard in quite a while.

Mr. Blumenauer.

Mr. BLUMENAUER. Thank you, Mr. Chairman. I appreciate the reference. I think it may have been Dr. Romm talking about the water limitations, something that has not come forward.

Our ethanol costs 28 gallons of water per mile. One of the big limitations in nuclear, and it is going to be a bigger problem in the future, is that it is the most water intensive of our energy sources, and in a time of global warming climate change, reducing snow pack, it is going to be harder to have the water to do it.

I have been taken aback a little bit by some of the conversation here today about picking winners and losers. I appreciate some of our panel pointing out that the United States has been in the business of picking winners and losers, starting with the transcontinental railroads through the Internet and according to Mr. Abate's testimony, it looks like our efforts at betting on a green economy is paying some dividends right now in terms of diversity of energy supply and creating jobs.

I like the notion that several of you mentioned, Mr. Sachs and Mr. Pickens, about having a vision for how this fits. Not just an

energy policy. I would be prepared to argue that it is for how we rebuild and renew America, transportation, water, energy, all of this ought to fit together.

There is a way to finance it. I am pleased Mr. Pickens talked about gas tax. Others of you did. The Chamber has testified here before this committee that they would favor a 5 or 10 cent a gallon increase now.

I am hopeful that we can think a little different about the cost equation, because a lot of costs get swept away. We have had reinforced in the last 10 days the cost of coal production, 100,000 Americans have lost their lives in the coal industry. How we factor in mining lives, air pollution deaths of coal, bulldozing mountain tops into streams, there is a lot going on here.

The thing that is most vexing for me is I am hearing that somehow if we make a small adjustment in some of the subsidies, that it is going to destroy our oil and gas industry in the United States.

My recollection is our per barrel price in the last 3 days has varied from about \$84 to about \$85.94. That, I think, is a global price for a fungible product.

I would like to know what any of our witnesses think would happen to the global oil price and global oil production if a few hundred million or a few billion dollars are factored out of what for the United States is two-thirds of \$1 trillion a year, in a global oil market.

What is really the impact that is going to be and who is going to get the benefit? Global oil markets or it will be somehow just the United States?

Mr. Sachs, do you have something you want to say? Others can chime in. And if you think we do not have a global oil market.

Mr. SACHS. We definitely have a global oil market and if I understand your point, Congressman, small changes that we make domestically are not going to be the main drivers of the global oil price. That is absolutely certain.

Mr. BLUMENAUER. Does anybody else here dispute that? Mr. Pickens.

Mr. PICKENS. I am not going to dispute it. I would like to comment.

Mr. BLUMENAUER. I want to get the point here, that it is a global price and oil companies are going to go where they can make money on the oil price, the global oil price.

Mr. PICKENS. Let me just comment. If you get on natural gas, your own resource, you can bring the price of oil down, but as long as you go back to the global market for more and more oil, all you do is send a signal that you are there and you are going to have to pay for it.

There is 85 million barrels of oil produced every day in the world. We are using 21 million. We are using 25 percent of all the oil with 4 percent of the population.

Mr. BLUMENAUER. I agree with your point. I want to get to the notion that somehow if \$1 billion is lost out of all these subsidies, that somehow that is going to have a profound effect on the global oil price, and if it works, we are going to lower the price of the oil for people around the world.

Ms. HARBERT. Congressman, that is two different questions, I think.

Mr. BLUMENAUER. Mr. Chairman, I would welcome a written follow up.

Chairman LEVIN. Yes, let's do that.

Mr. BLUMENAUER. I would really welcome the facts on that. Thank you.

Chairman LEVIN. I think this is going to work. Mr. Boustany, you are next, and then Mr. Pomeroy.

Mr. BOUSTANY. Thank you, Mr. Chairman.

Chairman LEVIN. It is Mr. Boustany, Mr. Davis and then Mr. Pomeroy. There are three of us left to inquire before those bells ring. Let's try to do it in 3 minutes each. Thank you.

Mr. BOUSTANY. Thank you, Mr. Chairman. Dr. Sachs, I appreciate your very succinct statement of the three goals. I think that is important, and the fact that we lack a strategy and we need a strategy. I think there is a big difference between strategy with regard to energy versus just policy.

Also, the need for a realistic transition strategy. I think we all have been talking a little bit about natural gas. I know Mr. Pickens has made that a big focus.

I am very concerned because we have the appeal of certain tax provisions in the President's budget proposal with regard to the oil and gas industry, and these will hit our smaller independent operators, American producing companies, that hire a lot of folks in my State of Louisiana and Texas and the Gulf Coast.

We know what happened in 1986 with the windfall profits tax. We lost a lot of really good workers who dispersed around the globe. We lost a lot of technical know-how, and our imports, as Ms. Harbert pointed out, jumped 19 percent.

We have to make a distinction between oil and natural gas. I am concerned about these tax increases that will also have an impact on our natural gas industry. Natural gas is at a pretty cheap price right now. If you put these taxes on the natural gas producers, it makes it less likely they could extract gas, particularly from shale, which is more expensive.

Mr. Pickens and Ms. Harbert, I would like you to comment on that. I know with hydraulic fracturing, there is a lot of talk about making it more cost prohibitive for the regulations on it.

This is going to hurt our energy security in the long run, would you not think?

Mr. Pickens, if you do not mind?

Mr. PICKENS. If you increase taxes, it will cause a problem. Of course, it will. We have the cheapest natural gas in the world today. We are cheaper than Mideast natural gas. It is obvious that the industry has delivered on the natural gas.

The technology has been advanced. Everything has worked in this way.

I do not think it is time to tax them. If we get on the natural gas, it is the cheapest—let me give you a quick comparison. For one MCF of natural gas, it equals seven gallons of diesel. One MCF. That is \$4. Seven gallons of diesel is \$21.

We are paying \$21 for foreign diesel and we have a resource in America that we could replace it. By the way, the natural gas is

33 percent cleaner than diesel. You get every advantage here at a fraction of the cost.

Mr. BOUSTANY. Ms. Harbert.

Ms. HARBERT. I think you have three immediate impacts. There would be a disincentive to produce. There will be a disincentive to innovate and develop technologies that will increasingly allow us to produce these resources cleanly, and it will drive the smaller guys out of business. That is bad for America.

Those businesses cannot leverage that risk in other operations and other parts of the world where some of the larger companies can. The smaller guys go away. We reduce the ability to produce and we certainly take away the incentive to innovate.

Mr. BOUSTANY. Thank you.

Chairman LEVIN. Thank you. Mr. Davis.

Mr. DAVIS of Illinois. Thank you very much, Mr. Chairman. Dr. Sachs, you state rather succinctly in your written testimony that energy policy will not solve the short term job crisis over the next 18 to 24 months, but unless we have a sound energy policy, the short term crisis is going to become a long term crisis.

How impactful do you think our energy policy or lack of is on the overall job crisis that we face?

Mr. SACHS. I think that already the lack of a clear energy and climate strategy, remember, I am talking about the mix, is weighing heavily on our capacity to generate good jobs over a time horizon of 5–10–20 years.

I am very worried about the fact that we cannot decide what kind of power plants to build. We cannot decide what kind of industries to sponsor right now. We cannot decide what to do with electric vehicles, to really make it work.

That is where we are going to lose lots of jobs down the road. What I am saying is I do not think in the next 18 to 24 months any of this is decisive, but 5–10–15–20 years, how viable is our economy going to be if we are facing instability, soaring prices, and we have not resolved any of our technological leadership in these areas, then it will be very serious.

Mr. DAVIS of Illinois. Thank you. Mr. Pickens, you make a real case for increased use of natural gas. Why do you think it is so difficult to have your thoughts, ideas and concepts really become a core part of our energy policy?

Mr. PICKENS. I did not hear the last part.

Mr. DAVIS of Illinois. I like your positions. Why do you think it is so difficult?

Mr. PICKENS. The reason we are in the spot we are in, very simply, is we have never had the leadership that said let's use our own resources, but in defense of that decision or the lack of a decision, we have had cheap oil.

Cheap oil keeps coming to us and it is so easy to have it and to use it, but go back to Nixon in 1970. He said at the end of the decade, we will not import any oil, any oil in the seventies. At that point, it was 24 percent. At the end of the decade, it was 28. Today, it is 68. We will be in 10 years at 75.

Because of cheap oil, we keep drifting and drifting. All at once, whether it be in the closer I get to the end, not of my remarks but

of my life, the closer I get to the end, the more I realize that divine intervention does show up from time to time.

This is exactly where I see us today. We got lucky. We got lucky and came up with four thousand trillion cubic feet of natural gas. It is cleaner. It is domestic. It is competing against foreign dirty and it is cheaper.

How in the world did that ever happen? I just gave you the reason I think that.

Mr. DAVIS of Illinois. Thank you very much.

Chairman LEVIN. Mr. Etheridge, I think you are next and then Mr. Pomeroy, and if we each take 3 minutes, we will be in good shape.

Mr. ETHERIDGE. Thank you, Mr. Chairman.

Mr. Pickens, let me ask you a quick question. I remember before I came to this body, I was a state superintendent of schools in North Carolina. I had a few buses on natural gas. I assume they are still operating.

My question is broader than that, not only are we talking about buses and trucks, what do you see as the challenge, because the bulk of the fuel used in this country really is in automobiles and small vehicles, but what do you see as the challenge if you move to natural gas in those as well?

Mr. PICKENS. The light duty?

Mr. ETHERIDGE. Yes, sir.

Mr. PICKENS. This is the way I see it unfolding. Go ahead, and we are hunting with a rifle here, not a shotgun, so we are going after the eight million heavy duty. Go ahead and go after those. Go after them hard and let's do it quickly.

Then let the good tentacles that will come out of that go wherever they want to go into the transportation, and do not pick winners in this. I think there is a very good chance that light duty will go to the hybrid or go to the electric car. Let it go. Get off the OPEC oil.

Go ahead and give your model at the top, the biggest users using 20,000 gallons a year per vehicle, go for those, knock them off, and then I think natural gas will just have to compete for the light duty with whatever else is available. For heavy duty, we only have one choice.

Mr. ETHERIDGE. Thank you. Mr. Abate, you spoke about how important it is giving businesses the ability to plan with renewable energy production tax credits over a period of time.

As you know, there has been tremendous growth in green jobs since some stability was put in the tax credits. What are the prospects of continued growth in these areas if that is instituted and we put together a plan for the long term?

Mr. ABATE. If we have a plan for the long term, you will see this industry continue to grow. I think right now, there are a lot of challenges, as I stated in my testimony. I think clearly the next couple of years, we are living more off the backlog versus a new order activity and project development occurring going forward.

I think everybody is waiting for a plan similar to Europe with a 20/20 or the directive in China—a 100 gigawatt commitment. Once that commitment is made, this country is going to build out

a real infrastructure and you will see investments in factories happen very fast.

We have right now 12 suppliers that we want to bring to this country, but by the time they come online, those projects will be operating in 2013. There is no policy for renewable energy in 2013. They will not make that investment until that timeframe is extended.

Mr. ETHERIDGE. Thank you. Mr. Chairman, I yield.

Chairman LEVIN. Mr. Pomeroy, you get the last.

Mr. POMEROY. Thank you, Mr. Chairman. I thank the panel for their long indulgence.

Mr. Abate, I would just observe that North Dakota with its fabulous wind source as well as a magnificent blade manufacturer, as well as a magnificent tower manufacturer, is only missing a turbine manufacturer. This is not a question. I just note it for the record.

Mr. Pickens, you electrified the audience with your vision of greater roles of wind and natural gas. I want to ask, we did not get a chance to discuss it extensively on that occasion.

I will direct a question here while you talk to Charlie. I will come back, Boone.

Ms. Harbert, you indicated, I think, an important point, that advancing the tax proposals of the Administration relative to fossil fuels, oil, especially, would hurt production, hurt innovation, and diminish the participation of independent players in developing this resource.

In North Dakota, just to put a case study on what you have said, we have had principally independent oil producers, basically through extraction innovation, horizontal drilling and the fracking, untap the miracle, that means four billion barrels of recoverable oil in North Dakota alone, domestic supply.

Clearly, this has been built on the Tax Code as it presently is, and as we build out development of this major oil play, bringing greater oil sufficiency to our marketplace, abolition of these provisions of the Tax Code would clearly reduce the rate we recover this domestic supply now made available in part because of the structure of the existing Tax Code.

Is that correct?

Ms. HARBERT. These are long term investments that need certainty, and introducing and changing the type of contractual underpinnings would be very, very bad policy and it would have very big implications on production and innovation and the size of the businesses you are talking about.

We have huge reserves. Why would we be doing something to constrain the production for the benefit of our economy right now?

Mr. POMEROY. Mr. Pickens, as someone with such long involvement in the industry, I would like your comment on that for the balance of my time.

Mr. PICKENS. Long involvement is right. I got out of school in 1951 as a geologist and I have been in it ever since.

The Bakken and Williston Basins, North Dakota, of course, is part of the Williston Basin. That again, you have a question, that oil showed up at a funny time in America. I mean a funny time, a good time, a fortunate time for us.

Four billion barrels is a lot of oil. It is a lot more oil than we found in the last 10 years in the United States.

You are going to find technology is going to advance us a long way, but you do not want to slow down the industry at this point. Turn them loose. Let them go. Try to fix the problem.

Mr. POMEROY. Thank you very much.

Chairman LEVIN. Mr. Camp.

Mr. CAMP. I also want to thank the panel. This was a very helpful panel. I appreciate all of your time and effort and your good testimony. Thank you very much.

Chairman LEVIN. I want to very much say to all of you very, very busy people involved in so many activities, many, many thanks. It has been informative, and I think really a brilliant panel.

I think it helps lay the foundation for further work of this Committee.

We will stand in recess. The third panel has been very patient. My guess is we will be back in about half an hour to 45 minutes. Around here, you are never quite sure. We stand in recess. We will start with the third panel as soon as we are back.

[Recess.]

Chairman LEVIN. The Committee will come to order. Mr. Camp and I and our colleagues are really very sorry. There was intervening business and it made the delay any longer. You are the most patient people in town, at least at the moment.

What we will do is start the hearing, and we will make sure your testimony is very well distributed. We will take extra steps to make sure what you present is considered.

We will go down the line. Stephanie Burns, Dr. Burns, is Chairman, President and Chief Executive Officer of Dow Corning in Midland, Michigan.

The Honorable Reed Hundt, Chief Executive Officer of the Coalition for Green Capital. Welcome to you.

The Honorable Rod Dole, who is the auditor, controller, treasurer, tax collector, four hats, of Sonoma County, and I think Mr. Thompson, you want to say a special hello.

Mr. THOMPSON. Just that he is a great guy. We have worked together for a long time, known each other for a long time. If anybody can handle all of those hats, he is the guy that can do it, and I am really glad you are here testifying on the great work that you are doing in Sonoma County on an issue that we all care a great deal about.

Mr. DOLE. The respect is mutual. Thank you, Mike.

Chairman LEVIN. Mr. Thompson reminds everybody as to where he comes from and the issues that matter most to him.

Mark Bolinger is a Research Scientist with the Lawrence Berkeley National Laboratory, also in Berkeley, California.

The Honorable David Bohigian is the Managing Partner of E2 Capital Partners in Bethesda, Maryland.

We give you a special welcome. I think, Mr. Bohigian, you have the least far to go after sitting here all day. We really doubly thank all of you for taking the time.

You probably were able to hear some of the last panel. I hope you were not here for the first panel, which means you would have been here all day.

Again, a special thanks. I think, Mr. Camp, you agree, this has been a particularly informative panel, so we will be doubly sure that your testimony is well distributed and we hope well understood.

I think we will start with you, Dr. Burns, and just go down the row, and if each of you would take 5 minutes. If you want, you can refer to your testimony. In any event, it will be entered into the record.

**STATEMENT OF STEPHANIE BURNS, PH.D., CHAIRMAN,  
PRESIDENT AND CHIEF EXECUTIVE OFFICER, DOW CORNING**

Ms. BURNS. Thank you very much, Chairman Levin and Representative Camp, for the opportunity to be part of this third panel, an important panel today, and to represent Michigan.

As to the growth of renewable energy in America, in particular, solar is very important to me personally and professionally, as a scientist and as a Chief Executive Officer.

I really do believe our country is at the dawn of a new energy era, a transformation that will provide more clean energy, options like solar, wind and other renewable sources, as well as energy efficiency products that will change the way we purchase and use energy in our lives and in our businesses.

Dow Corning is one of the world's leading manufacturers of silicon based products, contributing technology and materials along the entire solar value chain. Most notably, at the very beginning of the manufacturing process, with polycrystalline silicon.

We are also involved in a number of energy efficiency technologies from automotives to appliances and especially in green building construction.

As a result, I know firsthand that America's energy transformation is inextricably linked to our Nation's economic and manufacturing future.

This transformation calls for new partnerships, requiring the joint leadership and investment of the government and private industry. Working together, we can achieve innovative policies and prescriptions that address education and workforce development, advancement in manufacturing, technology deployment and market readiness.

With forward thinking leadership and management, this transformation will bring with it new industries, hundreds of thousands of new jobs, a sustainable source of economic growth and a reduced carbon footprint, all good for our country and for our global environment.

For our part, Dow Corning has announced more than \$5 billion in investments in solar technology and manufacturing capability in the past 5 years.

While most of that is in capital for advanced manufacturing operations in polycrystalline silicon and in saline for flexible thin film solar applications, it also includes research and development to improve the performance and cost efficiency of solar cells and mod-

ules, and investments in training and education in our local communities.

We have been on the receiving end of economic development offers from other nations, nations that have aggressive policies to support the growth of renewable energy in their country.

Companies like ours predisposed to manufacture in the United States are attracted by foreign tax structures that encourage them to do otherwise.

It is time for America to enact policies that will essentially assure this industry growth here. If we have a tax structure that encourages investments and job growth, coupled with an increase in domestic consumer awareness and demand for renewables, the U.S. will win.

The advanced energy manufacturing tax credit included in the American Recovery and Reinvestment Act was a significant first step toward establishing that winning combination.

The tax credit is encouraging companies like mine and our joint venture, Hemlock Semiconductor, to manufacture solar and other renewable energy components here in America.

As a result, we are seeing thousands of jobs in construction, engineering, science and skilled trades.

I am pleased to tell you that Dow Corning benefits from the advanced energy manufacturing tax credit. Our customers are benefiting and green jobs in our operations are real and affecting real families.

As you know, this tax credit was capped at \$2.3 billion, and was significantly over subscribed. That is a good thing. Both the White House and the Department of Energy indicate that many qualified projects were not funded.

With that in mind, I hope this credit can be made permanent or at least long term in any energy climate or jobs bill now under development.

The permanency will help businesses, large and small, plan for capital investments in the U.S., and more importantly, it signals that this country is serious about leading in the global renewable energy sector.

To build on that and to truly implement the transformation before us, Dow Corning proposes a four point plan to address technical legislative regulatory manufacturing and workforce related factors that influence America's ability to develop a thriving domestic renewable energy industry.

First, we encourage Congress and the Administration to enact new Federal policies and regulations that will encourage the rapid development and deployment of energy efficient and renewable energy technologies.

We can create new jobs and businesses and promote U.S. competitiveness in the global markets and improve the environment and increase our energy security.

We propose a robust Federal renewable energy standard and Federal interconnection and net metering standards, all part of the larger effort to increase the adoption by Americans.

I have already mentioned the immediate need for Federal tax incentives to spur domestic manufacturing and compete in the strength of foreign offerings.

Despite anticipated domestic growth in renewable energy installations, the majority of manufacturing occurs outside the United States, in such countries as China, Germany, Malaysia and the Philippines, roughly 40 percent of the manufacturing tax credits in high demand markets.

Let's make sure when a corporation is looking to build a manufacturing facility the competition is between the states here at home and not countries overseas.

Second, we advocate for increased Federal funding for research and development to accelerate solar technology innovation and to advance solar manufacturing capabilities.

We are already today ready to provide seed moneys for an American solar research consortium. Dow Corning has spearheaded this concept. We have customers, shareholders and universities ready to join us in this consortium, even the State of Michigan is committed to providing funds. However, the state requires a Federal match.

Today, \$6 million in Federal matching funding would move this consortium from a concept to immediate ground breaking, and this consortium would move solar technology faster to the marketplace.

Third, we support the need to develop green collar workforces by supporting training programs, like the programs we are already co-sponsoring with Delta College in Michigan and with Austin Peay State University in Tennessee, as well as training partnerships with non-profit organizations and centers of excellence at academic institutions nationwide.

Fourth, we need the Federal Government to lead by example in the implementation of clean technologies, through procurement of on-site generation, building retrofits for energy efficiency, and new green building standards.

Finally, but certainly no less important, Congress must ensure that new policies to reduce greenhouse gas emissions do not inadvertently discourage growth in the manufacturing and production of renewable energy sources.

Yes, we are in favor of a Congressional solution to the greenhouse gas regulations.

I am proud to be one of the more than 10,000 Dow Corning employees who are coming to work every day energized to be part of the solution. We are committed to a climate of collaboration, creativity and urgency for greater energy security.

As a global company, we know that it is fundamental to protecting our Nation's competitiveness in the decades to come, and fundamental for our economic growth.

We are hopeful that Congress will continue to do its part by enacting policies and incentives to encourage private sector investments.

I look forward to working with each of you as we move to a clean energy economy that protects our environment and secures energy independence.

Thank you.

[The prepared statement of Ms. Burns follows:]

**Prepared Statement of Stephanie Burns, Ph.D., Chairman,  
President and Chief Executive Officer, Dow Corning**

TESTIMONY BEFORE THE  
HOUSE COMMITTEE ON WAYS AND MEANS  
April 14, 2010  
Washington, DC

**Dr. Stephanie A. Burns**  
Chairman, President and Chief Executive Officer  
Dow Corning Corporation

Good afternoon, and thank you Chairman Levin and Representative Camp for extending an invitation to join you this afternoon; it is indeed an honor and my pleasure to be here.

As you know, America is at the dawn of a new energy era – a transformation that will provide more clean energy-producing options like solar, wind and other renewable sources, as well as energy efficiency products. Dow Corning is one of the world's leading providers of silicon-based materials that contribute along the entire solar value chain – most notably, at the very beginning of the manufacturing supply chain with polycrystalline silicon. Our materials are also important components of many energy efficiency technologies from automotive to appliances and especially in green building construction.

As a result, I know firsthand that America's energy transformation is inexorably linked to our nation's economic and manufacturing future.

Such a transformation will require that we forge a new path forward with federal leadership and private industry investment. Working together, we can achieve integrated policy prescriptions that address education and workforce development, advanced manufacturing, technology deployment and market readiness. With forward-thinking leadership and management, this transformation will bring with it new industries, hundreds of thousands of new jobs, a sustainable source of economic growth and a reduced carbon footprint that is good for our country and for our global environment.

In the past five years, Dow Corning has announced more than \$5 billion in investments in solar technology. Most of that is in capital for advanced manufacturing operations for polycrystalline silicon. It also includes other operations like research & development and materials that improve the performance and cost efficiency of solar cells and modules. And for nearly 70 years, Dow Corning has provided products focused on energy efficiency and sustainability.

Other nations have enacted aggressive policies to support the growth of the renewable energy industry. Companies that hope to manufacture in the United States are faced with a tax structure that encourages them to do otherwise. It is time for America to enact policies that will essentially assure this industry grows here. We must increase domestic consumer awareness and demand for renewables and energy efficiency products, and make sure that the products to meet that demand are manufactured here.

The Advanced Energy Manufacturing Tax Credit included in the American Recovery and Reinvestment Act was a significant first step toward establishing new clean-technology manufacturing jobs here in the U.S. This tax credit is encouraging companies such as Dow Corning and our joint venture Hemlock Semiconductor Group to manufacture solar and other renewable energy-related materials here in America. As a result, we are seeing thousands of jobs in construction, engineering, science and skilled trades. I'm pleased to tell you that Dow Corning benefits from the Advanced Energy Manufacturing Tax Credit, our customers are benefiting, and that the green jobs in our operations are real.

As you know, however, this tax credit was capped at \$2.3 billion, and was significantly oversubscribed. Both the White House and the Department of Energy have said that there were many viable projects that were not funded. With that in mind, I hope that this credit can be made permanent in any Energy, Climate, or Jobs bill now under development. This will help propel America into an era of sustained, renewable energy use and help put Americans back to work.

To build on that and truly implement the transformation before us, Dow Corning proposes a four-point plan to address the technical, legislative, regulatory, manufacturing and workforce-related factors that influence America's ability to develop a thriving, domestic, renewable energy industry.

First, we encourage Congress and the Obama Administration to enact new federal policies and regulations that will encourage the rapid development and deployment of energy efficient and renewable energy technologies. We can create new jobs and businesses and promote U.S. competitiveness in the global market, improve the environment and increase our energy security. Federal tax incentives that spur domestic manufacturing, a robust federal Renewable Electricity Standard, and federal interconnection and net metering standards are all part of that effort.

There is an immediate need for targeted tax credits for manufacturing. Despite anticipated domestic growth in renewable-energy installations, the majority of manufacturing occurs outside of the United States. With countries like China, Germany, Malaysia and the Philippines all courting American companies with roughly 40 percent manufacturing tax credits and high demand markets, the United States needs to consider comparable approaches to encourage the growth and stability of a domestic market. When a corporation is looking to build a manufacturing facility, we need to ensure that the competition for the site is between states here at home, not countries overseas.

Second, we advocate increased federal funding for research and development to accelerate solar technology innovation and advance solar manufacturing capabilities.

Third, we support the need to develop a green collar workforce, by supporting training programs – like the programs Dow Corning is already co-sponsoring with Delta College in Michigan and Austin Peay State University in Tennessee – as well as training partnerships with non-profit organizations and Centers of Excellence at academic institutions nationwide.

Fourth, we need the federal government to "lead by example" in the implementation of clean technologies, through procurement of on-site generation, building retrofits for energy efficiency, and new, green building standards.

Finally, but certainly no less important, Congress must ensure that new policies to reduce greenhouse gas emissions do not inadvertently discourage growth in the manufacturing and production of renewable energy sources.

Dow Corning employees are coming to work every day, energized to be part of the solution. We are committed to a climate of collaboration, creativity and urgency for greater energy security. As a global company, we know it is fundamental to protecting our nation's competitiveness in the decades to come.

We are hopeful that Congress will continue to do its part by enacting policies and incentives to encourage private sector investment. We look forward to working with each of you as we move to a clean energy economy that protects our environment and secures our energy independence. Thank you.

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Chairman LEVIN. Thank you very much.  
Mr. Hundt.

**STATEMENT OF REED HUNDT, CHIEF EXECUTIVE OFFICER,  
COALITION FOR GREEN CAPITAL**

Mr. HUNDT. Good afternoon, Mr. Chairman and Ranking Member Camp. I am here as the Chief Executive Officer of the Coalition for Green Capital.

On a personal note, I would like to recognize the importance of Michigan on both the Republican and Democratic side. I was born in Ann Arbor and I will be going back there with my wife for the graduation of our son from the Ross School of Business in 2 weeks, assuming the President squeezes us in along with the rest of the crowd.

I met many of the Members of your Committee a decade ago, a decade and a half ago, when I was the Chairman of the Federal Communications Commission. I mention that because not at all exclusively because of Federal regulation, but significantly because of

the 1996 Telecom Act, a bipartisan measure, that of course started in the House and eventually got through the Senate.

Because of that, American entrepreneurs, private equity investors, investors from all over the world spent about \$1 trillion building a new America's communications network. Everything that we know today, whether we are Twittering or Blackberrying or making a cell phone call, is almost always on a network that was built some time between 1995 and today.

That tremendous colossal private sector investment created about one-fifth of all of the jobs created in the 1990s, the 20 million new jobs that made the 1990s the best decade in our lifetime for American workers.

It is that same rebuilding of our buildings in America so they are energy efficient and our electricity network, so that it is founded on a clean basis and a renewable basis, instead of a carbon emissions intensive basis, it is that same rebuilding in both respects, in the way we use energy and in the way we produce it that we will do two things.

It will create again about five million new jobs, and it also will lead to absolute national security and world leadership in the effort to have a clean economy.

In very, very broad terms, if we invest about \$250 billion, private sector investment, in replacing existing building materials with energy efficient building materials, and about \$250 billion, the same number, in replacing our carbon emissions intensive generation with the less carbon emissions intensive generation, those two numbers added together, \$500 billion, should produce about five million new jobs, and should give us a reduction of about one-third of the total CO<sup>2</sup> emissions per year in the United States.

That would take us into world leadership in terms of having a clean economy and in terms of carbon abatement.

Right now, we are 11th in the world in the percentage of our GDP that we invest in the change to a clean economy, and we are dropping. China is getting farther and farther ahead.

There are three problems, but first I am going to tell you, if you will permit me, I just want to urge two things of the many good things that could be mentioned, I want to urge that this Committee give serious support to extending Section 1603, the grant in lieu of the ITC, for as long as you can see a way to do it, and second, I urge this Committee support, as the Members have already done in the past, the creation of a green bank, such as introduced by Congressman Van Hollen in March of 2009 in the Green Bank Act, and as Congressman Van Hollen knows, whom I had the pleasure of voting for every 2 years, that provision was passed in the Energy and Commerce Committee 51-6. It is a truly bipartisan measure.

Those are the two suggestions I am going to make. I would like to confine my remarks to describing the problem that I think those two measures would go a long way to solving. It is a three part problem.

Problem number one. Because of the tremendous drop in the total output of the economy, starting with the events of 2008, we now have in the United States little or no natural market driven new demand for electricity.

There are a few states that are exceptions, but in most states, we have more potential output than we have demand, because our total overall consumer demand and business demand has dropped so far so fast.

Therefore, if we depend on the market to demand new forms of electricity, we have to wait 6, 7, 8 or 9 years before that demand will materialize.

Lucky China has the fastest growing demand market in the world and anybody can sell almost anything in that market. In the United States, we have to find a way to replace, not wait for new demand.

Number two, electricity, of all the identical goods and services in our economy, none varies more in price state by state than electricity. It varies by as much as four times. The price in Kentucky, where Congressman Yarmuth is versus Connecticut, is almost a four times difference.

That is because unlike beer and soap and telephone service, you cannot send it over a distance without a great expense, and also unlike many goods, you cannot really store it.

Consequently, it needs to be made locally and it is consumed locally, which is why the prices vary so much on a state by state basis.

The sad paradox is this. Where emissions are high and unemployment is high, the two places you would love to see jobs and see the emissions taken out, typically, that is where electricity is low priced. Michigan, Ohio, Kentucky, Illinois.

Somehow, we have to find a way to create incentives for firms to put in emissions reduction technologies, for businesses to invest in that, and create jobs, precisely where electricity prices are low.

One thing we cannot do, I think, as a practical matter, is say to the people in Michigan, at this particular point in their history, we know you are paying 9 cents a kilowatt hour, why do you not pay 14 cents as a base the way they do in California, why do you not pay 17 cents as they do in Connecticut, why do you not pay 24 cents the way they are doing in Hawaii.

I would suggest to you that would not be a bipartisan measure.

Somehow, we have to address these problems on a local state by state basis, and the third and last problem is this, it is just a fact that to have carbon capture for coal facilities or combined cycle natural gas or solar or wind, today, the unit economic costs are higher than if you were to build a coal generation facility.

They will come down when firms like Dow continue to have scale and continue to innovate, but today, it is higher.

Somehow, we have to lower the price of clean electricity and create a way for people to invest in those particular products and bring them into the market without saying to the consumer you have to lose, and without saying to the shareholders of utilities you have to lose. We do not want the consumer to lose. We want the consumer to win. We do not want the utilities to be punished because we want them to invest in this new activity.

That gets me to the conclusion, which is as Congressman Van Hollen outlined in his Green Bank Act, if we create an institution that for 20 years, that was the chartered time in that Act, for 20 years would provide low cost long term financing, and if we make

a commitment through tax policy, particularly the Section 1603 grant, then those two concepts put together mean that it is possible for new investment and clean electricity generation, and new financing investment in replacing building materials with new efficient product.

We can have those investments take place so that profit can be made and the consumers can be protected.

Thank you very much.

[The prepared statement of Mr. Hundt follows:]

**Prepared Statement of The Honorable Reed Hundt, Chief  
Executive Officer, Coalition for Green Capital**

**Testimony of Reed Hundt**

**Chief Executive Officer**

**Coalition for Green Capital**

**Before the**

**Committee on Ways and Means**

**United States House of Representatives**

**April 14, 2010**

Thank you Chairman Levin, Ranking Member Camp, and members of the Committee. Mr. Chairman, I am Reed Hundt, CEO of the Coalition for Green Capital, a non-profit formed for the purpose of developing and advocating tax and finance policies that support the conversion of the American and global economies from carbon emissions-intensive practices to methods that are clean, renewable, and affordable.

I am very honored to testify to this important and learned committee. I want to acknowledge the fine work that this committee has done in the past on renewable tax credits and in the stimulus bill. Your work has led, among other things, to significant job creation in 2009. Indeed, as I suggest to you today certain tax and finance measures, I am standing on the shoulders of the great work this committee has already done in the past. In addition, I want to acknowledge the wisdom of the House in passing ACES, also known as Waxman-Markey, which contains some of the measures that I will suggest today.

I am here to discuss a way to escape the slough of recession and unemployment in which our country finds itself. If Congress makes a long-term, large-scale, and economically prudent commitment to the right tax and finance policies, then starting immediately and continuing at least through the present decade, private

sector investors, utilities, merchant power companies, energy service companies, transmission line builders, contractors, construction companies, and firms with many other skill sets will be able to do the following:

First, over ten years, replace existing building materials with better insulated walls, windows, and roof spaces so as to reduce energy use by at least 20% in up to 80 million buildings – ranging from most owner-occupied homes to virtually every small and big business building.

Second, over the same ten years, replace at least half of carbon emission intensive electricity generation with carbon-light, renewable alternatives, such as onshore and offshore wind, solar, nuclear, biomass, combined cycle natural gas , and carbon capture and sequestration coal generation.

Job Creation and Carbon Abatement: Two birds with one loan (and tax program)

By engaging in these two activities in every region, state, and locality, thousands of private sector firms will create up to seven million new jobs. The energy retrofit and generation initiatives would then contribute more than any other single sector of the economy to achieving a return to full employment.

When the private sector will have reduced our buildings' electricity consumption by 20 percent or more, and reduced by at least half the carbon emissions from electricity generation, we will have reduced total American carbon dioxide emissions by almost two billion tons annually – a drop of 30 percent from what we produce today. This reduction will show the world that traditional American know-how, entrepreneurial spirit, and innovative skills are alive and active in the energy sector. We know we can transform this sector, because we did it not long ago in a similar sector of the economy: private sector investment of about a trillion dollars in digital networks starting in the early 1990s gave us world leadership in information and communications technology, while creating directly and indirectly one-fifth of the more than 20 million net new jobs that made that decade a great one for American workers.

The path from the valley of the worst unemployment since the Great Depression of the 1930s to the sunny uplands of full employment and rising national income

for all income quintiles, as we had in the 1990s, cannot run over the backs of either America's electricity businesses or electricity consumers. No one wants in the 2010s to drive up the price that people pay for heating, lighting, and air-conditioning, or to mulct shareholders of energy companies of the capability to sustain clean investment. No one intends during an economic downturn to inflict increases in what businesses pay to keep their lights on, do dry cleaning, design software, run computers, or engage in all the myriad activities that our high value-added economy requires to create wealth.

Moreover, every high value-added economy should want the prices of three basic inputs to be as low as economically feasible, so as to be able to achieve the greatest amount of productivity gains in making the goods and services that depend on these key inputs-- communications, capital, and electricity.

Therefore, in order to attract the job-creating and climate-saving investment we need in retrofits and generation, while benefitting electricity consumers, we need to deploy long-term and large scale tax and financing policies. That of course is the province of this committee. In this context we should reflect upon the fact that the United States is eleventh among nations in the amount of investment in renewables relative to gross domestic product (see Exhibit One). Tax and financing policies are far more favorable for renewables in many other countries, and as a result other nations threaten to gut our capacity to construct a world-leading renewables industry within our own borders.

#### Retrofitting Investment

If we aim to retrofit tens of millions of residential and commercial buildings, we must overcome the agency problem – that is, the people who pay electricity bills are not necessarily able or willing to invest in retrofits. An owner who occupies his or her own house may not believe that he will stay in the house long enough to recoup in reduced electricity bills the cost of the investment. A renter may bear the cost of electricity but not have the legal right to install insulation. A small business may have a lease that is shorter than the time needed to recapture in savings the outlay for retrofitting the leased building.

In addition, to cause hundreds of thousands of workers to engage in retrofits in millions of buildings, tax and finance policies have to attract to this activity not only small firms and individuals, but also large enterprises that can invest in worker training and provide high quality customer care to building owners and occupants.

The solution is to offer utilities, energy service companies, and building owners a combination of tax benefits and long-term, low cost loans that will create adequate incentives to engage in retrofits at a reasonable profit. Because savings must be and should be realized in monetary terms, both the tax benefits and loans can be recouped in whole or in part over time. Liens on buildings and delayed tax payments can both be used as the form of recoupment. The retrofit program known as Homestar should be attractive to homeowners because they will receive a rebate on the purchase of retrofit products, such as better insulated building materials. But that program's success depends on creating incentives for private firms to market the retrofitting. Similarly, in order to scale out retrofitting to tens of millions of homes it will be necessary to use tax benefits and loans so as to provide various kinds of firms the financial incentives that can attract their investment in this endeavor.

Implementing this combination of tax and finance policy ideally would be the task of a small, specialized institution modeled after the Ex-Im Bank. This Clean Energy Bank should be patterned after the wholesale, nonprofit Green Bank proposed by Congressman Chris Van Hollen in H.R. 1698, introduced in March of 2009. The Clean Energy Bank would have, like Ex-Im, a few hundred employees, and would stay in existence for a decade, or until its mission was fulfilled, whichever comes sooner. A version of such a bank under the name Clean Energy Deployment Administration was inserted, by a bipartisan vote of 51 to 6, in ACES.

As outlined in Exhibit Two attached, as an example, the Clean Energy Bank would guarantee retail loans made to energy service companies or utilities so as to provide below-market capital that created an incentive for those firms to enter the retrofitting business at a large scale and on a long term basis. We need the jobs and we need the carbon emissions abatement; creating private sector profit

opportunities is the appealing way to achieve these goals. Moreover, because real savings would be achieved, the Clean Energy Bank would always aim to have its loan guarantees discharged in the fullness of time, as such savings are monetized.

Our goal needs to be large: let us catalyze at least \$3,000 to \$10,000 of investment in 80 million buildings over as short a time as practical. That would amount, then, to \$240 billion to \$800 billion of investment. Household net worth, which very heavily is dependent on real estate ownership, exceeds \$50 trillion, even after the tremendous drop from 2007 to 2009. Therefore, to invest \$25 billion a year for ten years in long-term wealth enhancement through energy savings represents increased investment of a rate of only one half of one tenth of a percent of aggregate net worth per year. In a society that consumes more than it invests, this plan may not work; in the new investment-oriented America we want to construct for this new century, this goal is not just achievable, but is virtually mandatory.

#### Electricity Generation Investment

If we aim to replace half the carbon emissions-intensive electricity generation of the United States with renewable and carbon-light alternatives, then we need to cause the private sector to invest \$200 to \$300 billion in creating up to 200 gigawatts of carbon-free or carbon-light electricity generation capacity. Absent tax and financing policies adopted by Congress, this investment is not likely to occur in the 2010s for at least three reasons:

- (1) A corollary of the recession's dramatic drop in total output relative to total potential supply is that the United States now has ample generation capacity at least until 2016 (except for in a few states, such as California and Colorado). Therefore, we cannot depend solely, as China can, on new demand for electricity to attract new investment in generation. Instead, we need to create incentives for retirement, modification, and replacement of existing facilities.
- (2) Regulation in the form of a carbon cap, a renewable electricity standard or other catalysts to switching from carbon-intensive to carbon-light generation does not appear likely to be sufficiently stringent in the near

future *in and of itself* to cause firms to replace or convert up to 200 gigawatts of capacity in the 2010s. Therefore, we cannot depend solely on a purely regulatory solution – even though internalizing emissions costs will make renewables relatively more attractive than non-renewable energy sources -- to cause firms to achieve our investment goals for the present decade.

- (3) Prices for carbon-intensive electricity are not likely to rise enough, even if environmental costs are internalized over time, and costs of renewable electricity generation are not likely to fall enough in the near future, to cause firms to have an adequate profit motive to replace or convert up to 200 gigawatts of capacity in the 2010s. Therefore, we cannot depend solely upon profit margins in regulated or unregulated electricity markets to attract the desired investment at the scale we want to see.

On the other hand, a silver lining to the global recession is that the unit costs of creating renewable electricity generation are extremely favorable at this time. For example, a firm should have to spend about \$1750 to \$1900 to create a kilowatt of wind capacity at this time. (Prices are higher in difficult terrain or where the wind is less available.) Turbine prices constitute about 70% of the cost, and turbine prices are down to about \$1350 per kilowatt of capacity for immediate delivery, according to industry sources. Costs of other material and construction have also dropped. Innovation will continuously contribute to falling costs for renewables.

However, falling costs for constructing renewable generation facilities have been to a degree offset by the impact of falling prices for natural gas and coal. The relative cost of producing electricity from these sources also is therefore much lower than it was as recently as 2008. Currently, the cost of producing electricity from wind can be 15% higher than comparable coal or gas. In some geographical regions the comparison is less favorable for wind. Nuclear power will reflect a still higher cost; so will solar. Nevertheless, wind and other alternatives are now close enough to carbon-intensive generation in true economic cost (usually discussed in terms of Levelized Cost of Electricity (LCOE)) that it is quite possible to use tax and finance policy to provide clean electricity to consumers at prices competitive with

existing, carbon-intensive electricity prices. In other words, even if we choose to delay until the 2020s the full impact of internalizing of emissions costs in electricity prices, we still can attract significant private investment in clean alternatives now by lowering the effective cost of clean generation through tax and financing policies.

An example is found in Texas, which began to adopt various policies in support of wind investment policies at least ten years ago. For the country as a whole, according to the wind trade association AWEA, investment in wind produced in 2009 the addition of about 10 Gigawatts in wind capacity, increasing the national total from about 25 Gigawatts in 2008 to about 35 Gigawatts by the end of 2009 (about four percent of the national generation capacity). About a quarter of the new wind capacity in 2009 was added to the Texas markets alone. Now, windy days in that large state produce notable benefits to consumers. Prices are down as much as 25% in some parts of Texas since 2001. Exhibit Three provides further information on the Texas model.

Behind this price drop lie various factors, especially including the techniques by which distribution firms buy electricity. But tax policies and availability of capital are critical to investment in Texas wind or any renewables in any state. The Coalition for Green Capital has developed with supporting participants from the financial sector a business model shown in Exhibit Four. This model shows that with existing tax policies, including especially the Section 1603 cash grant in lieu of investment tax credits, and long-term, low cost financing provided by a loan guarantee from the Clean Energy Bank, a renewable project can lower the price of electricity it sells by as much as 40% in comparison to the price necessary to attract investment with standard commercial financing, and still create an attractive opportunity for private sector investment in the new generation facility.

We also believe that Section 142 of the Code should be amended to permit the use of tax exempt bonds by state Clean Energy Banks to finance renewable energy resource facilities, conservation and efficiency facilities, and other specified greenhouse gas emission technologies, as well as related facilities such as transmission lines necessary for development of renewable energy facilities. This

provision should be structured so that it could be used in conjunction with existing federal tax incentives for renewable energy projects, such as the Production Tax Credit, the Investment Tax Credit, and the accelerated cost recovery permitted under the Modified Accelerated Cost Recovery System, and should be exempt from volume caps in the same way that tax exempt private activity bonds for nonprofit organizations are exempt from volume caps.

Summary: Adopt long-term tax and financing policies

Our Coalition therefore believes that in order to attract investment that would create up to 200 gigawatts of clean electricity generation in the 2010s, while at the same time either holding flat or lowering electricity prices to consumers as most forecasters predict will be the market trend in the near future, it is necessary for Congress to enhance and make constant for at least a decade existing tax policy for renewable electricity generation and to capitalize the Clean Energy Bank in an amount ranging from \$10 billion to \$20 billion. The Clean Energy Bank should be allowed to permit borrowers to finance credit subsidy costs over the life of the loan, and to extend explicitly full faith and credit guarantees up to a defined amount, perhaps 10 to 20 times capital, with rigorous underwriting standards to protect the taxpayer. Under these circumstances, firms will make the necessary investments in retrofits and clean generation, and the great conversion to a clean economy will continue.

It would make a great deal of sense to have Clean Energy Bank administer both retrofit and generation financing, particularly because utilities and other firms should be able to choose between these complementary efforts, as particular circumstances suggest.

Job creation will follow investment. Our studies suggest that each \$10 billion invested in retrofits and generation will produce at least 100,000 jobs. Therefore, retrofitting 80 million buildings at \$5,000 for each on average should lead to \$400 billion in investment, or about 4 million jobs. Investing \$300 billion in creating 200 Gigawatts of clean generation should lead, by the same mathematics, to about 3 million jobs. By contrast, comparatively few of these jobs will be created in the early 2010s by the markets as they now exist or by regulations that are as

of now contemplated by Congress or by states. Exactly how many jobs could be created in any particular year by dint of the tax and financing policies we recommend no one can precisely predict. But, plainly, large scale, long term tax and financing policies can produce a hugely beneficial transformation in the American economy, and innovations in the 2020s and beyond will only make the route to sustainable growth even more attractive for our country.

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Exhibit One

The US is not even in the top 10 world wide in clean energy investment intensity

FIGURE 7. TOP 10 IN INVESTMENT INTENSITY	
Spain	0.74%
United Kingdom	0.51%
China	0.39%
Brazil	0.37%
Rest of EU-27	0.26%
Canada	0.25%
Turkey	0.19%
Germany	0.15%
Italy	0.14%
Mexico	0.14%

-The US is 11<sup>th</sup> overall, with 0.13% investment intensity

Source: PwC Research, "Who's Winning the Clean Energy Race? Growth, Competition, and Opportunity in the World's Largest Economies"

Clean Energy Investment Intensity: % of clean energy investment compared to Gross Domestic Product

Exhibit Two

If CEB loans money to utilities and energy service companies at below commercial market rates in amounts greater than actual costs, it can create adequate profit opportunities for large scale efficiency investment

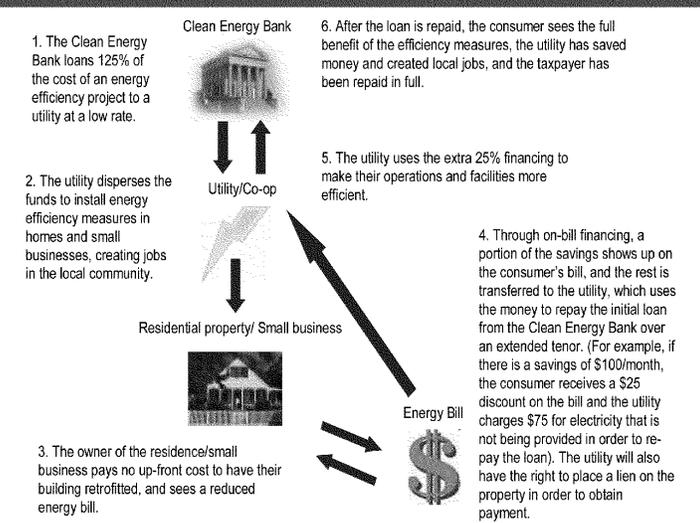


Exhibit Three

## Consumers have enjoyed substantial benefits as a result of wind in Texas

**Current Residential Retail Prices in ERCOT**

Lowest Offers Available  
(Price based on use of 1000 kWh, February 1, 2010, from [www.powerinthehouse.com](http://www.powerinthehouse.com))

Service Area	Fixed-Price Offers (term of at least 3 months)	Variable Price Offers	Renewable Generation Offers (100% renewable)	Dec. 2001 prices (Not adjusted for inflation)	Dec. 2001 prices (inflation adjusted)
SEP - TTC	10.4¢/kWh	9.1¢/kWh	9.6¢/kWh	9.6¢/kWh	11.7¢/kWh
ALP - TRC	9.5¢/kWh	8.8¢/kWh	9.5¢/kWh	9.6¢/kWh	12.2¢/kWh
CenterPoint	9.9¢/kWh	8.8¢/kWh	9.3¢/kWh	10.4¢/kWh	12.7¢/kWh
Oncor	9.4¢/kWh	8.4¢/kWh	8.9¢/kWh	9.7¢/kWh	11.8¢/kWh
TNMP	9.2¢/kWh	8.4¢/kWh	8.9¢/kWh	10.6¢/kWh	12.9¢/kWh

Austin: 9.0¢/kWh; San Antonio: 8.0¢/kWh (based on 1000 kWh)

Exhibit Four

Good news: If we lower the cost of capital for clean energy generation and maintain existing tax policy, clean electricity can compete profitably even in low priced states

Assumptions:	CEB: High CapEx			2009 Bank Financing		
	Amount	Interest Rate	% of Total Costs	Amount	Interest Rate	% of Total Costs
Capital Expenditures	\$2,750/KW			\$2,750/KW		
Tenor	20 Years			10 Years		
Wind Case / Coverage	P90 Wind @ 1.0x Coverage			P99 Wind @ 1.0x Coverage		
Revenue Assumptions	1.50,072 / KWh PPA @ P90			1.50,112 / KWh PPA @ P90		
	3.5% escalator			3.5% escalator		
	2.50,072 / KWh Merchant @ P50 - P90			2.50,112 / KWh Merchant @ P50 - P90		
	1.0% escalator			1.0% escalator		
Balance @ Maturity	- Balance repaid in full			- Balance repaid in full		
Interest Rate	4.5%; 30yr Treasury + 25bps			8.5%; 30yr Treasury + 425bps		
Amortization Schedule	No paydown year 1-9; then increasing over time			Full Cash Sweep		
IRR to Equity Holder	15.5%			15.2%		
Debt to Equity Ratio	4:1			3:2		

Debt Security	\$2,750/KW Estimated CapEx			\$2,750/KW Estimated CapEx		
	Amount	Interest Rate	% of Total Costs	Amount	Interest Rate	% of Total Costs
Project Costs	\$165.0			\$165.0		
Monetizable Tax Attributes <sup>(1)(2)(3)</sup>	44.6		27.0%	44.6		27.0%
<b>Bank Debt / Green Bank:</b>						
Bank Debt				72.0	8.5%	43.6%
Green Bank	96.4	4.5%	58.4%			
<b>Total Debt</b>	<b>\$96.4</b>	<b>4.5%</b>	<b>58.4%</b>	<b>\$72.0</b>	<b>8.5%</b>	<b>43.6%</b>
Monetizable Tax Attributes	\$44.6		27.0%	\$44.6		27.0%
<b>Total Equity</b>	<b>\$24.1</b>		<b>14.6%</b>	<b>\$48.5</b>		<b>29.4%</b>

Prepared by a private equity firm based on data from a major independent wind company

Notes:

- Assumes that all EBITDA from the project is financeable
- CAPEX costs do not include transmission
- The CAPEX here is at the high end of the range for wind projects
- The two cases describe the identical project, but commercial banks will finance a more conservative wind case
- The two cases assume the sale of identical quantities of electricity

1. Monetizable tax attribute (such as the 1803 cash grant or a refundable ITC) does not include MACRS
2. Model assumes monetizable tax attributes can be monetized in year 1 of loan, without cost
3. MACRS is assumed to be utilized in the form of NOLs that are carried forward
4. The IRR to equity holder is higher than the ~15% due to the non-financeable revenue streams

Chairman LEVIN. Thank you.  
Mr. Dole.

**STATEMENT OF ROD DOLE, AUDITOR, CONTROLLER, TREASURY, TAX COLLECTOR, SONOMA COUNTY, CALIFORNIA**

Mr. DOLE. Chairman Levin, Ranking Member Camp, other Committee Members, on behalf of Sonoma County, it is a pleasure to be before you. We are really honored for this opportunity.

I am going to tell you a story. I am trying to see how I can bring my PowerPoint up.

What I am going to do—I would like to tell you a little story first, a little background. In 2008, California passed Assembly Bill 811. It was authored by Assembly Member Levin in California, I

thought you would enjoy that, and basically what it did, it took a 100-year system, a 100-year process, that exists in California and across this Nation, and it said for property assessments, where normally we would fund streets, highways, curbs, et cetera, we will expand that ability to energy efficiency, renewable energy, and water conservation.

That is called "PACE," property assessment clean energy. It was mentioned by Vice President Joe Biden in one of his recent speeches.

It is again a 100-year process that was authorized to include these other abilities, and Sonoma County took that bill and implemented it.

What I am going to show you is a simple process, and I am going to show you the results of that process. Basically, on the ground proof that what we have been talking about works.

A program basically is authorized for \$100 million. We have financed that ourselves. We are looking to long-term finance this program at low interest rates, and we will talk about that.

In 12 months, we have taken in \$41 million in applications. We are a half a million population county. This is a partnership between our cities and the county, nine cities and the county. We have processed and dispersed into our community over \$23 million. We have paid for \$23 million worth of projects, and we have \$41 million worth of applications going through our process.

We offer this program at 7 percent fixed interest rate, and the program is set up to pay for itself, just like any bank. We borrow the money at 3 percent. We lend it to the property owner at 7 percent, and the 4 percent spread goes toward the operating costs of this program.

That is how we have established this program. We finance water conservation, energy efficiency and renewable energy, and renewable energy includes solar, wind, geo-exchange.

This just shows a map of Sonoma County. Hopefully, you have been to the wine country. Mike talks about that probably, and so do I.

All nine of our cities are members of this program.

One of the things we are impressed with is the value this is adding to the property. The property owners realize that if they volunteer, and this is a volunteer program, they enter into an application process, they agree, if you will, to tax themselves for the next up to 20 years in order to finance these improvements to their properties.

What we have shown here is how that is broken down. Over half of the people are electing to do retrofit on their property, and a little less than half are doing solar or renewable energy.

To date, we have actually generated 2.9 megawatts of new energy for Sonoma County. Basically, we could power up 800 homes for an entire year with what has been generated over the last 12 months with this program.

This is just to give you a sense for the growth. The top line there is our applications on a weekly basis. We have been following this program from the beginning. Our first concern was that no one would come through the door and no one would fill out an application.

We did a professional marketing survey, and we found out that over 20 percent of our property owners would sign up with this program currently. What we really need is 50 to 80 percent of our property owners because we know one of the huge carbon emitters is property.

The blue line there is our actual disbursements monthly. We make disbursements every month. As I said, we are over \$23 million at this point. We are growing at a rate of about \$2.5 to \$3 million per month.

This is just a breakdown. One of the side benefits to this is retail sales. In order to make improvements of property, you have to buy the materials. It is improving both goods and services in the area.

This slide shows the growth in employment. The blue lines are the funded projects as they came in on a monthly basis. The red line is the jobs as shown to us by the California Employment Development Department of increase in green building jobs during that same period.

The other way that we thought we would predict this is ARRA has estimated at the Federal level that every \$92,000 put into the economy will generate a job. Our program to date should, under that guideline, have generated 252 jobs. That is just little Sonoma County.

We are looking for a partnership. We need help in basically three areas, all of them in funding. We need long-term low cost funding. We need what we call "warehouse funding;" in order to sell bonds, we have to have volume. We have to have \$20, \$40, \$100 million in contracts in place.

What we are doing in Sonoma County is we are financing that until there is enough volume that we can sell long-term bonds, and there are investment firms and banks interested in buying those bonds, but there is some interest rate risk there.

Many jurisdictions do not have the startup money for starting this program. It is relatively easy to replicate, but it needs startup money.

In the case of Sonoma County, that startup was a line of credit for \$1 million. We are probably going to use about half of that.

The long-term funding, Congressman Thompson has been very helpful and very close to our program. He has sponsored H.R. 3525, which would allow tax exemption for these PACE bonds.

We are also offering that maybe PABS expand the definition of "capital expenditure" to include PACE bonds; it might be a better avenue.

The energy bank is exciting to us because again it would provide low cost financing.

The intent here is to pass low cost interest rates down to the property owner and make this even a better, more motivated program.

With that, I am open to any questions.

[The prepared statement of Mr. Dole follows:]

**Prepared Statement of The Honorable Rod Dole, Auditor-Controller-  
Treasury-Tax Collector of Sonoma County, County of Sonoma**



**WRITTEN TESTIMONY  
OF  
RODNEY A. DOLE  
AUDITOR-CONTROLLER-TREASURER-TAX COLLECTOR  
COUNTY OF SONOMA  
BEFORE  
THE HOUSE WAYS & MEANS COMMITTEE  
APRIL 14, 2010**

Introduction

Chairman Levin, Ranking Member Camp and Members of the Committee, thank you for this opportunity to appear before you today as you examine "Energy Tax Incentives Driving the Green Economy." We are pleased to have the opportunity to discuss the Sonoma County Energy Independence Program, a model of multi-jurisdictional and public-private partnership for the betterment of the community.

Sonoma County, which has long been a progressive leader in the area of green energy and environmental stewardship, immediately identified California Assembly Bill 811 (AB 811), known nationally as PACE (Property Assessment Clean Energy), as a tremendous strategic opportunity to help us reach our aggressive Green House Gas reduction goals, eliminate barriers for property owners to make energy efficiency improvements and provide jobs in the local "green" construction industry. The Sonoma County Energy Independence Program, also known as SCEIP, was born, and opened for business on March 25, 2009.

How SCEIP Works

SCEIP uses the authority granted by AB 811 to finance renewable energy, energy efficiency, and water conservation improvements to real property. Sonoma County was the first County in California to create an AB 811 program, and partnering with the nine cities in the County, is the first in the nation to make such a program available to all Sonoma County residential and commercial property owners regardless of where they live.

Sonoma County and the Sonoma County Water Agency jointly pledged \$100 million to fund the program, making it the largest of its kind. After one year of operation, SCEIP has received over 1,200 applications for \$41 million in energy improvement financing. Of that \$41 million, more than \$26 million of the requests have been approved, and nearly \$24 million have been disbursed to projects that are already completed. Because long-term financing is provided through the bond market, securitization, and private placement, SCEIP can continue to grow, allowing the energy and water conservation improvements to continue as long as there is a demand.

By removing barriers for individuals and businesses to install energy efficient retro-fit technologies, the Program is helping Sonoma County achieve our Green House Gas reduction goals. Coupled with the substantial injection of funding into the local green construction economy, SCEIP has provided a significant and real economic stimulus for our local community. Statistics provided by the California Employment Development Department show an increase in Green Building Industry jobs in Sonoma County of 7.5% in October 2009 as compared to January 2009. Both neighboring Napa and Solano Counties which do not have a program similar to SCEIP experienced 3.0% and 2.6% decreases respectively for the same two months.

Participation in SCEIP is simple and completely voluntary. Any Sonoma County property owner, whether residential or commercial, can propose energy or water efficiency improvements to their property. When the project is approved, the owner enters into a tax assessment agreement with the County, whereby the program pays for the project, and the property owner agrees to repay the amount through increased property assessment included on their annual property tax bill. The assessment remains with the property, and therefore can be passed from one property owner to the next just as the energy efficiency benefits remain with the property.

Financing can range from a minimum amount of \$2,500 up to a maximum amount that is limited to 10% of the property value. Assessments from \$2,500 to \$5,000 are paid off over a period of 5 or 10 years, while assessments over \$5,000 may be paid back over 10 or 20 years. The property owner chooses the re-payment time period at the time they submit their application. The property owner agrees to a 7% fixed interest rate on the assessment. Through short and long term financing below the 7%, an interest rate spread is created to finance the operating costs of the Program. By structuring the financing in this way, the County has created a cost-neutral program that will not negatively impact other critical governmental programs and services, which is particularly significant during these difficult financial times.

Approximately 70% of Sonoma County's residents live inside its nine incorporated cities. We recognized that city residents must be included in the program in order for the program to be financially viable and to achieve the maximum environmental benefits. Coordination with the cities began early and was vigorous. The actual process required careful coordination and timing in the passage of resolutions by each jurisdiction, along with the placement of satellite storefronts in each jurisdiction to help inform and assist residents regarding the program.

#### Partnerships for Success

From the outset, we recognized how critical partnership would be to the success of the program. In addition to partnerships between the County and the cities within Sonoma County, the program worked to join with the business and non-profit communities. The business community became an invaluable partner to help market the program to the community, providing businesses with a tool to help attract and finance projects that property owners were otherwise shying away from because of a lack of attractive private financing options. Business associations such as the North Coast Builders Exchange were critical in helping shape and streamline the program to ensure efficiency, ease, and accessibility for participants. Non-profits in the environmental community, in particular, Solar Sonoma County, have also been key technical advisors on the benefits of emerging efficiency technologies, and have helped to deliver the message and benefits of the program throughout the State and the Nation.

The building community also provided invaluable support and ideas for improving the program. One of these ideas was the provision for "draws" or partial payments as certain phases of the project were completed; a standard practice in the construction industry. Without this, contractors would need to fund entire project costs and await payment after project completion, inspection and fund disbursement, which could take up to one month. Now, partial payments are available for projects over \$60,000. By ensuring this and other areas were addressed early on, the program was able to establish a more streamlined and business-friendly operation.

The energy community is also an active partner. Energy audits help to ensure the best choice in technology and allow for measureable environmental results arising from the program. Currently, commercial properties are required to conduct an energy evaluation, and the program strongly encourages energy audits for residential participants as well – the cost of which can be included in the financing provided through the program. As the local market of energy auditors increases, we anticipate an energy audit/plan requirement for all residential participants.

The Federal Government can play an important role in this effort too. Through offering tax incentives for municipalities to undertake PACE programs, the federal government would enable counties and cities to reduce the interest rate of the financing mechanism, which would provide a very competitive rate to the consumers. That would in turn induce more property owners to participate, and create more jobs. One such federal incentive for PACE financing is to provide tax exempt status on PACE Municipal bonds. HR 3525, sponsored by Congressman Mike Thompson, provides tax exempt status for PACE bonds. Sonoma County supports HR 3525. Other possible incentives might include expanding the qualifying capital expenditures for Build America Bonds (BAB's), and Qualified Energy Conservation Bonds (QECB's) to include PACE-financed expenditures in private property. Other ways to partner with us is to offer Government guarantees of PACE Municipal Bonds and PACE securitizations, sponsor an "Energy Bank" to invest in the Program with both long-term and short-term "warehouse" financing and qualify programs for Community Reinvestment Act investment to incent participation by local banks, or to develop grant or line of credit offerings for one-time funding to encourage nationwide implementation. In all of these ways the Federal Government can support efforts to replicate our experience nationally, stimulate local job markets and economies, and at the same time achieve GHG reduction goals.

#### Conclusion

Through collaboration with government, business, and non-profit partners, Sonoma County has been able to forge ahead with a financially sustainable program that furthers our community's strategic priorities of environmental sustainability and local economic vibrancy. In doing so, the program has become a shining example of government innovation and collaboration. However, the continued success of the Program teeters on Sonoma County's ability to obtain constant low cost short and long term financing which, in turn, will be passed on to the participating property owners to further encourage **self-funded** energy conservation, clean energy generation and water conservation improvements to their properties. We believe expanding our partnership to federal and state governments is essential to achieving low cost financing.

Thank you again for the opportunity to appear before you today. I am happy to answer any questions from members of the Committee.

Chairman LEVIN. Thank you very much. Very interesting, indeed.

Mr. Bolinger.

#### **STATEMENT OF MARK BOLINGER, RESEARCH SCIENTIST, LAWRENCE BERKELEY NATIONAL LABORATORY**

Mr. BOLINGER. Thank you, Mr. Chairman and Members of the Committee. My name is Mark Bolinger, and I am a research scientist at Lawrence Berkeley National Laboratory, where I conduct research on renewable electricity markets and policies, with funding from the U.S. Department of Energy.

The purpose of my testimony is to summarize findings from a preliminary Berkeley Lab evaluation of the first year of the section 1603 Treasury cash grant program.

As you know, this is a Recovery Act program that enables renewable power projects to elect cash payments in lieu of tax credits.

Berkeley Lab's selective review of this program was prompted by this Committee's request for assistance in evaluating the program's effectiveness, and I am submitting as part of my written testimony a recent Berkeley Lab report that responds in detail to the Committee's request.

Just to be clear, neither the Berkeley Lab report nor my testimony today advocates any particular policy position with respect to the section 1603 program.

I should also note that the Department of the Treasury, which administers the program, did not participate in this evaluation other than as a data provider.

With those preliminaries out of the way, our first key finding is that the Section 1603 program has been heavily subscribed, particularly by wind power projects.

As of March 1 of this year, wind power had received 86 percent of the nearly \$2.6 billion in grants that had been dispersed through this program, followed distantly by geothermal at 6 percent, solar at 4.5 percent, and biomass at 2.8 percent.

In capacity terms, wind power accounted for nearly 3,900 megawatts of the 4,250 megawatts of all renewable power technologies supported by the program as of that date.

In addition, the Department of the Treasury has indicated that as of March 1, another 2,300 megawatts of wind power that were built in 2009 had applied for but had not yet been awarded cash grants under this program.

In total, roughly 6,200 megawatts or about 62 percent of all wind power capacity built in the U.S. in 2009 had applied for grants as of March 1. More broadly, with the high proportion of both geothermal and biomass projects also choosing the grant, it is clear that the majority of all renewable power capacity built in 2009 elected the grant in lieu of either the production tax credit or the investment tax credit.

Some projects that have elected the grant have appeared to have done so opportunistically rather than out of necessity. For example, we estimate that if a section 1603 program did not exist, perhaps 3,800 megawatts of wind power that had applied for the grant as of March 1 would likely still have been built in 2009 using the production tax credit.

However, the costs imposed on the U.S. government by this opportunistic behavior consist primarily of the difference in the present value of the grant versus the production tax credit, which is a difference that we find relatively modest on average.

Moreover, the flip side of this issue is that many renewable power projects built in 2009 do appear to have been motivated at least in part by the grant program.

We estimate that as many as 2,400 megawatts of wind power representing almost one-quarter of all wind power capacity installed in the U.S. in 2009 may not have been built last year, absent the section 1603 program.

These 2,400 megawatts of incremental wind power have helped to retain or create jobs in the U.S. Using the National Renewable Energy Laboratory's Jobs and Economic Development Impact model, or JEDI, we estimate that these 2,400 megawatts of wind may have supported approximately 51,600 short term full time equivalent gross job years during the construction phase of these projects, and 3,860 long-term full time equivalent gross jobs during the operational phase.

Moreover, the JEDI model estimates that the majority of all wind industry jobs supported by the section 1603 program are located right here in the U.S.

Now, I do want to emphasize that these jobs estimates are based solely on modeling runs and are therefore inherently uncertain. One must also recognize that these estimates are of gross rather than net jobs. In other words, the JEDI model does not account for the fact or the possibility that job gains in the wind industry will come at the expense of job losses in other parts of the energy sector or broader economy.

A more fairer employment analysis would therefore need to consider such macroeconomic influences and focus on net rather than gross job impacts.

Finally, the Berkeley Lab analysis touches on a number of issues and possible concerns with the design and implementation of the section 1603 program.

One of these potential concerns is that the 30 percent grant rewards investments rather than efficient employment, which might call into question the types of incentives being created by this program.

Based on the data currently available to us, however, we find no reason at this time for widespread concern with respect to either the cost or performance of projects that have received section 1603 grants.

With that, Mr. Chairman, I conclude my statement and I would be happy to answer any questions you may have.

[The prepared statement of Mr. Bolinger follows:]

**Prepared Statement of Mark Bolinger, Research  
Scientist, Lawrence Berkeley National Laboratory**

STATEMENT OF  
MARK BOLINGER  
RESEARCH SCIENTIST  
LAWRENCE BERKELEY NATIONAL LABORATORY  
BEFORE THE  
COMMITTEE ON WAYS AND MEANS  
UNITED STATES HOUSE OF REPRESENTATIVES  
HEARING ON ENERGY TAX INCENTIVES DRIVING THE GREEN JOB ECONOMY  
APRIL 14, 2010

Thank you, Mr. Chairman and members of the Committee. My name is Mark Bolinger, and I am a Research Scientist at Lawrence Berkeley National Laboratory, where I conduct research on renewable electricity markets and policies, with funding from the U.S. Department of Energy.

The purpose of my testimony is to summarize findings from a preliminary Berkeley Lab evaluation of the first year of the Section 1603 Treasury cash grant program. As you know, this is a Recovery Act program that enables renewable power projects to elect cash payments in lieu of tax credits. Berkeley Lab's selective review of this program was prompted by this Committee's request for assistance in evaluating the program's effectiveness, and I am submitting as part of my written testimony a recent Berkeley Lab report that responds, in detail, to the Committee's request (the Berkeley Lab report can be downloaded from <http://eetd.lbl.gov/EA/EMP/reports/lbnl-3188e.pdf>).

Just to be clear, neither the Berkeley Lab report nor my testimony today advocates any particular policy position with respect to the Section 1603 program. I should also note that the Department of the Treasury, which administers the program, did not participate in this evaluation, other than as a data provider.

Our first key finding is that the Section 1603 program has been heavily used, particularly by wind power projects. As of March 1 of this year, wind power had received 86% of the nearly \$2.6 billion in grants that had been disbursed through this program, followed distantly by geothermal at 6%, solar at 4.5%, and biomass at 2.8%. In capacity terms, wind power accounted for nearly 3,900 MW of the 4,250 MW of *all* renewable power technologies supported by the program as of that date.

In addition, the Department of the Treasury has indicated that as of March 1, another 2,300 MW of wind power that were built in 2009 had applied for, but had not (yet) been awarded, cash grants under this program. In total, then, roughly 6,200 MW – or about 62% of all wind power capacity built in 2009 – had applied for grants as of March 1. More broadly, with a high proportion of geothermal and biomass projects also choosing the grant, it is clear that the majority of *all* renewable power capacity built in 2009 elected the grant in lieu of either the production tax credit (PTC) or the investment tax credit (ITC).

Some projects that have elected the grant appear to have done so opportunistically rather than out of necessity. For example, we estimate that if the Section 1603 program did not exist, perhaps 3,800 MW (of the 6,200 MW) of wind power that had applied for the grant as of March 1 would likely still have been built in 2009, using the production tax credit. However, the cost imposed on the U.S. government by this opportunistic behavior consists primarily of the difference in the present value of the grant versus the production tax credit, which we find to be relatively modest on average.

Moreover, the flip side of this issue is that many renewable power projects built in 2009 *do* appear to have been motivated, at least in part, by the grant program. We estimate that as many as 2,400 MW of wind power, representing almost one-quarter of all wind power capacity installed in 2009, may not have been built last year absent the Section 1603 grant program.

These 2,400 MW of incremental wind power have helped to retain or create jobs in the U.S. Using the National Renewable Energy Laboratory's Jobs and Economic Development Impact (or JEDI) model, we estimate that these 2,400 MW may have supported approximately 51,600 short-term full-time-equivalent (FTE) gross job-years during the construction phase of these projects, and 3,860 long-term FTE gross jobs during the operational phase. Moreover, the JEDI model estimates that the majority of all wind industry jobs supported by the Section 1603 program are located here in the U.S.

I do want to emphasize that these jobs estimates are based solely on modeling runs, and are therefore inherently uncertain. One must also recognize that these estimates are of *gross* rather than *net* jobs. In other words, the JEDI model does not account for the possibility that job gains in the wind industry will come at the expense of job losses in other parts of the energy sector or broader economy. A thorough employment analysis would need to consider such macroeconomic influences and focus on net, rather than gross, job impacts.

Finally, the Berkeley Lab analysis touches on a number of issues and possible concerns with the design and implementation of the Section 1603 program. One of these potential concerns is that the 30% grant rewards investment rather than efficient performance, which might call into question the types of incentives created by this program. Based on the data currently available to us, however, we find no reason at this time for widespread concern with respect to either the cost or performance of projects receiving Section 1603 grants.

With that, Mr. Chairman, I conclude my statement, and would be happy to answer questions from the Committee at the appropriate time.

Chairman LEVIN. Thank you very much. Your report was requested by you, Mr. Rangel.

Mr. RANGEL. Stellar job. Thank you so much.

Chairman LEVIN. In February of 2010.

Mr. BOLINGER. That is correct.

Chairman LEVIN. That is a fairly prompt response.

Mr. BOLINGER. Yes.

Chairman LEVIN. Thank you.

Mr. Bohigian.

**STATEMENT OF DAVID BOHIGIAN, MANAGING PARTNER, E2  
CAPITAL PARTNERS**

Mr. BOHIGIAN. Thank you, Mr. Chairman and Ranking Member Camp and Members of the Committee for the opportunity to appear before you today to discuss some key issues, and I want to say how impressed I have been with the Committee today and engaging in substantive discussion, and with all the panels, in what has been, I am sure, a long day for you.

I am a small businessman. I am working to establish a firm that will deploy energy efficient equipment throughout commercial and industrial properties in the United States.

What I am talking about is HVAC systems, lighting systems, windows, and climate control systems, that I am allowing the end user to avoid the up front costs, and we all share in the savings as that equipment is being used over years.

My partner and I started this company because we believe there is enormous opportunities to do well and to do good. We need to solve key market barriers that have prevented the deployment of the cleanest form of energy, which is invisible, but it is there, it is energy efficiency.

This business model has been proven to work in government buildings and in municipalities, universities, schools, hospitals. We are looking to extend that to the private sector, where most of the buildings are.

Our success will not depend upon government grants, tax incentives or subsidies. Each of our projects has a positive rate of return without using taxpayer dollars. In fact, if you look at McKinsey's studies on this, energy efficiency and the positive rates of return there in fact help pay for a number of the renewable energy technologies that we talk about.

By using existing energy efficient technologies, that pay for themselves, the United States could cap its increase in energy demand and greenhouse gas emissions.

While policy makers and the public are primarily focused on renewable energy, I believe minimal consideration has been paid to projects that deploy commercially proven equipment into existing commercial industrial buildings.

Over my lifetime, energy efficiency has accounted for nearly three-quarters of the demand for new energy services. Today, energy efficiency alone is twice the size of the renewable energy market and can continue upon that pace for years to come.

Businesses understand they must conserve energy to remain competitive. Although the benefits of energy efficiency are well documented and the demand for energy efficiency continues to grow, companies frequently choose not to deploy energy efficient equipment.

In addition, vendors are not structured to finance their customers. In fact, the Department of Energy found that even with the median pay back of 1.3 years, more than half the projects they recommended were not accepted by industrial customers. This is not a credit story for the past 2 years. This is a 20 year survey of over 40,000 projects they recommended.

Of those projects that were rejected, a majority were rejected for financing reasons.

Thousands of energy efficient projects are being deferred every year. Realizing the potential of energy efficiency requires overcoming some of these obstacles.

When the U.S. Government has focused on energy efficiency, it has primarily focused on retrofitting its own buildings, which I commend, as well as the residential sector, which I commend, but I would also like to talk more about how to incentivize the commercial and industrial sectors.

I would also like to say it is my belief that I do not think our national goal should be trying to choose specific energy production or energy efficiency technologies to receive taxpayer assistance.

I believe it should be generating measurable and identifiable and verifiable savings in energy intensity.

In addition, while tax incentives have a role, I believe other mechanisms may be better suited to encourage the private sector and private investment without additional burdens to taxpayers.

Our business model relies on measured and verifiable savings that create income streams without taxpayer assistance.

Some public policy would be helpful, and I want to list five measures that I think could help. We have heard about the PACE program and allowing commercial building owners to pay for energy efficiency equipment through an annual assessment on their tax bill.

This model being adopted in Sonoma and other state and local levels in this country have been primarily targeted at residential development. I would like to see that expanded to include the commercial sector as well and see if there is a Federal mechanism that might be able to help on the tax bill as well.

In addition, the Title 17 loan guarantee program has been helpful, but it is targeted on new energy efficiency technologies rather than proven technologies. I believe looking at that program and seeing which technologies could actually help reduce our energy use and improve our energy intensity bears consideration.

I believe that extending and potentially expanding the energy efficient commercial building tax deductions could be helpful.

I think allowing more rapid depreciation of capital equipment and energy efficiency retrofits would also spur the market, and last, while it is typically a state and local responsibility, helping to develop model building codes that encourage energy efficiency through retrofits would be helpful.

Building owners and policy makers at all levels understand that improving energy efficiency is the key to our competitiveness.

I have talked to manufacturers and contractors and vendors in lighting, windows, heating, insulation, and other fields across the United States that have the ability and the desire to serve this market that are going to help create manufacturing jobs and insulation jobs in this country.

I thank you for your time today and know that we stand ready to assist Congress in making American businesses become more efficient, competitive and create the jobs for the future.

Thank you.

[The prepared statement of Mr. Bohigian follows:]

**Prepared Statement of The Honorable David Bohigian,  
Managing Partner, E2 Capital Partners**

Committee on Ways & Means  
United States House of Representatives

“Energy Tax Incentives Driving the Green Job Economy”

David Bohigian, Managing Director, E2 Capital Partners  
Written Testimony, April 14, 2010

*Energy Efficiency in the Built Environment is Key to Meeting National Goals*

Chairman Levin, Ranking Member Camp and members of the Committee, thank you for the opportunity to appear before you today to discuss how the United States can deploy energy efficient equipment and develop renewable energy to drive job creation and economic growth.

My name is David Bohigian, and I am working to establish a small business, E2 Capital Partners. E2 Capital Partners seeks to help deploy energy efficient equipment to reduce energy consumption and operating costs within commercial buildings and industrial facilities. We will help finance the installation of equipment such as lighting, climate control systems, HVAC, and windows so that the end-user avoids up-front costs that have precluded many building owners from deploying equipment that would generate immediate energy savings and improve competitiveness.

My partner and I started this company after my tenure as an Assistant Secretary of Commerce, and his as a successful entrepreneur, because we believe there is an enormous opportunity if we can solve key market barriers that have prevented the deployment of the cleanest form of energy – energy that isn’t used. This business model has been proven to work within government facilities, universities, and hospitals, but we would extend it to where most of the buildings are – the private sector. Our success will not depend on government grants, tax incentives or subsidies – each of our projects has a positive rate of return for investors without using taxpayer dollars.

Over the past year, we have worked to develop a program that has attracted the support of major equipment providers and other key industry participants from the Clinton Climate Initiative to major investment banking firms. In the coming months, we hope the company can raise investor capital to begin to deploy projects throughout the United States, creating jobs, conserving energy, and reducing greenhouse gas emissions.

*Energy Efficiency – an Overlooked Resource with Positive Rates of Return*

By using existing energy efficient equipment that pays for itself, independent of subsidies or tax incentives, the United States could cap its increase in energy demand and greenhouse gas emissions. While policymakers and the public have focused primarily on renewable energy production, minimal consideration has been paid to conservation projects that deploy commercially proven energy efficient equipment such as lighting, windows, climate control systems, and heating, ventilation and air conditioning units into existing commercial and industrial buildings.

According to the McKinsey Global Institute (“McKinsey”), the reduction of energy consumption through the use of energy efficient equipment is one of the cleanest, most cost-effective and timely “sources” of energy. This study concluded that investment in energy efficiency equipment creates an average internal rate of return of 17 percent. McKinsey estimates there could be \$80 billion in potential cumulative net savings from energy efficiency projects in the United States by 2012.

Over the past 40 years, energy efficiency has met nearly three quarters of the demand for new energy related services. Today, the size of the market for deploying energy efficiency projects is more than double the size of the renewable energy market. That is, if we were to meet all the projections for deploying renewable energy, energy savings would cut our dependence on all energy sources far more.

Buildings consume more energy than any other sector of the economy, accounting for approximately:

- 40 percent of energy use;
- 70 percent of electricity consumption; and
- 40 percent of greenhouse gas emissions.

80 percent of lifetime building energy use occurs during occupancy, rather than during construction. Almost three-quarters of our nation's 81 million buildings were built before 1979. Therefore, replacement and retrofitting of existing equipment is crucial to reducing energy use.

Energy accounts for approximately 30 percent of a building's ongoing operating costs, making energy efficiency enhancements critical in today's cost-sensitive economy. In addition, improving the deployment of energy efficient equipment would spur new product development.

*Increasing Demand for Energy Efficiency*

Businesses understand they must conserve energy to remain competitive. Several key forces have intensified private sector focus on energy efficiency investment, including:

- Cost pressure from global competition;
- Escalating electricity prices and volatile fossil fuel prices;
- Increased stakeholder urgency regarding sustainability and the climate challenge;
- Technological advancements and increased awareness of energy efficient equipment; and
- Legislative and regulatory pressure to conserve energy and reduce pollution.

For commercial and industrial companies, improved energy efficient operations generates significant immediate and long-term cost savings, creates asset value, improves reputational benefits and achieves compliance with rapidly evolving municipal, state, and federal changes in energy and environmental policy.

*Investment Gap*

Though the benefits of energy efficiency retrofits and equipment upgrades are well-documented and the demand for energy efficiency continues to grow, companies frequently choose not to deploy proven equipment that generates immediate savings. There is a long-standing structural imbalance between private sector demand for energy efficient operations and investment in projects that can deliver energy savings. The initial capital cost of installing energy efficient equipment deters building owners and corporate managers from deploying proven technologies with favorable payback periods. Major corporate obstacles include:

- Desire to invest in projects that cover capital outlays in two years or less;
- Preference to invest in core operating opportunities, rather than energy savings;
- Reluctance to use their balance sheet and add additional debt obligations;
- Lack of information regarding existing or available energy efficient equipment;
- Lack of expertise in calculating return on investment from energy savings;
- Misaligned or “split” incentives where building developers and owners don’t invest in energy efficiency for buildings because they do not pay the energy bill; and
- Difficulty for small and medium-sized businesses and building owners to obtain financing.

The Department of Energy’s Industrial Assessment Center (“IAC”) found that even with a median payback of less than 1.3 years, 53% of projects were rejected, establishing an extremely high implicit hurdle rate for energy efficiency equipment deployment. Further, this 20 year survey of more than 5,000 end-use customers that evaluated almost 40,000 projects concluded that the majority of projects were rejected for financing reasons.

Vendors, on the other hand, are not structured to provide “paid from savings” programs to their customers. Most major vendors guarantee performance, but are unwilling to finance their equipment and services to the private sector through “paid from savings” mechanisms. Vendors will guarantee a project’s construction, installation, realized energy cost savings, and required maintenance. However, they are unwilling to take any credit risk to finance their equipment sales. Vendors give several reasons for not addressing this customer need: preference to use their capital for core business activities such as research and development, desire to recognize revenue immediately on a sale, and unwillingness to use their balance sheet to finance the sales of their own equipment.

The financing gap between commercial and industrial firms and vendors causes companies to defer thousands of energy efficiency recommendations each year and has created a long-term, structural underinvestment in energy efficiency projects.

#### *Current Incentives for Energy Efficiency*

Realizing the potential of energy efficiency requires overcoming these obstacles to deployment. Where the United States Government has focused on the issue of energy efficiency, it has largely focused on retrofitting federal buildings, and incentivizing the residential sector. To my knowledge there are only four programs targeting the commercial and industrial sectors.

- Innovative Technology Loan Guarantee Program
- Energy-Efficient Commercial Buildings Tax Deduction
- Energy-Efficient Appliance Manufacturing Tax Credit
- Qualifying Advanced Energy Manufacturing Investment Tax Credit

Conspicuously, three of these are primarily targeted to encourage commercialization and manufacturing, leaving only the commercial buildings tax deduction as the only federal program targeted at encouraging commercial and industrial properties. The Innovative Technology Loan Guarantee Program from Title XVII of the federal Energy Policy Act of 2005 (EPAct 2005) authorized the U.S. Department of Energy to issue loan guarantees for projects that were intended to encourage early commercial use of new or significantly improved technologies in energy projects, but does not extend to the vast majority of commercially viable projects that would significantly reduce energy use in commercial and industrial settings.

*Policy Barriers to Energy Efficiency*

A national goal shouldn't be choosing specific energy production or efficiency technologies to receive taxpayer assistance; it should be generating measurable and verifiable savings in energy usage. In addition, while tax incentives have a role in incentivizing markets, other mechanisms may be better suited to encourage and leverage private investment without additional burdens to taxpayers.

The primary market barriers are financial – and present a dilemma for the deployment of energy efficiency technology. First, potential lenders and business and building owners are not comfortable with adding additional debt to the capital structure. If a building owner is to use a “paid from savings” approach, lenders need to understand their security interest in the equipment. The issues of financing and structuring are the key to unlocking wide scale adoption of energy efficiency projects in the buildings in which most of us work.

While some clean energy business models depend on taxpayer assistance, energy efficiency projects pay for themselves and offer strong returns on investment to end-users and our economy.

Our business model relies on measured and verifiable savings that creates income streams without taxpayer assistance. However, public policy can play a role in accelerating the deployment of energy efficient equipment. Some measures would include:

- Allow commercial building owners to pay for energy efficiency equipment through an annual assessment on their tax bill. This model has been adopted at the state and local level, but primarily targeted at residential property owners financing efficiency retrofits by annual assessment on their property tax bill. These Property Assessed Clean Energy Bonds (PACE) bonds are senior to existing mortgages and can be issued by municipal financing districts or finance companies.
- Extending the Title XVII loan guarantee program to clearly target energy efficiency projects with proven equipment, not just new technology, in commercial and industrial settings;
- Extending and expanding the energy efficient commercial buildings tax deduction, and considering performance based reductions;
- Allowing more rapid depreciation of capital equipment in energy efficiency retrofits; and
- Developing model building codes to encourage energy efficiency through retrofits.

*Deploying Energy Efficient Equipment Boosts Competitiveness & Creates Jobs*

Building owners and policymakers at all levels understand that improving energy efficiency is a key driver for industrial competitiveness in the years ahead.

Businesses throughout the United States stand ready to deploy energy efficient equipment, but lack the financing. These firms see the financial, competitive and reputational benefits of creating more with less. Energy efficient firms are market leaders, beyond the clear environmental, social and corporate governance implications.

Manufacturers and contractors in lighting, windows, heating, insulation and other fields across the United States have the ability and desire to serve this market, creating jobs to make and install this equipment.

Unlocking this market entails solving business challenges that have slowed the deployment of energy efficiency solutions. Even without taxpayer support, there are very attractive risk adjusted returns through investing in energy efficiency – as I have noted, this stands in contrast to many other forms of clean energy today.

We stand ready to assist Congress in making American businesses become more efficient, competitive, and create the jobs of the future.

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Chairman LEVIN. Thank you very much. I have a question. Let me suggest, Mr. Rangel, why do you not go and then Mr. Camp and then our colleagues, Mr. Johnson and Mr. Van Hollen, and then I will wrap it up with a question if you have not covered it.

Mr. Rangel.

Mr. RANGEL. First, let me thank all of you for your patience. This is rather unusual that we would have invited guests to come here and then we have to spend so much time on the Floor. I hope you heard me thank you generally without the mike.

I also, Mr. Bolinger, would like to thank your outfit for the speedy action that you have taken and sharing with us whether these programs are working or not.

My question is to try to get a feel as to where our country is as it relates to conservation of energy. I think it goes unchallenged that as it relates to dependency on fossil fuel, climate, health, and all these things, that the urgency is well known by the political, manufacturing and economics' circles.

As it relates to the consumer, I am not convinced that on the issues that they think are important, that this even gets on the scale of what they want economists to do.

I also believe that our country has put a lot of men and women in harm's way in order to protect oil because of our dependency on this fuel, so there is no question that our national security, our foreign policy, our economic decisions are based on what we are talking about today.

I do not know how many of you actually have driven down the highways during the days in every major city and see the lights are on. I do not know how many of you go to our towns and villages after 6:00 or 8:00 or 10:00 and see every light on, the air conditioner and the heat, whatever it may be.

I do not remember hearing, except when my grandfather would give me hell saying put out that light, you are wasting electricity, which of course, it was a cost issue, and I have never forgotten it.

All that we are doing in terms of providing tax credits and removing subsidies from oil, people get critical about what it means about their pocketbook.

We had an experiment, I think, that we asked people to cut off electricity for 1 hour or 1 day of a year to see what the impact would be. Can any of you give me just a baseball park percentage of the waste of energy in terms of the American consumer?

I do not want to get back to the Carter days and tell people they cannot have Christmas lights and they have to wear a sweater, and I do not want to put all the lights out in Times Square because it is a tourist attraction, and we need the money.

I do not really think that people think we have a crisis to the extent that people are dying on the battlefields as well as with health problems because of this serious problem that all of you have studied, investigated, and thank you for the work that you are doing to put us on the right track.

But are there any ideas about consumption that strike you that we are not doing? Mr. Dole.

Mr. DOLE. One of the reasons we tried this program is we really felt the community was ready for a cultural change. They were thinking along the line that you were. One is that we need to conserve on energy. Two, we need to do the right thing.

What we associate it with is sort of like recycling. Nowadays the communities, the population, they have an aluminum can in their hand, they're looking for a recycle center. Our program is raising that consciousness, that culture, to turn off the lights. But even more importantly, to be more efficient in their use of energy. And that's what our program has shown.

Mr. RANGEL. Mr. Dole, your program is very unusual, and you provide the incentives, out-of-pocket expenses, improvement, and property, and a whole lot of things that a guy living in an apartment house in Harlem—besides that electricity bill.

But there is no sense in America that there is a national crisis. And I'm saying that we're paying for this dearly, and the threats, in terms of what happens to our economy in the future, and China, and all of these other things, and we're concerned about annoying our constituents and talking about taxes and climate control, and all the things they don't understand.

Do you think our government is doing enough there? Do you think Members of Congress are doing enough? Is the message out there, that conserving electricity—I mean it's one thing to say, "We give you a tax incentive, you can buy the appliance and it costs less," and people say, "Hey, if I can save a couple of bucks," but I don't see anybody lecturing their kids or grandkids about this being a national or international issue. I don't.

And make no mistake about it, come election times we want to do what our constituents want us to do. And if this is not on their agenda at the town hall meetings, we will wait until after we are reelected for the educational bit. But the priority is going to be getting reelected. And we just hope when we tell them this they don't think that we're just lecturing to them.

And I feel there is a vacuum. Does anyone agree? Do you think Americans are sufficiently educated to know how serious the problem is?

Chairman LEVIN. Anybody want to take a brief crack at that?

Mr. DOLE. I would like to agree with Mr. Rangel. I think that the fundamental problem is that in order to have more efficient windows, or more insulation in the ceiling or whatever is the specific step, if you go to the consumer or to the business in the building, the proposition right now is, "Please take money out of your pocket, invest it in this structure, and over the course of time there will be savings and you will be glad you made the investment."

But, Mr. Rangel, you are absolutely right. A renter doesn't really do that math and say, "I would like to spend the money." If your mortgage on your house is bigger than the value of the house, you're not thinking, "I want to put more money into this house. Maybe I won't even be able to stay in this house." If you might lose your job, you are thinking, "I need to save the money for food. I don't have time to make an investment that won't pay off for 5, 6 or 7 years."

The overwhelming majority of Americans, they can want to save that money on the electricity bill, but they have done the math in a variety of ways, and they've reached the conclusion that they just can't do it.

So, one of the virtues of a green bank would be to loan money at the kind of low rates that we were just told about in the PACE program, and to loan it to the people who will have the incentive to make these investments over a long-term, to loan it to commercial real estate owners, to loan it to utilities who are then able, over the course of time, to hire people to go in and do the projects, to loan it into the kinds of businesses that Dow not only is, but also that constitute Dow's customers.

Mr. RANGEL. That works.

Mr. DOLE. That will work.

Mr. RANGEL. And I appreciate it. But how could we go on a highway and see the lights on, as all of you have seen during the

daytime without saying, "My God." He's not a terrorist, but somebody is letting America down.

How do we see buildings with no one in them closed, and all the lights on? There has to be something about consumption, that we just ignore that as we go after the homeowner and give incentives. I'm just saying I don't think America really knows how serious this problem is. And I want to thank you for what you're doing.

If you are satisfied there is nothing else to be done in terms of national education, then I will have to find another panel somewhere else. But right now, I want to thank you for your contributions. What you are doing is important, but I think it's a drop in the bucket, in terms of how urgent the problem is. Thank you.

Chairman LEVIN. Mr. Camp.

Mr. CAMP. Well, thank you. Thank you, Mr. Chairman, and I want to thank all of you for being here, and for your testimony. I just have a couple of questions.

Mr. Bohigian, can you just elaborate a bit on the types of measures—just quickly, because I know time is very limited here—on the measures you can take to reduce energy consumption in buildings and industrial facilities, as you testified, and compare that—the environmental benefits and net reductions—and compare that to converting a building to an entirely different type of energy.

Do you have any—or if you can't quickly answer that, if you could, get back to me in writing on a comparison of the two approaches, because we have heard a lot about alternative forms of energy, and I would just like to see the cost and benefits of moving forward on the approach that you have outlined.

Mr. BOHIGIAN. Well, on a national scale I will give you an idea. As we talk about 2 to 4 to 6 to 8 percent as our percentage of renewables that we're using in the economy, our typical projects are 20 and 30 percent savings at the building level.

So, it's clear to me, as I said, over the past 40 years, energy efficiency continues to account for the lion's share of energy savings in this country, and the generation and renewables simply can't match that in the short term.

Mr. CAMP. All right, thank you. And, Dr. Burns, I know that Dow Corning and their joint venture, Hemlock Semiconductor, manufacture solar and other energy-related products. And I know that's a very energy-intensive industry. And I know that—and I think, for example—I have heard this, if this is accurate—that Hemlock Semiconductor is the largest single point user of energy in the entire state of Michigan.

Ms. BURNS. Either the largest or second, yes.

Mr. CAMP. Yes, up there in—one of the top. Can you tell me how sensitive you are, as a company, to higher energy costs and the comparisons between costs, both regionally and internationally?

Ms. BURNS. Yes. I mean, this industry is extremely sensitive to energy costs, because it takes a lot of energy to produce this very pure material that goes into the solar cells and modules.

On average, the energy that we use is converted into energy savings of about 10 to 15 times that. So, these solar cells that last 20, 25, 30 years obviously save a lot of energy in their lifetime. But the actual production of the raw material takes a lot of energy. We are

very sensitive to it. It is one of the top components, in terms of deciding where to locate our manufacturing plants.

And, fortunately, we were able to choose Michigan and Tennessee, primarily because of the incentives and the good rates that we were offered. But on a globally competitive basis, that is clearly something that other companies are looking at. About 100 new polysilicon plants are announced to go into China right now. And a lot of that is driven by labor costs. A lot of it is driven by the government's priority on solar and renewables, and on attractive energy rates that clearly are coming through government support.

Mr. CAMP. Well, I think that's an important point. While the actual facility is a high-energy user, as you go downstream into the actual manufactured product you see significant energy savings with the use of the solar products that are manufactured.

Ms. BURNS. Correct.

Mr. CAMP. So, as you look just at one entity, you might view them as a high-energy user. But as you get further down the chain, it changes dramatically.

I also wanted to mention—I have just a few minutes left—the Manufacturing Jobs Creation Act that Congressman Mike Thompson has introduced, and a number of Members of the Committee are cosponsors, including Chairman Levin and myself. The bill, obviously, would make capital investments in plants and machinery eligible for a 30 percent investment tax credit already offered under section 48.

Can you just comment on the investment and employment impact you might expect such a credit would have?

Ms. BURNS. Yes. I think it would be huge, and I am a strong supporter of this proposal. We are the very first step in the value chain. Most of the intermediate steps are not done in the United States of America. Most of our product that is shipped offshore is converted into cells and modules and then for the U.S. market, it gets shipped back.

We have customers who want to invest in America. They want to put their manufacturing plants here, because this is where the growing market is for solar.

This will help them make that decision. This will be an incentive that is more globally competitive. It will give them certainty in their investments and predictability in terms of their returns.

We have many customers who would like to co-locate in Michigan and Tennessee because our material shipment to them would be extremely efficient.

Many of them are Asian customers who do not know how to maneuver in the regulatory and political environment in the U.S. And are seeking our help and support and partnership to do this.

I think it would be huge and I strongly encourage it.

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

Chairman LEVIN. Thank you. Mr. McDermott.

Mr. MCDERMOTT. Thank you, Mr. Chairman.

I served in the state legislature in the 1970s and 1980s during the era of "oops," and I watched utility guys come in and tell me—they would draw these lines about how demand was going to continue to go up.

You are saying, Mr. Hundt, that it is a little off at the moment for whatever reason and those lines do not make much sense, and it seems to me the conservation part of this is really what is most important at this point to really get up on top of not only from a green jobs standpoint but from an availability of energy at the moment.

I would like you and Mr. Dole to talk about both the qualified residential energy efficiency bonds and the credit bonds, in terms of is there anything we need to do to make them work better or make them more usable by local governments?

I sponsored this stuff when we put it in before. For me, it is an oversight question. Is it working? Please tell me.

You can talk about Sonoma County, but you can talk about the country. That is why I wanted the two of you.

Mr. HUNDT. Yes is the answer. First, as to electricity demand, normally, it goes right with GDP. In the year we have just gone through, this very difficult year, it is down about 3 percent. You would expect it to be up about one to 2 percent every single year, not enough demand to cause a lot of investment really in anything new.

It is going to be necessary, if we want to take the CO<sup>2</sup> out of the air, it is going to be necessary to replace building materials that are already installed with something more efficient, and to replace carbon intensive generation with something that is less carbon intensive.

We have a replacement story in the United States and a growing economy like China, they have a meet new demands story, which is why they are on a path to be number one in solar and in wind and in hydro and in coal and in nuclear.

Mr. MCDERMOTT. Is our tax structure tailored to the question of replacement rather than new demand?

Mr. HUNDT. No, it is not. When we talk about—it is certainly true that this Committee in the last 18 months has done many, many important things that have re-tailored the structure, but in order to say for the next 10 years and starting right away so you can really build projects that can come on stream in the next 10 years, do we have that kind of a commitment yet? Predictable long-term, large scale? We do not.

Do they have that in China? Absolutely, they do.

In terms of international competitiveness.

Mr. MCDERMOTT. Competitiveness, and in terms of putting our people to work right here in our own country, making that long-term, large-scale commitment to a beneficial tax policy and a very favorable financing environment. That's the special province of this extremely important committee. It is also an absolute necessity in the United States.

Very, very specifically, the green bank, as designed in Mr. Van Hollen's bill, would have the power to—and I think absolutely should, among other things—make loans to PACE programs so that some of the startup costs that we heard about could be provided from that particular green bank. Otherwise, you're asking too much of local entities, in terms of just doing it on their own.

Mr. DOLE. I believe your second question—and thank you for that question—regarding the QUIBS. The issue for us was that our allocated portion of the QUIBS was, like, \$5 million.

Mr. MCDERMOTT. Nothing.

Mr. DOLE. As you could see, our disbursements per month are running about \$2.5 million to \$3 million. So we would have gone through a lengthy process, but only have received \$5 million. The reality was—

Mr. MCDERMOTT. Why was it allocated that way? Was it the capital—

Mr. DOLE. It's allocated based on population. So each state gets a share, and then each local jurisdiction got a share. When we did the math, our share was \$5 million. We realized early on that, in order to have a viable program that could actually sell bonds later on to the markets, we needed to build a volume of at least probably \$100 million to \$200 million in contracts.

So, it was very helpful. Unfortunately, the amount was so small that we just needed a larger share. We had hoped and discussed with other organizations about the idea of maybe creating a competitive process.

So, in other words, if Sonoma County wanted to show the leadership, could demonstrate that it could use a larger allocation and bring around more change, then maybe that competitive process would work in order to bring around—

Mr. MCDERMOTT. Sort of a ready kind of process—

Mr. DOLE. Exactly, exactly.

Mr. MCDERMOTT. And you have enough flexibility, once you have the bonds, to do what you need to do?

Mr. DOLE. Yes. What we are finding is that if we can provide a reasonable interest rate, the property owner—and we finance both commercial and residential property—if at a good interest rate they will participate in the program—right now we're at 7 percent, we're right on the border line. We probably have about a 6 to 7 percent withdrawal ratio right now. We figure if we could bring in, like, prime mortgage rates—say 5 to 6 percent—our participation could as much as double at that point.

So, the instrument that you offered is very favorable to local jurisdictions. It just needs to be larger in order to bring around sufficient change.

Chairman LEVIN. Thank you.

Mr. MCDERMOTT. Thank you.

Chairman LEVIN. Mr. Thompson.

Mr. THOMPSON. Thank you, Mr. Chairman, and thank you to all of you who have come to testify today.

I just want to make one remark on the political issues that Mr. Rangel raised. Even folks who don't get a direct benefit from a program such as the one that's running in Sonoma County get other benefits. There are business owners—Rod just mentioned the commercial guys participate in this. That means that the cost to those businesses are kept down so they can keep more employees on, they can pass that savings along. In this economy, any time you can push that cost curve down, it's beneficial.

And Mr. Rangel has wineries up in his area, and I know that the wineries in my district have been using not this particular pro-

gram, but they have been moving to the renewable energy innovation. I've got one winery that went from a \$40,000 utility bill a month to a \$4,000 utility bill a month.

And right now, when—you know, the wine industry is having a real tough time right now, and that makes a difference in who is keeping employees on. And it's a lot like—why some seniors say, "I don't have any kids in school, why should I pay for taxes to go to school;" I think the whole community benefits from this.

And, Rod, I want to commend you, you've done a great job on the program. One area that I would like to hear some more about—and I hear it, representing multiple counties, and I hear it from surrounding counties—the advantage Sonoma County is experiencing today in the home improvement sector, the jobs that they are creating. I know one county told me, said, "How do we get in on this," because Sonoma County is running away with the jobs in that particular sector. And the building numbers, home building numbers I think, are even better in Sonoma because of this program than they otherwise would be. Can you comment on that a little bit?

Mr. DOLE. Thank you, Congressman Thompson. Yes. What we have experienced is about a 7.5 percent growth in green building jobs during the period since we started this program, neighboring counties—unfortunately, in your district—have experienced 2 and 3 percent declines in those jobs.

Now, we can't take all credit for that, for our program, I'm sure there is other reasons. But we know that during that period of time we put well over \$23 million into the economy at that time.

We have—the other side benefits to this is we actually have the building industry changing their business model. We have Pinnacle Homes, for example. They do high-end development homes. They have changed their business model to now make alterations. They have, if you will, educated their people to be more technically capable of evaluating homes, determining what savings could be done and then, if you will, creating a plan, an energy plan, for both commercial properties and residential properties. They have taken their business and changed that business model. That, for us, is exciting because they are now successful in two fields, not just one field.

We have had a number of companies that have partnered with us. One of our biggest partners for marketing this program is the installers, contractors, businesses. We have a couple of businesses—Sun, Light, and Power, also Solar Works up in our area—they conduct presentations to the community, both the commercial and residential, with me and present this program.

They have become huge advocates—if you will, my marketing staff. And they have also become very responsible to the consumers. One of the things that has impressed me is they want to make sure their industry doesn't blow it. This is a great program, could be even greater program, but they don't want to blow it. They know the rest of the Nation is watching this program. Seventeen other states have passed this legislation. I get calls every day from new jurisdiction planning to implement this. There is a blog that is sponsored by UC Berkeley to help other jurisdictions startup this program. It's been a cultural change for us, it really has.

Mr. THOMPSON. Well, I hope you respond to all those calls, and I hope my colleagues represent areas that want to do the same thing and emulate this program. And there are just a lot of benefits to it. You heard—you named some, but there are others, as well.

I know I have—up in Hopland, I've got a place that trains solar installers. So they are training people for jobs, and retraining people who have lost jobs. So I hope to see this spread across the country, and I appreciate all that you have done to make it such a success.

Mr. DOLE. And thank you for all your support.

Chairman LEVIN. Thank you. Mr. Thompson was eager that you come, and you've come a long way. So thank you very, very much. Mr. Blumenauer.

Mr. BLUMENAUER. Thank you, Mr. Chairman. And I appreciate Mr. Hundt reminding us of the Michigan connection with you and the ranking member. And I am slow off the mark with the Michigan suck-up. I should have mentioned my son graduating from the business school at Michigan. I will get more into this.

Chairman LEVIN. And the first—

Mr. BLUMENAUER. He's already done it, but I'm going to claim credit for it anyway.

I must say that this panel was worth waiting for, in terms of reviewing the material and some of the items that are laid out before us.

I appreciate, Ms. Burns, your forthright testimony, sort of your oversight, your five-point plan, particularly the government leading by example as the largest consumer of energy in the world, that things that we can do right now by administrative fiat, procurement process, we can help jump-start so much of this, working with the private sector, and saving the government money.

You've got a lot of certified smart people in your company and others in the industry, and I would just extend an invitation to you to help us think through how we change the Federal Government budgeting rules, so it recognizes present value accounting. If we can do that, we can break through a number of these barriers. And each energy performance contract doesn't have to be one off negotiated with some colonel in Camp Whatever, and it can be incorporated into GSA, which manages 365 million square feet.

And so, if we could posit that as a request for assistance—

Ms. BURNS. Okay. We will take it on. I hope we can provide that assistance. And I think it is very critical, when you think about the government leading by example, and it gets to the point that you made. I don't think that there is one or the other. It has to be both. It has to be efficiency, it has to be greener buildings and the right standards around those and the right procurement practices. And it has to be the right incentives for renewables.

Mr. BLUMENAUER. We are in agreement. This would help us.

Ms. BURNS. Great.

Mr. BLUMENAUER. Mr. Reed [sic], your point about energy being generated—electricity being generated and delivered locally I thought was interesting. And I love the variation. But I am struck by the fact that you are only looking at the cost per kilowatt hour, not the burden on households, because—I would invite you to work with us to talk about what people actually pay. Because in Cali-

fornia, they actually, per household, because they employ many of these things, they end up paying less.

And, in fact, I find it striking that some of the—that West Virginia, with the lowest cost in the country, has the highest household cost, if you prorate as a percentage of household income. There is something that's at work here that I think is an argument for incentives, and I would invite you to help us strategize that, as well.

Mr. Dole, I love what you're talking about. One of the areas that would be—that we could do this almost overnight with little or no Federal legislation would be working with the 51 separate utility regulators around the country, and the 5,000 electric, gas, and sewer and water utilities that touch 90 percent of the American public every month, have access to capital, have the infrastructure, and have the relationships with all the contractors that you're talking about.

Isn't it possible to do this through a regulatory process directly with utilities? Or do you have to be in the business?

Mr. DOLE. We could certainly use the help. Thank you for the question. We don't understand why the utilities have not gotten engaged at this point.

One of the reasons why government needs to run this program is it runs through the property tax system. That's very efficient—

Mr. BLUMENAUER. Right, but if you had a regulatory that allowed it to be on the utility bill—

Mr. DOLE. Right.

Mr. BLUMENAUER [continuing].—wouldn't it accomplish the same thing?

Mr. DOLE. Yes, it would. The—

Mr. BLUMENAUER. Time is short. I apologize here, but I wanted to get to Mr. Bolinger, because I've got a piece of legislation that would, in fact, extend the act's section 1603. But I think it's going to be very difficult to weave this through the process like it happened last time, which is shared jurisdiction between Ways and Means, Appropriations, Commerce. We don't have anything else like this in the Tax Code.

I would invite your attention to H.R. 4599 that would extend it for another 3 years. Do it like—right through the Tax Code directly. It wouldn't be quite as lucrative, maybe, for some of the attorneys and consultants that would have to wait a little longer. But the people who are in the business would be able to do it through their annual filing. And our legislation would extend the number of partners to real estate investment trust, to publicly owned—public pension funds.

So, there would be a much bigger audience, simpler to get enacted, more partners. And I would hope that there may be a way for you to take a look at H.R. 4599 to see if we're on the right track, and any thoughts you or others of the panel might have to keep this valuable program, but actually get it reauthorized and get it reauthorized for another 3 years.

Chairman LEVIN. If you have some thoughts, do give them to us.

I think we are going to close now with someone who has been especially innovative in this whole area. Mr. VAN HOLLEN, you have the last crack at it.

Mr. VAN HOLLEN. Thank you, Mr. Chairman. I want to thank all of you for your testimony, as well, and share the view of my colleague, that all of you were well worth waiting for. So thank you for your patience.

I think, Mr. Bohigian, in your testimony you identify some facts that underline the challenge that we all face. You have mentioned the Department of Energy's industrial assessment center's finding, that even with a pay-back in less than 1.3 years, 53 percent of projects were rejected, and that over the 20-year period, more than 5,000 end users evaluated that almost 40,000 projects were rejected for financing reasons. That's true in the commercial building sector; it's often true in the residential sector, which is why creative programs like Sonoma County's and others work, because they find a way around that financing problem.

And you specifically, among your recommendations, identify the Department of Energy loan guarantee program, and suggest that it should not only apply to new technology, but to proven equipment. And I think that that's fundamental across the board, because we do have good incentive programs for some of the cutting edge technologies, but we continue to have a financing impediment with respect to on-the-shelf technologies which, if they were deployed today in a large fashion, would help us dramatically improve energy efficiency and also begin to improve the deployment of some renewable energies. But especially in the area of energy efficiency.

And I stand to thank Mr. Hundt, Reed Hundt, because he has worked with us on this idea of trying to create a mechanism to establish some form of low-cost capital loans. Loan guarantees, of course, are one form. You can have some other forms of that.

And if—Mr. Hundt, if you could, just elaborate a little bit on how you would see the green bank, the clean energy deployment authority, whatever you want to call it, that we have talked about that passed the House in that piece of bipartisan—how that would help have more Sonoma Counties, and in fact, help, you know, that differential that Mr. Dole talked about, and maybe talk about Mr. Bohigian's situation. Then I'm interested in your comments on creating that kind of mechanism. So, thank you.

Mr. HUNDT. So thank you very much, Mr. Van Hollen. The green bank would, for example, be able to lower the interest rate, the 7 percent that Rod was talking about. It reasonably could be down in the neighborhood of 6 percent or 5.5 percent. These percentage differences, everybody in this committee knows, these are not trivial. These are the difference between somebody saying, "Yes, I'm going to invest," and, "No, I can't afford to do it." And so, that is an example.

The PACE programs in the 17 states—I believe we would have them in 50 states if we had that Federal support. I don't mean that we should take over their job. Rod told us really clearly that you do want somebody on the ground doing the work in the county, talking to the people in the county, and having them, as Mr. Rangel said, get with the culture here.

But it's the Federal Government that has the capability to lower the overall interest rates by the 1 and 2 percent that make all the difference, in terms of businesses, in terms of real estate property owners, in terms of whole communities saying, "This is what we want to do," in terms of being more efficient.

And in the same point, when we turn to generation, if we're going to bring the solar electricity that's based on the products that Dow is inventing, and is a world leader in inventing way back up at the research level, if we're going to translate those into the market, I think over the next 5 years—let's just talk about the next 5 years—you can say the following to the people, "Pay \$.15, \$.16, \$.20 a kilowatt hour." No one is going to do it. You're not going to get regulators to say, "I really want to raise those prices to that level," you're not going to get businesses to say, "I can build a business around that kind of a price," you're not going to get consumers to say, "I really can afford to do that."

Even with efficiency measures, you can't inflict a 40 and 50 percent price increase on the whole country in a recession, and we are looking at 10 million to 15 million people who need to find work in order to get us to full employment. But when you provide the low-cost financing, when you bring that into the story, you then say, "You don't need that kind of a price in order to get the investors to invest," because they have affordable, long-term financing.

And so, they will put their equity into projects. And we have been working—with your encouragement, we have been working with all the major financial institutions in the United States on this project.

The one thing I am absolutely convinced of after 15 months that we have been doing this, Mr. Van Hollen, with you and your office and other Members up here, one thing I am convinced of is this. The money is there if the economics work. And the low-cost financing will turn a spigot, and we will see, literally, \$50 billion, \$100 billion a year invested in the economy in efficiency and generation that we're not seeing right now. Every billion that is spent is 10,000 new jobs.

Mr. VAN HOLLEN. Mr. Chairman, I don't know if there is time for the other gentleman just to comment quickly on how this—

Chairman LEVIN. Okay, you might want to end on that note about all the new jobs. But, please, Mr. Bohigian.

Mr. BOHIGIAN. I will be brief, and thank you for your patience.

What we have found, and studies have found over the past several decades, is that for commercial and industrial users, it's avoiding that capital expenditure that is so key. Regardless of the savings that might be there, whether that's at 4, 5, 6, or 10 percent, people like to not, up front, use capital expenditure budgets on HVAC systems and lighting systems. They would rather spend it on retaining employees and research and development.

So, to the—to Congressman Rangel's point earlier, it's not just about the conservation, it's about being able to continue to build your workforce. And the issue that has been on the structuring side, which PACE bonds start to address, is that, in the commercial sector especially, people don't know where they stand on the capital structure. They say, "We're financing equipment," but that's behind

the tax bill, it's behind the mortgage. And I can't tear out an HVAC system very easily if I need to, if they're not paying.

So what PACE and other mechanisms allow that to do is be ahead of the mortgage and solve this financing issue that I think could result in billions of dollars in deployment in the very near term, and thousands of jobs very soon. Thank you.

Mr. VAN HOLLEN. Thank you all.

Chairman LEVIN. Well, thank you very, very much. This has been a remarkable third panel in a long and, I think, fruitful day. I think, Mr. Camp, you very much agree.

So, since you have been so productive, as well as patient, we very much want to thank each and every one of you. And I think we will be seeing more of each other.

With that, I guess we are now, at 5 after 6:00, adjourned. Thank you very much.

[Whereupon, at 6:05 p.m., the Committee was adjourned.]

[Submissions for the Record follow:]

**American Forest & Paper Association, Statement**

**Written Statement for the Record  
Submitted by  
The American Forest & Paper Association  
To  
United States House of Representatives  
Committee on Ways and Means  
Hearing on "Energy Tax Incentives Driving the Green Job Economy"  
April 14, 2010**

The American Forest & Paper Association (AF&PA), on behalf of its member companies, is pleased to submit this written statement for the record of the Committee on Ways and Means Hearing on "Energy Tax Incentives Driving the Green Jobs Economy" that was held on April 14, 2010.

AF&PA is the national trade association of the forest products industry, representing pulp, paper, packaging and wood products manufacturers, and forest landowners. Our companies make products essential for everyday life from renewable and recyclable resources that sustain the environment. The forest products industry accounts for approximately 56 percent of the total U.S. manufacturing GDP. Forest products companies produce \$200 billion in products annually and employ approximately 1 million people earning some \$50 billion in annual payroll. The industry is among the top 10 manufacturing sector employers in 48 states.

AF&PA applauds the Committee on Ways and Means for focusing on energy tax incentives as an important way to expand business activity, create and maintain jobs, reduce dependence on fossil fuel and non-renewable energy sources, promote energy efficiency, and sustain the environment for future generations of Americans. As the leading producer and user of carbon-neutral renewable biomass energy, AF&PA and its member companies welcome the opportunity to discuss the important role of energy tax policy in achieving these goals.

In recent years, federal energy tax legislation has sought to encourage renewable energy sources and alternative fuels by expanding production tax credits, providing energy investment credits, enhancing depreciation deductions, and creating new tax-favored financing mechanisms. The growth and importance of these energy tax incentives makes it imperative that such incentives be delivered in a neutral manner that does not favor some energy producers over others or some energy uses over others. Government policies to encourage additional renewable energy should not create winners and losers between existing renewable industries and new power generation. In addition, incentives should be carefully designed to avoid imposing barriers to future innovation.

The forest products industry produces and uses renewable energy for manufacturing operations and is a significant contributor to our country's existing base of renewable

energy. On average, forest products facilities meet 65 percent of their energy needs from renewable biomass. Much of that is thermal energy or steam used in our facilities' manufacturing process to dry paper, for example. We also generate 28.5 million MWH annually of biomass-based electricity, which we use to power our facilities, and sometimes to sell to third parties. Through increased efficiencies in the manufacturing and production process, AF&PA members' overall total energy use per ton of production at pulp and paper mills has decreased by 26.6 percent since 1972, and by 11 percent between 1990 and 2006.

Our increasing efficiency and greater reliance on biomass energy also has enabled AF&PA members to significantly reduce the use of fossil fuel and purchased energy, much of which also is generated from fossil fuel. From 1972 to 2006, the fossil fuel component of the AF&PA member mill energy mix decreased by over 55 percent, and the use of both fossil fuel and purchased energy has decreased by 56 percent. From 2004 to 2006, AF&PA members reduced their use of fossil fuels and purchased energy per ton of production by 9 percent.

The forest products industry generates more energy from renewable sources than wind, solar, and geothermal combined. The industry has had limited success in qualifying for renewable biomass energy incentives but has a substantial amount of additional renewable energy capability. As policymakers seek to encourage rapid expansion of renewable energy sources, the forest products industry can and should continue to play an important role in furthering these goals.

We believe a level playing field between new and existing uses of biomass for renewable energy production is critical for manufacturers of paper and wood products to remain competitive in the markets for our products and in our procurement of wood as a raw material. As the demand for biomass-based power increases, AF&PA member facilities must compete with new market entrants for that biomass—the raw material for their products, as well as the source of their own renewable, carbon-neutral power. The ability of new market entrants to qualify for potential new renewable energy tax credits, while existing facilities' biomass-based energy may not, often puts existing forest products facilities at a serious competitive disadvantage.

As discussed below, we believe the Section 45 renewable energy production tax credit should apply to existing facilities for the full 10-year production period and should be expanded to energy produced and used onsite in manufacturing operations. In addition, we believe the Section 48 credit for combined heat and power facilities should be expanded and enhanced.

#### **Section 45 Renewable Energy Production Credit**

Section 45 of the federal tax code provides a credit of 1.1 cents per kilowatt hour of electricity generated from open loop biomass that is sold to a third party. Since 2004, forest products companies have been eligible for this similar renewable energy tax credit as wind, solar, and geothermal producers when they sell electricity

generated by renewable biomass to third parties. However, those other industries are eligible for a higher credit of 2.1 cents per kilowatt hour. This credit applied to existing biomass facilities for only five years – 2005 through 2009 – compared to 10 years for all other facilities. It's important to note, however, that many facilities were not able to use the existing facility credit because of confusion created by an IRS ruling shortly after the 2004 existing facility credit was put in place. In 2008 the IRS rescinded the limitation, leaving companies with only one year of eligibility; four years fewer than Congress originally intended.

A major component of the electricity generated by forest products companies is used onsite in their manufacturing and processing operations, which has significantly reduced their fossil fuel use. The generation of electricity for onsite use is highly efficient because it avoids transmission and distribution losses compared to electricity that moves across the electricity grid. However, the industry's electricity generated from renewable biomass and used onsite is not currently eligible for the Section 45 tax credit.

The forest products industry seeks two things: 1) to extend the provision that allows existing facilities to benefit from Section 45 and 2) to strengthen Section 45 to include renewable biomass electricity used onsite.

AF&PA member companies believe that all generators and users of renewable energy should be treated the same. There are unintended consequences for the forest products industry from government mandates and incentives for new renewable energy production. Government policies to encourage additional renewable energy should not create winners and losers between existing renewable industries and new power generation.

It's not about getting incentives for doing "business as usual" – it's about treating desired behavior the same across all industries and taxpayers. For example, even though electricity utilities and forest products facilities produce the same kind of renewable energy, utilities get a tax credit for their electricity but forest products facilities do not unless they sell it to someone else. Renewable energy displaces fossil fuel whether it's sold or used onsite, so both uses should be treated the same.

So as new renewable energy generators come online and are able to claim additional tax incentives, existing biomass electricity generators such as those in the forest products industry become disadvantaged by the tax code. This stifles investment and creates disincentives for the industry to continue to increase its already substantial generation and use of biomass. All of this threatens domestic jobs and slows the full realization of domestic energy policy goals. Congress has sent a clear signal that maintaining existing jobs and creating new jobs, particularly in the field of renewable energy, is a priority. It should reaffirm a commitment to net job growth by maintaining a level playing field on tax policy.

Extension and expansion of Section 45 – as proposed in S. 870, H.R. 622, and

H.R. 2528 – will:

1. Encourage more renewable energy projects at traditional manufacturing facilities, thereby supporting existing jobs.
2. Increase energy efficiency since on-site use avoids transmission and distribution losses on the grid.
3. Sustain more than 360,000 jobs: 50,000 pulp and paper mill jobs, 150,000 related jobs associated with other products in the value chain (such as envelopes, shipping containers, or cartons), and 160,000 indirect jobs in supplier industries and local communities...plus an estimated 115,000 jobs (35,000 direct and 80,000 indirect) in the wood products sector.

**Section 48 Energy Investment Credit for Combined Heat and Power**

One of the most efficient means of utilizing energy is combined heat and power (CHP) or "co-generation." CHP is more efficient because it generates both thermal energy and electricity from the same fuel rather than generating thermal energy onsite and electricity at utility generators remotely. In general, CHP is about twice as efficient at using fuel as is utility technology, emits only half as much greenhouse gas as non-CHP electricity, and reduces transmission and distribution inefficiencies compared to electricity from the grid.

Section 48 of the federal tax code provides a 10 percent investment credit for new CHP facilities with electrical capacity of 50 megawatts or less. To further encourage investment in CHP facilities, we believe the Section 48 credit should be modified to increase the credit amount to 30 percent and remove the 50 megawatt limitation.

**Section 48 Energy Investment Credit for Existing Facility Expansion**

For both qualified closed-loop and open-loop biomass facilities, the investment tax credit (ITC) is available on the qualified property within the facility where the facility was placed in service in 2009 through 2013. Under IRS Notice 2008-60, where the qualified property is a modification or improvement to an existing facility, the IRS has set forth an 80 percent-20 percent rule for qualification for the ITC. Under this rule, if more than 20 percent of a facility's total value is attributable to older property placed into service prior to the effective date of the ITC provision, then the new equipment at the facility will not be eligible for the ITC. This has proved to be an overly restrictive rule and one that is contrary to the intended purpose of encouraging investments in renewable energy. The 80-20 rule should be repealed to allow expansion and reinvestment in existing facilities to encourage greater, cleaner energy production.

**Section 1603 Grant In Lieu of Tax Credit**

The American Recovery and Reinvestment Act of 2009 (ARRA) created a new federal government grant program under which a taxpayer can apply to the Secretary of the Treasury for a cash grant of 30 percent of the investment in qualified

energy property (10 percent for small CHP, microturbine, small irrigation, certain geothermal) in lieu of the Section 45 and 48 credits. Property must be originally placed in service in 2009 or 2010, or construction of property must begin in 2009 or 2010 and be placed in service before 2014 for biomass facilities and 2017 for certain CHP facilities.

This program is an effective means of encouraging new investment in renewable energy facilities and should be extended beyond 2010. In addition, further clarification of the standards for determining when construction begins is needed.

One method for making the program more efficient would be to align the period of eligibility with existing placed in service dates. That is, the section 1603 program should provide that an eligible property is any qualified property placed in service before the expiration of the particular energy incentive's current placed in service expiration date. Thus, the option to elect the grant in lieu of the credits would be available for biomass facilities placed in service through 2013. This would eliminate the need for the current complex rules for determining when construction begins. Aligning the grant election with existing placed in service dates would both simplify the program and provide a more effective incentive.

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The forest products industry's commitment to sustainable forest management for the wood fiber used in manufacturing, and to renewable energy sources for the generation of electricity from the portion of trees not used in manufacturing demonstrates that a critical balance between maintaining our environment and business activity that creates and sustains jobs can be achieved.

Increasing renewable energy is a laudable and achievable goal, but it should not be at the expense of existing renewable energy production in the forest products industry. The expansion of Section 45 (and Section 48) will encourage more renewable energy projects at our manufacturing facilities, resulting in increased energy efficiency since on-site use avoids transmission and distribution losses on the grid. This will translate into jobs preserved and jobs created across America.

AF&PA and its member companies look forward to working with the Committee to help preserve jobs and expand renewable energy production.

*For more information please contact:  
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202-463-2700  
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**AG Resources, LLC, Letter**

AG Resources LLC  
 305 Branch Street  
 Carnegie, PA  
 15106  
 412 656 4882  
 4/5/2010

Dear Mr. Chairman:

*Please allow the following comments to be introduced into the record for the Committee on Ways and Means **Hearing on Tax Incentives Driving the Green Job Economy** scheduled for April 14<sup>th</sup> 2010.;*

AG Resources is in the business of providing green fuels to heavy industry. As such we have been contracted by a major U.S lime and stone producer to supply fuel for its use in a lime kiln located in central Pennsylvania. We currently provide jobs for 4 people and would like to hire more full time employees.

This letter is intended to outline the nature of the green fuel that we supply and the benefits of the associated tax credit that was received for use of this alternative fuel mixture.

The main ingredient of our fuel is crude glycerin resulting as a co-product from the manufacture of biodiesel. Crude glycerin is made from the processing of soy beans or other biomass material such as waste vegetable oil. The constituents of this product include natural glycerin (CH<sub>2</sub>OH-CHOH-CH<sub>2</sub>OH) typically 80%, excess catalyst (NAOH or KOH or NaOCH<sub>3</sub>) trace amounts, H<sub>2</sub>O trace amounts, residual fats, oils, triglycerides, methanol (CH<sub>3</sub>OH) trace amounts, .01% mineral diesel fuel

If the tax credit for alternative fuel mixtures is not reinstated with the timely passage of HR 4213 by the House of Representatives as amended by the Senate in March 2010 the results will have a negative impact on three distinct industries within the US;

- Within the Cement and Lime Industry the acquisition price for the biomass fuel will increase to the point that it would cost twice as much as fossil fuels. This would potentially render the biomass fuel economically unviable and will force the industry back onto reliance on green house gas emitting fossil fuels.
- Within the green fuels industry the lack of the tax credit will stop continuing research into alternative industrial green fuels for use in stationary equipment. The cement and lime industry has long been recognized as a major CO<sub>2</sub> emitter. We are working hard within this industry to explore the use of renewable clean burning fuels. The Alternative Fuel Mixture tax credit funds most of this effort and allows for the employment of researchers and technical experts.
- Within the biodiesel industry the lack of the tax credit will have the effect of limiting the outlets for the crude glycerin co-product. This would create bottle necks in production due to storage issues. In the past this has caused plant shutdowns and layoffs within the industry. Glycerin overflows will cause environmental issues.

Industries that rely on fossil fuels for energy production have been putting a lot of resources (time, people and money) into finding alternative fuels to improve their overall environmental

positions as well as their carbon footprints. It has proven to be a challenging task to find a fuel that is compatible in production, available in enough quantities to be a long-term solution, logistically feasible (transportation, storage and handling etc.) and not cost prohibitive. We recognize this is the direction our government and county are headed, and we desire to be part of the solution. Unfortunately government action or inaction is often one of our biggest obstacles. Whether it be getting permitted to use the fuels, or large shifts in the cost due to inconsistent handling of government incentives, many are finding it difficult if not impossible to work their way to compliance.

Usage of biodiesel and its byproduct glycerin as alternative fuels have increased substantially over the last few years, and that usage has played a significant role in reducing green house gasses during that time along with providing green jobs. The biodiesel and alternative fuel tax credit incentives were critical towards making these fuels sustainable and viable. Without the tax credit incentives, usage of these alternative fuels will decrease dramatically, as the economics will drive many if not all producers out of the market and many jobs within this industry will cease to exist.

The justifications for the reinstatement of the tax credit fall into four separate categories;

- The lower cost of the biobased fuel as compared to fossil fuels will make the US cement and lime industry more competitive in the global arena thereby providing additional jobs within the US as we continue to repair and improve our nations infrastructure.
- The reduction of the carbon emissions through the use of these fuels has a positive effect on the health and welfare of the citizens of the US.
- The tax credit permits companies to continue the cost intensive research and development into industrial green fuels. This will, overtime, result in increased availability and use of these types of fuels along with employment opportunities within this industry.
- Finally, the use of this biomass based fuel as a co-product from the biodiesel industry improves the overall economic health on the biodiesel industry. The viability of this industry is crucial to breaking our countries reliance on foreign oil. Additionally the production of biodiesel in the US provides jobs not only for the workers that are manufacturing the biodiesel but also for the farmers who are growing the crops that provide the feedstock for the fuel.

We sincerely believe that the reinstatement of the tax credit for the legitimate use of Alternative Fuel Mixtures is critical to the success of many industries along with providing a significant reduction in emissions that are harmful to our environment and at the same time providing the citizens of the US with green job opportunities.

The paper industry's exploitation of this tax credit, which has cost the taxpayers so dearly while not providing additional jobs, was not in keeping with the intent of the original legislation creating the tax credit and has caused damage to the credibility of alternative green fuels. Senators Baucus and Grassley recognized this last summer and co-authored legislation to prohibit the use of black liquor for the benefit of the tax credit. HR4213 as amended and passed by the Senate in March of 2010 allows for the Alternative Fuel Mixture credit while prohibiting the exploitation of this credit by the paper industry by amending the tax code of 1986. We strongly urge the timely passage of this bill through your this committee and thank you for your support of green energy and green energy jobs in this country. .

Sincerely,

Robert L. Hodgetts  
 President  
 AG Resources LLC  
 305 Branch Street  
 Carnegie, PA 15106



**Alan P. Langford, Letter**

Title of Hearing: Hearing on Energy Tax Incentives Driving the Green Job Economy

Honorable Members of the Committee:

Thank you all for giving me the opportunity to express my opinion.

At this time the United States is believed to be the world leader in proven reserves of natural gas. However, even with the enormous reserves we have (2,000 trillion cubic) we still are importing an estimated 300 billion dollars of crude oil annually. And while natural gas is without question our least polluting fossil fuel we use gasoline and diesel refined from crude for our transportation industry and coal---the most polluting fossil fuel to generate our electricity. Natural gas provides about 25 percent of the power used to generate electricity. Last week's devastating mine disaster at the Massey Energy coal mine in West Virginia illustrates that coal kills as it is mined and after it is burned in the extreme atmospheric degradation that shortens everyone's lives with respiratory diseases.

We here in Texas suffer with the dirtiest, most polluted air quality of any state in the country. Coincidentally, we have the most coal fired generating plants. There is no such thing as "clean coal". The technolog to produce so-called "clean coal", is so expensive that it makes the process cost prohibitive.

Texas with the nation's largest natural gas production (and the dirtiest air quality) needs federal tax incentives that will increase a transition to natural gas use in the transportation sector. Compressed natural gas (CNG) is the cleanest transportation fuel according to the EPA. Many municipalities have switched their bus fleets to CNG as a means of improving their air quality. Incentives for public and private school bus fleets conversion to CNG will help clean the air throughout the nation.

As solar and wind development continue natural gas compliments those energy sources very well in the electrical power industry as a back up energy source when the sun is not shining or the wind is calm.

The basic fact that America is importing crude at a time in our history that we are the "Saudia Arabia" of natural gas makes no economic sense and decreases our national security. Anyone that remembers the Arab oil embargo in 1973 cannot forget the national chaos of that sad episode. Now, that we have the bridge energy source we need to develop truly clean and renewable energy like solar, wind geothermal, wave, ocean currents and the like, we must stop importing crude---and exporting American dollars.

Just imagine what an "extra" 300 billion plus dollars circulating in the American economy each year would do for our nation. Natural gas is our best fossil fuel, we have enormous reserves, it is vastly better for the environment and it is produced in 30 or more American states.

We need to use it rather than relying on a world oil market controlled by OPEC.

I sincerely appreciate the opportunity of addressing the Honorable House Ways and Means Committee, thank you.

Alan P Langford  
Gatesville Texas



**American Biogas Council, Letter**

[www.americanbiogascouncil.org](http://www.americanbiogascouncil.org)

**Committee on Ways and Means  
U.S. House of Representatives  
Hearing on Energy Tax Incentives Driving the Green Job Economy  
April 14, 2010**

*Comments Submitted By:* American Biogas Council

Green energy tax incentives which incorporate anaerobic digestion (AD) technology are a proven means to create jobs. Anaerobic digestion is a renewable energy technology which uses America's excess organic wastes from agriculture, industry and residential and institutional solid wastes as feedstock to create biogas, renewable natural gas and clean renewable electricity while reducing our nation's greenhouse gas emissions. AD has shown to be a sustainable job creator in Europe. In only the last ten years, European Union AD incentive policies have created literally hundreds of thousands of manufacturing, construction and ongoing operational jobs.

AD is commercially available to build now in the United States and can be an immediate source of engineering, construction, manufacturing, operations and service jobs for the American workforce. As shown in Europe, AD can gain a self-sustaining foothold when given predictable and fair government incentives including tax incentives for the investment in and/or production of biogas, renewable natural gas or clean renewable electricity. Germany alone has installed over 4000 digesters in 15 years. Sweden already produces 35 percent of its vehicle fuel from biogas. The creation of these jobs and renewable energy infrastructure was directly the result of incentives implemented by leaders in each of these countries.

The American Biogas Council represents hundreds of AD equipment suppliers, manufacturers and design, engineering, operations and construction firms that are capable of deploying projects immediately, resulting in thousands of new jobs, clean renewable energy and reduced green house gas emissions throughout the United States. The American Biogas Council thanks you for your interest in Anaerobic Digestion as a part of our country's future renewable energy infrastructure and our members stand ready to assist you as the committee begins crafting tax policy to promote green energy.

Sincerely,

American Biogas Council

A handwritten signature in black ink that reads "Paul Greene". The signature is written in a cursive style.

Paul Greene  
Chairman



**American Farm Bureau Federation, Statement**



**Statement of the  
American Farm Bureau Federation**

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**STATEMENT FOR THE RECORD  
AMERICAN FARM BUREAU FEDERATION**

**Committee on Ways and Means  
Hearing on Energy Tax Incentives Driving the Green Job Economy**

**April 27, 2010**

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Clean, renewable, domestic energy will help America achieve long-term economic growth, create a cleaner environment and shield our economy from unreliable foreign energy sources. American farmers and ranchers are playing a bigger role in supplying our nation's energy needs through production of agricultural-based, renewable energy resources. Tax incentives play a key role in the development and production of renewable energy.

Farm Bureau supports creating new and expanding existing incentives to develop, produce and promote home-grown renewable fuels. These incentives encourage investment in new bioenergy technology, open new markets for America's farmer and ranchers and help ensure the economic health of rural communities.

The successful development of our nation's ethanol industry stands as a testament to the effectiveness of tax incentives for renewable energy. The ethanol industry, which was launched with the aid of tax incentives during the 1980s, produced 12.5 billion gallons in January 2010 at an annualized rate and supports nearly 400,000 jobs in all sectors of the economy according to the Renewable Fuels Association. Tax incentives also have proved valuable in promoting the development of biodiesel made from oilseed crops and animal fats, an industry that supports 23,000 jobs nationwide according to the National Biodiesel Board. Incentives for infrastructure, such as the installation of alternative fuel pumps, will hasten the adoption and distribution of biobased fuels and build market demand for renewable fuels.

The Renewable Electricity Production Tax Credit (Section 45) is a small but important piece of a renewable energy strategy for the United States. The extension of credits that encourage the production of electricity from wind and biomass will help stabilize energy costs and reduce dependence on traditional energy sources.

Unfortunately, existing renewable energy tax incentives are temporary with varying expiration dates. Long-term extensions are needed to boost renewable technologies and support development of the market infrastructure necessary to make these technologies more competitive. In addition, the long-term extension of renewable energy credits will ensure industry stability and attract the capital necessary to realize the benefits of long-term planning.

Farm Bureau supports the long-term extension of the:

- Volumetric ethanol excise tax credits (VEETC): Expires Dec. 31, 2010.
- Small ethanol producer tax credit: Expires Dec. 31, 2010.
- Cellulosic biofuels tax credit: Expires Dec. 31, 2013.
- Biodiesel tax incentive: Expired Dec. 31, 2009.
- Small biodiesel producer tax credit: Expired Dec. 31, 2009.
- Production tax credit for power from wind: Expires Dec. 31, 2012.
- Production tax credit for power from biomass: Expires Dec. 31, 2013.
- Tax Incentives for alternative energy fuel pumps: Expires Dec. 31, 2011.
- Advanced energy investment credit: Expires Dec. 31, 2010.

Farm Bureau also supports enactment of the following legislation in support of renewable fuels.

H.R. 4070, introduced by Reps. Earl Pomeroy (D-N.D.) and John Shimkus (R-Ill.), would extend the biodiesel tax incentive for five years. In addition, the legislation would change the biodiesel tax incentive from a blenders excise tax credit to a production excise tax credit. This change will improve administration of the nation's tax laws and protect the integrity of the credit.

H.R. 4940, the *Renewable Fuels Reinvestment Act*, introduced by Reps. Earl Pomeroy (D-N.D.) and John Shimkus (R-Ill.), extends the Volumetric Ethanol Excise Tax Credit (VEETC) and the Small Ethanol Producers Tax Credit for five years through 2015. The bill also extends the Cellulosic Ethanol Production Tax Credit for three years, through 2015 and the secondary tariff on ethanol that offsets the benefit received by imported ethanol.

**American Meat Institute, Letter**

April 28, 2010

The Honorable Sander M. Levin  
 Chairman  
 Committee on Ways & Means  
 U.S. House of Representatives  
 1102 Longworth House Office Building  
 Washington D.C. 20515

The Honorable Dave Camp  
 Ranking Member  
 Committee on Ways & Means  
 U.S. House of Representatives  
 1139E Longworth House Office Building  
 Washington D.C. 20515

**RE: April 14, 2010 Hearing on Energy Tax Incentives Driving the Green Job Economy**

Dear Chairman Levin and Ranking Member Camp:

The undersigned groups, representing the livestock, poultry, and meat sectors in the U.S., continue to have serious concerns over the negative economic effects of government support for corn-ethanol, specifically the Volumetric Ethanol Excise Tax Credit (VEETC) and the import tariff on foreign ethanol. We encourage you to not extend these provisions, which are scheduled to expire in December.

Although we support the need to advance renewable and alternative sources of energy, we strongly believe that it is time that the mature corn-based ethanol industry operates on a level playing field with other commodities that rely on corn as their major input. Favoring one segment of agriculture at the expense of another does not benefit agriculture as a whole or the consumers that ultimately purchase our products.

The blender's tax credit, coupled with the import tariff on foreign ethanol, has distorted the corn market, increased the cost of feeding animals, and squeezed production margins -- resulting in job losses and bankruptcies in rural communities across America. The meat and poultry industry directly and indirectly employs 6.2 million people and represents nearly 6 percent of total GDP.

The U.S. Department of Agriculture estimates that corn use for ethanol production increased from 1.603 billion bushels during the 2005-2006 marketing year to 3.677 billion bushels during the 2008-2009 marketing year. Ethanol production is expected to absorb 4.3 billion bushels in the 2009-2010 marketing year. Ethanol use accounted for approximately 14 percent of total corn use in 2005-2006, and that percentage is projected to grow to more than 33 percent in 2009-2010. Over the same period, use of corn for feed has fallen from about 55 percent to about 42 percent, with exports falling from almost 19 percent to about 15 percent.

A report released in September 2008 by the Congressional Research Service (CRS) stated that the dramatic increase in livestock production costs were attributed to feed. The CRS report said that "the main driver was feed, which may account for 60%-70% of total livestock production costs in any given year." Between 2005 and 2008, corn prices quadrupled, reaching a record high of more than \$8 a bushel; a pattern that is unsustainable for our industries. There is no safety net to protect against the volatility in the commodity markets, forcing all industries to pay higher prices for input costs due to the fluctuations in the corn market.

While there has been some recent relief in corn prices, current market prices are still 50 percent higher relative to pre-RFS conditions. Because of this, the turkey industry has endured the deepest cutbacks of any in animal agriculture – a decrease in turkeys raised of more than 6 percent since 2007 levels and a near 9 percent reduction from 2008 levels – to adjust to these increased input costs. More importantly, the turkey industry eliminated nearly 3,000 jobs vital to rural America in 2008 and 2009 alone.

The U.S. pork industry endured the two most challenging years in the industry's history in 2008 and 2009. Total losses for average farrow-to-finish operations amounted to more than \$6.2 billion and were nearly \$23 for each animal marketed from October 2007 through January 2010. This financial disaster occurred despite near-record hog prices in 2008. The cause of the losses was higher production costs driven primarily by higher corn and soybean prices. Even now, projected production costs for 2010 are 25 percent higher than the costs that prevailed from 2000 through 2006.

From December 2007 to February 2010 the cattle feeding sector of the beef industry lost a record \$7 billion in equity due to high feed costs and economic factors that have negatively affected beef demand.

The cumulative additional cost on the broiler industry since corn prices began their rise in the fall of 2006 has been almost \$15 billion, as of April 2010. This additional cost does not include the higher cost of other feed ingredients, such as soybean meal, whose prices tend to move in tandem with corn. Accordingly, broiler companies have suffered reduced profitability.

A system based on an open and free market is the best driver of competition and innovation in all industries. According to an August 2009 U.S. Government Accountability Office report titled: "Biofuels – Potential Effects and Challenges of Required Increases in Production and Use," the VEETC may no longer be needed to stimulate conventional corn ethanol production because the domestic industry has matured. The report also stated that the VEETC's annual cost to the Treasury in forgone revenues could grow from \$4 billion in 2008 to \$6.75 billion in 2015 for conventional corn starch ethanol.

We support energy independence and the development of the renewable fuels industry. However, 30 years of support has created a mature corn ethanol industry that now needs to compete fairly in the marketplace and allow for the next generation of renewable fuels to grow. We strongly encourage you to oppose an extension of the VEETC and the import tariff on foreign ethanol that are set to expire this December.

Sincerely,

American Meat Institute  
National Cattlemen's Beef Association  
National Chicken Council  
National Pork Producers Council  
National Turkey Federation



**American Public Power Association, Statement**

American  
Public Power  
Association  
375 Connecticut Avenue, NW  
Suite 1000  
Washington, DC 20001

**Statement of the AMERICAN PUBLIC POWER ASSOCIATION (APPA) for  
the  
HOUSE WAYS AND MEANS COMMITTEE'S  
Hearing Entitled "Energy Tax Incentives Driving the Green Job Economy"**

April 14, 2010

Contact Person: Amy Hills  
[ahills@apppanel.org](mailto:ahills@apppanel.org), 202-467-2900

**Statement of the AMERICAN PUBLIC POWER ASSOCIATION (APPA) for the  
HOUSE WAYS AND MEANS COMMITTEE'S Hearing Entitled "Energy Tax Incentives  
Driving the Green Job Economy"**

April 14, 2010

The American Public Power Association (APPA) appreciates the opportunity to provide the following statement for the record for the House Ways and Means Committee's hearing on energy incentives. APPA represents the interests of more than 2,000 publicly-owned electric utility systems across the country, serving approximately 45 million Americans. APPA member utilities include state public power agencies and municipal electric utilities that serve some of the nation's largest cities. However, the vast majority of these publicly-owned electric utilities serve small and medium-sized communities in 49 states, all but Hawaii.

Overall, public power systems' primary purpose is to provide reliable, efficient service to their customers at the lowest possible cost, consistent with good environmental stewardship. Public power systems are locally created governmental institutions that address a basic community need: they operate on a not-for-profit basis to provide an essential public service, reliably and efficiently, at a reasonable price.

Since public power utilities operate on a not-for-profit basis and incur no federal income tax liability, traditional production tax credits otherwise available to for-profit utilities simply do not work—because there is no federal tax liability to offset with the credit. Yet the nearly 3,000 public power utilities and rural electric cooperatives (represented by the National Rural Electric Cooperative Association) collectively serve 25 percent of the nation's electricity customers. These utilities are often ideally situated in terms of both geography and size to integrate clean and renewable technologies into their systems.

The Clean Renewable Energy Bond (CREB) program was included as part of the tax title of the Energy Policy Act of 2005, which was signed into law in August 2005. The original program was extended twice and was modified in the Emergency Economic Stabilization Act of 2008 to make it more workable for public power and more attractive to institutional investors. The Emergency Economic Stabilization Act and the American Recovery and Reinvestment Act of 2009 provided for an additional \$2.4 billion in CREB funding split equally between public power providers, rural electric cooperatives, and other governmental bodies. In March 2010, Congress passed another very useful modification to the CREB program by giving issuers of CREBs the option to issue the bonds as "direct-pay bonds" (similar to the structure of Build America Bonds).

In the last round of funding, \$800 million was made available to public power utilities and the program was oversubscribed – much more funding was requested than was available. Public power utilities have billions of dollars in projects awaiting these incentives—with some even having the potential to use \$800 million for a single project if given the opportunity.

**Improvements to the Clean Renewable Energy Bond Program**Elimination of the Cap

Some larger public power utilities and consortia of smaller utilities are seeking to build large renewable power projects that cost hundreds of millions or even billions of dollars to construct. For these utilities, the incentive is not robust enough to apply for CREBs. They face a costly and complicated application process, uncertainty about the amount of allocation they will receive, and the likelihood that any amount they receive will only cover a very small fraction of funding necessary to finance their project.

Many of our members find that they can get a richer incentive by entering into a purchase power agreement with a private company and indirectly, and at a discount, receive the benefit of the production tax credit or the Section 1603 30% grant program authorized in the American Recovery and Reinvestment Act (ARRA). When this occurs, the federal government is spending less on financing new renewable energy generation, and is instead helping private developers profit.

If the cap on CREBs were lifted completely, our members would no longer have to go through the application process—eliminating a lengthy administrative process for both the applicants and the federal government. Public power utilities could apply for CREBs knowing that the entire project could be financed using one mechanism. In addition, the entire incentive from the federal government would be used directly for renewable energy financing—a better value for the government than a purchase power agreement.

Direct-Pay Option

In March 2010, Congress passed H.R. 2847, the Hiring Incentives to Restore Employment Act, which included a modification to the CREB program giving issuers of CREBs the option to issue the bonds as direct-pay bonds instead of tax credit bonds. This added flexibility will be extremely valuable to our members who currently hold CREBs and have had a difficult time issuing them as tax credit bonds in current market conditions. We urge Congress to continue to give this flexibility to issuers of CREBs should they eliminate or otherwise increase the volume cap in the future.

“Other Government Entities”

APPA supports making CREBs available to electric utilities only. Those in the category of “other government entities” are now able to finance a broad swath of renewable energy and energy efficiency programs using Qualified Energy Conservation Bonds (QECCB) and we think that is a more appropriate funding program for non-utilities.

When the CREBs program was first envisioned, the intention of the program was to provide financing for renewable projects for non-profit utilities. Once the program was implemented it was clear that there was also a need to incentivize small-scale projects such as solar panels on government buildings. Given this situation, CREBs should be allocated only to utilities going

forward. Any project eligible for CREBs is also eligible for QECBs and QECBs can be used for green projects beyond the scope of CREBs.

This modification would be especially important should the CREB program retain a cap. However without a cap, limiting the program to utilities could reduce the overall cost of the program.

**1603 Grant Program**

Another way to provide a true comparable incentive would be to expand the ARRA Section 1603 grant program. This program provides a 30% grant to renewable projects in lieu of the production tax credit. Public power utilities are not currently eligible to receive the grant directly. As mentioned above, some utilities are using purchase power agreements to indirectly access the grants. By allowing these utilities to access this program directly, the funds would be spent only on financing for renewables which would, again, result in a better value to the federal government.

\*\*\*\*

We seek the above changes to provide a truly comparable incentive for consumer-owned utilities through the CREB program. CREBs with no cap, a direct-pay option and an eligibility rule for utilities only would provide a real tool to our members to build utility-scale renewable generation while providing the most value per dollar to the federal government.

**American Wind Energy Association, Statement**

US House of Representatives  
Committee on Ways and Means

"Energy Tax Incentives Driving the Green Job Economy"

Written Comments by the American Wind Energy Association

The American Wind Energy Association (AWEA) appreciates the opportunity to submit testimony regarding the critical role that energy tax incentives play in driving the green job economy forward. AWEA is the national trade association of America's wind industry, representing the interests of more than 2,100 member companies, including global leaders in energy development, wind turbine manufacturers, and component and service suppliers.

AWEA seeks to grow the wind energy industry to power the cleaner, stronger America that our citizens believe in. A recent poll by Bennett, Petts & Normington and Public Opinion Strategies showed that a substantial majority of Americans – 82% – believe the nation's economy would be stronger or the same if we used more renewable energy sources like wind.<sup>i</sup> To drive a strong green job economy, the U.S. needs to set long-term, stable policies for the renewable energy industries, building upon the energy tax policy foundation that this Committee has helped to establish.

*Wind Industry Market Update*

AWEA's *Annual Wind Industry Market Report* covering 2009 showed that wind power is now a mainstream electricity source. The U.S. wind industry installed over 10,000 megawatts (MW) of new wind power generating capacity in 2009, an all-time U.S. record, and enough to power the equivalent of 2.4 million homes or generate as much electricity as three large nuclear power plants.<sup>ii</sup> These 10,010 MW amounted to 39% of all new generation capacity installed in 2009, second only to natural gas. At the end of 2009, all renewables, including hydropower, provided 10.5% of U.S. electricity, with wind power accounting for 1.8% of U.S. electricity supply.<sup>iii</sup> Six U.S. states now receive more than 5% of their electricity from wind, with Iowa in the lead – garnering 14.2% of its electricity from wind in 2009. Clearly, the U.S. is experiencing a true transformation of its electric sector. Looking to the future, the wind industry seeks to provide 20% of U.S. electricity by 2030, and a 2008 technical analysis by the Department of Energy illustrates that this achievement is entirely feasible with the right policy support.<sup>iv</sup>

There is a vibrant workforce behind the fast-growing U.S. wind industry. Approximately 85,000 people are employed in the wind sector across all 50 states today and hold jobs in areas as varied as turbine component manufacturing, construction and installation of wind turbines, wind turbine operations and maintenance, legal and marketing services, transportation and logistical services.<sup>v</sup> From 2007 to 2009, the U.S. wind energy industry opened, announced or expanded over 100 facilities, for a total of over 200 wind turbine component factories now operating in the U.S.<sup>vi</sup> The wind industry has been one of the few bright spots in our troubled economy over the past several years.

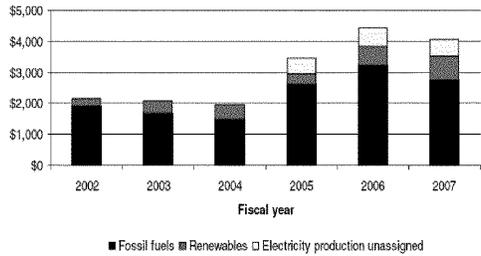
*Wind Energy and Energy Subsidies: The Facts*

Despite claims to the contrary in the Committee's hearing<sup>vii</sup>, reputable government sources have documented that renewable energy receives far lower federal incentives than conventional sources. Studies by the Joint Committee on Taxation, the Government Accountability Office, and the National Academy of Sciences have made the following points:

- The top three tax incentives for domestic oil and natural gas production equated to more than \$40 billion over the past 25 years, while support for wind energy through tax incentives was less than \$9 billion.<sup>viii</sup>
- Fossil fuels received nearly five times more tax incentives than renewables in 2007<sup>ix</sup> (see Table 1).
- The external impacts of polluting energy sources sums to a hidden subsidy of \$62 billion per year.<sup>x</sup>

A main conclusion from these points is that government support for energy is widespread and new sources like wind are entering a tilted playing field.

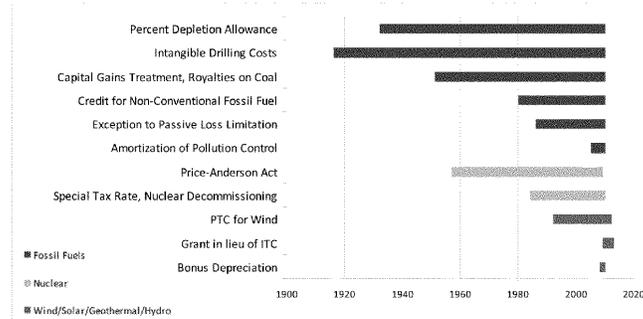
Table 1: Tax Expenditures for Electricity Production, FY 2002 – FY 2007 (in millions, 2007 dollars)



Source: Government Accountability Office, October 2007

Many of the incentives for the fossil fuel sector, including percent depletion allowance and expensing intangible drilling costs, have been permanent in the tax code since the 1910s and 1920s, and the nuclear industry began to receive permanent government subsidies in the 1950s through the Price-Anderson Act (see Table 2).<sup>xi</sup>

Table 2: All Domestic Energy Has Had Long-Term Support, Except Renewables



Data Sources: Congressional Research Service, Federal Legislation

#### *Energy Tax Policies Are Driving the Wind Industry*

The U.S. wind industry's growth to its current stature as world leader in wind capacity, now at over 35 gigawatts, has been driven primarily by the renewable energy production tax credit (PTC) that was created under the Energy Policy Act of 1992. Although the PTC was enacted in 1992, it has not been steadily available to the wind industry since its creation. It has been allowed to expire three times – at the end of 1999, 2001, and 2003, thus creating a boom-and-bust cycle in the wind energy industry. Each time the PTC was allowed to expire, the subsequent year experienced a 73-93% drop in growth. However, there has been a marked difference since 2004. With the PTC steadily available, thanks to five extensions, the wind industry achieved an average annual growth rate of 39% from 2005 through 2009. This great success illustrates the fact that stable policy measures provide businesses the certainty they need to make significant investments here and now.

In 2009, when the U.S. economy was experiencing a severe credit crisis, the dynamics of financial lending changed drastically for the wind industry. Capital dried up and tax equity markets shrank considerably, minimizing the usability of tax credits to finance projects. At this time, the wind industry anticipated that wind power installations might drop by as much as 50% from 2008 levels, with equivalent job losses. Fortunately, Congress enacted the American Recovery and Reinvestment Act (ARRA), which addressed the wind industry's immediate financial challenges. ARRA extended the PTC through 2012, created an option to use a 30% investment tax credit (ITC) in lieu of the PTC, and created the Section 1603 Treasury program, which allowed the ITC to be converted to an equivalent cash payment. This was a critical step to enable the continued growth of the wind and other renewable industries through the economic downturn. Indeed, this policy innovation led to a record-breaking year for wind installations, kept the wind industry's employment level at 85,000 people, and facilitated the opening, expansion, or announcement of 39 manufacturing facilities across the country.

*Tax Policy Changes Can Maintain U.S. Global Leadership in Wind Power*

The wind industry appreciates Congress's support for incentives to drive renewable energy growth. As long as conventional energy sources receive federal incentives, wind will require similar support. Extending the Section 1603 Treasury payment program or passing an alternative tax credit proposal, is a high policy priority for the wind industry. The Treasury program has given wind project developers an equivalent incentive to the PTC or ITC that has been much more usable in the recent financial climate. As of April 26, 2010, the program, which began taking applications in the summer of 2009, has granted 81 wind projects over \$2.8 billion in total, providing an invaluable lifeline to the wind industry and saving 40,000 American jobs. This is an extraordinary achievement, considering how dire the prediction for wind development was prior to the passage of the American Recovery & Reinvestment Act. The wind industry would like to see the success of the grant program continue, but as it currently stands, the grant option is only available to wind projects constructed in 2009 and 2010, or projects on which construction begins by the end of 2010 and is completed by the end of 2012. We seek to extend the start-construction date beyond 2010, ideally to include 2011 and 2012, to match the currently scheduled PTC expiration. We urge the House Ways and Means Committee to extend the grant program's start-construction date or pursue another approach that would establish an alternative tax credit. We applaud the efforts of Representative Blumenauer and others on the Ways and Means Committee who have introduced H.R. 4599, which would extend the previously authorized renewable energy incentive in the ARRA through an alternative tax credit.

The wind industry would also benefit from an expansion of the Qualifying Advanced Energy Project Credit, or Manufacturing Tax Credit, that was established in Section 48C of the ARRA. This credit provided a 30% investment tax credit to qualifying manufacturing facilities. Under ARRA, \$2.3 billion were made available for this program. It was very popular, however, and quickly became oversubscribed. The grant announcements for the full \$2.3 billion were made in January 2010. Fifty wind facilities in at least 20 states received grants valued at over \$350 million. On the day that he announced the grants, President Obama called for another \$5 billion to be allocated for this popular program. The wind industry strongly supports this increase in funding. The U.S. wind industry's share of domestically manufactured turbine components has risen from about 25% in 2005 to over 50% today, which actually equates to 12-fold growth in US wind manufacturing due to the rapidly expanding market. The manufacturing tax credit program can help continue this impressive growth.

Finally, AWEA supports federal tax policies that are critical to growing the community wind sector. Community-scale wind projects – generally those whose economic benefits flow directly into the communities that host them – offer individual Americans the opportunity to invest directly in clean energy. The community wind sector has a large growth potential and will play an important role in helping the U.S. reach its energy needs. Perhaps more importantly, community-scale projects make wind energy accessible to communities and individuals, building powerful support for renewable energy at the local level that is needed to help utility-scale projects reach their potential. However, community wind projects face greater commercialization challenges than do traditional wind power projects and currently receive little federal policy support. Extending the Section 1603 Treasury program will benefit community wind projects that are financed by tax-paying entities. Increasing funding

for the Clean Renewable Energy Bonds program would also help non-taxpaying entities build community wind projects, as well as commercial scale projects.

*Tax Policy Complements the Renewable Electricity Standard (RES)*

With at least 36 nations now having mandatory renewable energy targets, including China and all European Union countries, and China's landmark achievements of surpassing the U.S. in new wind installations and in wind turbine manufacturing in 2009<sup>xii</sup>, it is clear that the U.S. urgently needs to establish long-term, stable policies that foster a prosperous business environment for the wind industry. Equipped with long-term certainty, businesses will invest tens of billions of dollars in new wind projects and manufacturing facilities for the 8,000 turbine components, and, in turn, create hundreds of thousands of American jobs.

A national renewable electricity standard is the top policy to establish business certainty. A national standard would set growing targets for the percentage of electricity that the U.S. gets from renewable sources. Twenty-nine U.S. states already have state-wide renewable electricity standards in place, which are driving the industry forward. According to the Bennett, Petts & Normington and Public Opinion Strategies poll, an overwhelming, bipartisan majority – 89% – of American voters believe increasing the amount of energy the nation gets from wind is a good idea.<sup>xiii</sup> Additionally, a study by Navigant Consulting showed that a 25% by 2025 national RES would support an additional 274,000 renewable energy jobs over a continuation of our current situation, where there is no long-term national renewable energy policy. In addition, the study found that without strong near-term national targets for renewable electricity, industries like wind power will experience flat job growth and long-term stagnation, while the U.S. biomass industry could collapse altogether.<sup>xiv</sup> Tax policy under Ways and Means Committee jurisdiction complements energy policy by reducing the costs to ratepayers. We appreciate any support the Committee can offer for long term stable policies including the RES and longer term tax credits.

We look forward to working with the Committee on moving these initiatives forward. At this time of enormous global competition, the U.S. needs to act quickly and effectively to establish itself as the best investment market for the renewable energy sector. We appreciate the opportunity to share our ideas on how to accomplish this with the Committee.

This testimony is on behalf of:

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This testimony was submitted by:

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<sup>i</sup> Bennett, Petts & Normington and Public Opinion Strategies, *AWEA National Survey*, March 27-28, 2010.

<sup>ii</sup> American Wind Energy Association, *U.S. Wind Industry Annual Market Report, Year-Ending 2009*, April 2010.

<sup>iii</sup> *Ibid.*

<sup>iv</sup> U.S. Department of Energy, *20% Wind Energy by 2030*, May 2008.

<sup>v</sup> American Wind Energy Association.

<sup>vi</sup> *Ibid.*

<sup>vii</sup> Harbert, Karen A. *Testimony: Energy Tax Incentives Driving the Green Job Economy*, April 14, 2010.

<sup>viii</sup> Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2008-2012*, October 2008.

<sup>ix</sup> United States Government Accountability Office, *Federal Electricity Subsidies*, October 2007. In a comparison of federal incentives for electricity between Fiscal Year (FY) 2002 and FY 2007, fossil fuels received \$13.7 billion while renewables received \$2.8 billion.

<sup>x</sup> National Academy of Sciences, *Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use*, October 2009.

<sup>xi</sup> Congressional Research Service.

<sup>xii</sup> Global Wind Energy Council, *Global Wind 2009 Report*, April 2010.

<sup>xiii</sup> Bennett, Petts & Normington and Public Opinion Strategies.

<sup>xiv</sup> Navigant Consulting, *Jobs Impact of a National Renewable Electricity Standard*, February 2010.

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**AO Smith, Statement****STATEMENT FOR THE HEARING RECORD****MODIFICATION OF SECTION 25C IS NEEDED TO ADEQUATELY PROTECT  
AMERICAN MANUFACTURING JOBS AND ADVANCE THE MOST ENERGY  
EFFICIENT TECHNOLOGIES IN THE MARKETPLACE**

By

**A.O. SMITH CORPORATION**

Before the

**COMMITTEE ON WAYS AND MEANS****U.S. HOUSE OF REPRESENTATIVES****April 14, 2010**

The A.O. Smith Corporation is the largest manufacturer of residential and commercial water heating equipment in North America, employing 15,350 employees worldwide. The Corporation is a global leader in applying innovative technology and energy-efficient solutions to products marketed in more than 60 countries around the world, including solar, heat pump, and gas hybrid water heaters, along with the highest efficiency natural-draft residential gas storage water heaters on the market.

A.O. Smith applauds the Committee for its thoughtful consideration of existing and potential energy efficiency tax incentives and appreciates the opportunity to comment specifically on I.R.C. § 25C (non-business energy property credit), which provides a tax credit against the purchase of various energy-efficient appliances, including water heaters. A.O. Smith urges the Committee to amend the eligibility standards for gas-fired water heaters in Section 25C to ensure that they promote the purchase of the most energy-efficient water heaters on the market and do not inadvertently support foreign manufacturing jobs at the expense of U.S. manufacturing jobs. The current structure of Section 25C creates an unlevel playing field in the water heating industry by providing an incentive for consumers to purchase less energy-efficient imports instead of more energy-efficient domestically-manufactured water heaters.

Section 25C is without question an important market driver in the water heating industry, and indeed the credit has been steadily increased and expanded since its original authorization in the Energy Policy Act (EPACT) of 2005 (PL 109-58, Section 1333). EPACT provided a credit of \$300 toward the purchase of water heaters placed in service after December 31, 2005, and before January 1, 2008. However, eligible water heaters were only those that had an energy factor of 0.80 or greater – excluding all energy-efficient water heaters that, by law, can only be rated in thermal efficiency, not energy factor (see below), as well as certain domestically manufactured EF-rated water heaters. This error, related to the water heaters rated in thermal efficiency, was corrected in the Energy Improvement and Extension Act (EIEA) of 2008 (PL 110-343, Division B, Section 302), which extended the credit to apply to property placed in service during calendar year 2008 and provided that water heaters with a thermal efficiency of at least 90 percent would also be eligible for the credit. Finally, the American Recovery and Reinvestment Act of 2009 (PL 111-5, Section 1121)

amended Section 25C further by increasing the credit to a maximum of \$1,500 and providing that eligible water heaters included water heaters rated at 0.82 EF or 90 percent TE. The credit expires on December 31, 2010.

We believe the purpose of Section 25C is best served by promoting through the tax credit the most energy efficient, domestically-produced technologies on the market. As such, we suggest amending Section 25C to reflect the important energy efficiency distinctions between water heating products and to denote energy efficiency standards for each class (including separate standards for gas tankless and gas storage water heaters). These modifications will also ensure that foreign manufacturers compete on a level playing field and are not given a leg up over domestic manufacturers through the tax credit.

There are several classes of water heaters: electric heat pump storage (tank), electric resistance-clement storage (tank), electric tankless (instantaneous), condensing gas storage (tank), non-condensing gas storage (tank), condensing gas tankless (instantaneous), and non-condensing gas tankless (instantaneous). As referenced above, current law does not uniformly rate the energy efficiency of all of these classes of water heaters. Depending on a water heater's gallon capacity and energy input rating, it may be covered under the National Appliance Energy Conservation Act (NAECA) or EPACT. If covered under NAECA, the water heater must be rated in energy factor (EF). If covered under EPACT, it must be rated in thermal efficiency (TE).

In the case of water heaters covered under NAECA, as Section 25C is currently structured, more foreign products than domestic products qualify for the tax credit. Specifically, Section 25C favors foreign-made gas tankless water heaters as a result of two flaws in the current structure of the law. First, the eligibility criteria allow foreign-manufactured, non-condensing gas tankless water heaters rated at 0.82 EF to receive a Section 25C tax credit. However, as the Department of Energy recently recognized in the Final Rule for residential water heaters published in the Federal Register on April 16, 2010<sup>1</sup> (as well as the previously published Notice of Proposed Rulemaking), the current DOE test method for NAECA-covered water heaters overstates the EF ratings for tankless heaters by more than 8 percent. As such, non-condensing gas tankless water heaters are more accurately rated at 0.74 EF, far below the current eligibility standard of Section 25C. We do not believe it furthers our nation's energy efficiency goals to equally promote through our tax code an imported 0.82 (actually performing at 0.74) EF gas water heater and a much more efficient, domestically-produced gas water heater rated at 90 percent TE. Further, since the authorization of the water heater credit in 25C, there have been advances in the industry regarding gas tankless heater efficiency, and there are now highly efficient condensing gas tankless heaters on the market. As such, we recommend that the eligibility standard for gas tankless water heaters be increased to 0.90 EF (or greater) and 90 percent TE (or greater) such that only the most energy-efficient products on the market receive the incentive.

Second, there is no manufacturer – foreign or domestic – that produces a gas storage water heater rated at 0.82 or greater. Thus, in actuality the only relevant standard under the current eligibility structure of Section 25C is 90 percent TE. To ensure that more domestically-manufactured storage water heaters can qualify for the tax incentive in Section 25C, the EF standard for storage water

<sup>1</sup> See Energy Conservation Program: Energy Conservation Standards for Residential Water Heaters, Direct Heating Equipment, and Pool Heaters, 10 CFR § 430 (2010).

heaters should be 0.77. Indeed, the Department of Energy has recognized that the correct EF criterion for condensing gas storage heaters is 0.77 EF, because it is the maximum efficiency level that can be achieved in this class of water heaters.<sup>2</sup> Both of the above flaws in the structure of 25C must be corrected to ensure that the tax credit maximizes energy savings and levels the playing field for foreign and domestic products.

In summary, A.O. Smith urges the Committee to amend Section 25C as follows:

- Revise the eligibility standard for gas tankless (instantaneous) water heaters to 0.90 EF (or greater) or 90 percent TE (or greater).
- Revise the eligibility standard for gas storage water heaters to 0.77 EF (or greater) or 90 percent TE (or greater).

Additionally, we support the existing inclusion of the following water heaters in Section 25C:

- Electric heat pumps at 2.0 EF (or greater)
- Geothermal heat pumps
- Solar hot water heaters

The Committee is now presented with an important opportunity to amend Section 25C to ensure equal treatment of foreign and domestic water heater manufacturers and make the credit more meaningful in its promotion of energy-efficient water heaters. We urge the Committee to make the above modifications to further job growth in the U.S. domestic heating industry and maximize the energy savings from incentivized retrofits promoted through Section 25C.

Thank you for your consideration.

A. O. Smith Corporation  
P. O. Box 245008  
Milwaukee, Wisconsin 53224

Specific questions can be directed to:

Josh Greene, Partner  
Patton Boggs LLP  
2550 M Street NW  
Washington, DC 20037  
(202) 457-5204 (direct)  
jgreene@pattonboggs.com

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<sup>2</sup> *Id.*

**Associated Builders and Contractors Green, Letter**



April 14, 2010

The Honorable Sander Levin  
Acting Chair  
House Ways and Means Committee  
1102 Longworth House Office Building  
U.S. House of Representatives  
Washington, D.C. 20515

The Honorable Dave Camp  
Ranking Member  
House Ways and Means Committee  
1139E Longworth House Office Building  
U.S. House of Representatives  
Washington, D.C. 20515

Dear Chairman Levin and Ranking Member Camp:

On behalf of Associated Builders and Contractors (ABC), a national association with 77 chapters representing 25,000 merit shop construction and construction-related firms with 2 million employees, we appreciate the opportunity to provide our position in response to the House Ways and Means Committee's hearing entitled, "Energy Tax Incentives Driving the Green Job Economy." While we agree that action should be taken to address this issue, ABC strongly supports initiatives that promote energy efficiency and incorporate all American workers, regardless of labor affiliation.

ABC member companies have been leaders in green construction since before this terminology came into fashion. In fact, ABC has been at the forefront of the green building movement since its inception. ABC member SIGAL Construction was a founding member of the U.S. Green Building Council (USGBC) as well as one of the authors of the Leadership in Energy and Environmental Design (LEED) rating system. ABC members continue leading the construction industry by utilizing sustainable construction methods and practices. According to Engineering News-Record in 2008, 53 of the Top 100 Green Contractors were ABC members generating close to \$15 billion in revenue with more than 2,800 LEED APs on staff. (Attachment 1)

ABC chapters and member companies are actively engaged in training workers in a wide variety of skilled occupations and are constantly striving to keep pace with technology and innovation in order to make certain America has the skilled workforce it deserves, and that all American workers, regardless of union affiliation, enjoy equal opportunity of access to critical job training. However, the continued participation of open shop contractors, and the job opportunities for 85.5 percent of the construction workforce they employ, in the booming green building market is threatened by the efforts of many in Washington, D.C. to exclude non-union companies and training providers from participating in new government funded green jobs training programs.

The Green Jobs Act, enacted as part of the "Energy Independence and Security Act of 2007" which was signed into law in December 2007, establishes National Energy Training Partnership Grants to fund training programs targeted at creating an efficient energy and renewable energy skilled workforce. Specifically, the Green Jobs Act would require any entity applying for these grants to partner with organized labor. The reality is that this language would bar the numerous open shop training programs from receiving this grant funding.

Organized labor makes up just 14.5 percent of the private construction workforce and likely represents a similar amount of work in the green building market. Given the desire to see a continued increase in the use of green building and green technology, it seems that limiting the ability to participate in green training to such a small percentage of the construction industry would make this growth difficult. If the green building market is going to continue to expand in the coming years as some groups predict, the participation of the open shop will be a crucial factor in ensuring there are enough skilled workers to meet the demand.

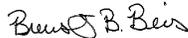
To that end, ABC, along with many other construction and business groups, strongly supports the "Green Jobs Improvement Act" (H.R. 2026) introduced by Congressman John Kline which amends the Workforce Investment Act to allow both union and open shop training providers access to the federally funded energy efficiency and renewable energy worker training programs. This bill would give all workers the opportunity to train in the ever increasing field of green construction and would not block certain training providers access simply because they choose not to be affiliated with organized labor.

The advances in the technology and skill involved in green building, and the benefits of their use, is indeed a welcome trend for contractors, skilled workers and the end user. It is our view that the most efficient path to encouraging this continued growth of this sector is by giving all training providers, regardless of union affiliation, access to federal training programs so that the greatest numbers of workers can be trained in green jobs. In today's tough economic times, especially in the construction industry with a current unemployment rate of 25 percent, Members of Congress have a responsibility to provide all workers with training opportunities paid for by their tax dollars.

Additionally, a comprehensive energy plan will benefit all Americans through less expensive, more stable energy supplies. The potential dividend for the construction industry is considerable. The nation's energy infrastructure is insufficient and crumbling; new construction and upgrades to plants and transmission infrastructure are desperately needed. ABC is committed to ensuring these new projects are built with open competition and without government-mandated project labor agreements. ABC also supports allowing for responsible offshore exploration and development; lessening America's dependence on foreign sources of energy by increasing domestic exploration and production of fossil fuels; increasing construction of new power plants, and tax incentives for energy efficiency and conservation, including for homes and businesses.

It is clear that we are facing unprecedented economic challenges, and ABC members both large and small are eager to stimulate growth and spur job creation. ABC looks forward to your continued efforts to promote green building opportunities for all contractors.

Sincerely,



Brewster B. Bevis  
Senior Director, Legislative Affairs

Attachment I



According to Engineering News-Record in 2008, 53 of the Top 100 Green Contractors were ABC members generating close to \$15 billion in revenue with more than 2,800 LEED APs on staff - [http://enr.construction.com/people/topLists/GreenCont/topGreenCont\\_1-50.asp](http://enr.construction.com/people/topLists/GreenCont/topGreenCont_1-50.asp).

Highlighted firms are ABC member companies:

RANK 2008	FIRM	APs on staff	07 GREEN REV	
			\$Mil.	% REV.
1	The Turner Corp., New York, N.Y.	429	1805.05	19
2	Webcor Builders, San Mateo, Calif.			
3	Skanska USA Inc., Whitestone, N.Y.	164	1242.34	22
4	Bovis Lend Lease, New York, N.Y.	201	1075.5	20
5	Swinerton Inc., San Francisco, Calif.	195	1046	52
6	PCL Construction Enterprises Inc., Denver, Colo.	18	936.71	19
7	Clark Group, Bethesda, Md.	85	752.97	18
8	Hensel Phelps Construction Co., Greeley, Colo.	68	747.68	30
9	Gilbane Building Co., Providence, R.I.	186	651.87	22
10	The Haskell Co., Jacksonville, Fla.	17	562	79
11	Hunt Construction Group Inc., Scottsdale, Ariz.	25	527.32	26
12	L.F. Driscoll Co., Bala Cynwyd, Pa.			
13	Hoffman Corp., Portland, Ore.			
14	The Whiting-Turner Contracting Co., Baltimore, Md.			
15	Sundt Construction Inc., Tempe, Ariz.	74	440.3	49
16	Clayco Inc., St. Louis, Mo.			
17	The Weitz Co. LLC, Des Moines, Iowa	58	349.33	22
18	Austin Industries, Dallas, Texas	47	345.9	2
19	David E. Harvey Builders Inc., Houston, Texas	13	337	47
20	Holder Construction Co., Atlanta, Ga.			
21	Balfour Beatty Construction, Dallas, Texas	50	273.58	12
22	The Facility Group, Smyrna, Ga.			
23	B.L. Harbert International LLC, Birmingham, Ala.	5	267.1	63
24	JE Dunn Construction Group, Kansas City, Mo.	133	266.5	10
25	William A. Berry & Son Inc., Danvers, Mass.			
26	Caddell Construction Co. Inc., Montgomery, Ala.	4	256.54	74
27	Structure Tone, New York, N.Y.	140	248.43	7
28	Opus Group, Minnetonka, Minn.	92	225.3	12
29	FTR International Inc., Irvine, Calif.			
30	Stellar, Jacksonville, Fla.	25	199.9	36
31	HITT Contracting Inc., Fairfax, Va.	17	199.04	22
32	James G. Davis Construction Corp., Rockville, Md.			
33	Pepper Construction Group, Chicago, Ill.			
34	M.A. Mortenson Co., Minneapolis, Minn.			
35	Suffolk Construction Co. Inc., Boston, Mass.	56	170.06	15
36	DPR Construction Inc., Redwood City, Calif.	211	167.22	11
37	Linbeck, Houston, Texas			
38	Hathaway Dinwiddie Construction, San Francisco, Calif.			
39	Messer Construction, Cincinnati, Ohio	11	146.5	22
40	TLT Construction Corp., Wakefield, Mass.			
41	The Walsh Group, Portland, Ore.	20	136.5	52
42	The Walsh Group Ltd., Chicago, Ill.	44	135.47	4
43	Barton Malow Co., Southfield, Mich.	40	133.24	9
44	Okland Construction Co. Inc., Salt Lake City, Utah			
45	McCarthy Holdings Inc., St. Louis, Mo.			

46	Power Construction Co. LLC, Schaumburg, Ill.			
47	Andersen Construction Co., Portland, Ore.			
48	Duke Construction, Indianapolis, Ind.			
49	Grunley Construction Co. Inc., Rockville, Md.	9	109.06	41
50	Lauth Construction Group LLC, Indianapolis, Ind.			
51	Cox & Schepp Construction Inc., Charlotte, N.C.	8	105	50
52	Barnhart Inc., San Diego, Calif.			
53	Saunders Construction Inc., Centennial, Colo.			
54	Ryan Cos. US Inc., Minneapolis, Minn.	47	101.25	10
55	Pioneer General Contractors, Grand Rapids, Mich.			
56	Sellen Construction Co. Inc., Seattle, Wash.			
57	Bernards, San Fernando, Calif.			
58	BE&K Inc., Birmingham, Ala.	22	79.48	5
59	Kraus-Anderson Construction Co., Minneapolis, Minn.			
60	Lusardi Construction Co., San Marcos, Calif.	0	77	25
61	Consigli Construction Co. Inc., Milford, Mass.			
62	The Yates Cos. Inc., Philadelphia, Miss.	25	75.2	4
63	C.W. Driver, Pasadena, Calif.	18	75.01	13
64	Hall Building Corp., Farmingdale, N.J.			
65	New South Construction Co., Atlanta, Ga.	7	73.8	47
66	McGough Construction, St. Paul, Minn.			
67	Mascaro Construction Co. LP, Pittsburgh, Pa.			
68	Forrester Construction Co., Rockville, Md.	40	70	26
69	Lease Crutcher Lewis, Seattle, Wash.			
70	Reno Contracting Inc., San Diego, Calif.	11	66.16	30
71	Rockford Construction Co., Grand Rapids, Mich.	6	63.73	18
72	The Boldt Co., Appleton, Wis.			
73	P. J. Dick-Trumbull-Lindy, West Mifflin, Pa.			
74	Shawmut Design and Construction, Boston, Mass.			
75	The Korte Co., Highland, Ill.			
76	Brasfield & Gorrie LLC, Birmingham, Ala.	7	49.72	2
77	O & G Industries Inc., Torrington, Conn.			
78	INTECH Construction Inc., Philadelphia, Pa.			
79	CORE Construction Group, Morton, Ill.	20	48.4	9
80	Manhattan Construction Co., Tulsa, Okla.	15	43.7	4
81	Continental Building Systems, Columbus, Ohio			
82	XL Construction Corp., Milpitas, Calif.			
83	Workstage, Grand Rapids, Mich.			
84	Adolfson & Peterson Constr., Minneapolis, Minn.	48	40.4	5
85	Butz Enterprises Inc., Allentown, Pa.			
86	JM Olson Corp., St. Clair Shores, Mich.			
87	Davis Constructors & Engineers Inc., Anchorage, Alaska			
88	IMC Construction, Malvern, Pa.			
89	Hoar Construction LLC, Birmingham, Ala.	15	35.4	7
90	Nabholz Construction Corp., Conway, Ariz.	10	34.2	8
91	Tarlton Corp., St. Louis, Mo.			
92	Harper Construction Co. Inc., San Diego, Calif.	5	31.6	23
93	Creative Contractors Inc., Clearwater, Fla.	4	31.12	
94	F. A. Wilhelm Construction Co. Inc., Indianapolis, Ind.			
95	Moss & Associates LLC, Fort Lauderdale, Fla.	26	28.9	4
96	Coakley & Williams Construction, Gaithersburg, Md.	8	24.5	9
97	Elkins Constructors Inc., Jacksonville, Fla.	6	20.87	9
98	Weis Builders Inc., Minneapolis, Minn.	15	20.79	4
99	Sahara Inc., West Bountiful, Utah	4	20.6	23
100	Gray Construction, Lexington, Ky.	5	19.46	4
		<b>2809</b>	<b>\$14,990,700,000</b>	

**Bechtel Power Corporation, Statement****Written Statement by Bechtel Power Corporation**

For the Consideration of the  
Committee on Ways and Means  
United States House of Representatives  
April 28, 2010

**Hearing on Energy Tax Incentives Driving the Green Job Economy**

Bechtel Power Corporation and its affiliates are in the business of building major infrastructure projects for customers. Our business includes providing customers with engineering, procurement and construction services from the early stages of project inception through to commercial operation. We are actively working with customers that are developing wind, solar and biomass projects. We appreciate the opportunity to submit this statement for consideration by the Committee on Ways and Means.

The testimony offered by Mr. Matt Rogers from the Department of Energy stated clearly "The Section 48C clean energy manufacturing tax credit and Section 1603 payments in lieu of tax credit programs have been among the most successful energy job creation and innovation programs under the Recovery Act to date, putting America back to work and positioning the US to regain leadership in high technology clean energy manufacturing and generation." We agree.

However, we did not read in any statement by any witness at the hearing on April 14, 2010 a clear recommendation that the Section 1603 payments in lieu of tax credits should be extended or made permanent. The purpose of our written comment is to highlight that the Section 1603 program for grants in lieu of tax credits has been effective, that it sunsets later this year, and this fact is already starting to hinder the development of renewable power projects, particularly in solar thermal and biomass power that involve longer construction durations than wind projects. As the report provided by Mr. Bolinger of Lawrence Berkeley National Laboratory states, the Section 1603 cash grant program has been heavily used. This program provides for immediate and direct employment in engineering and construction of renewable energy projects, particularly wind projects. It also increases immediate demand for the manufactured products required in these projects, including wind turbines, towers, transformers, cable, steel, and concrete, providing for the creation and retention of associated manufacturing and delivery jobs.

We believe that the extension and improvement of the Section 1603 program is critical to retaining jobs and increasing growth in the US clean energy economy. Currently, for a project to qualify, it must have completed 5% of construction by December 31, 2010 and be placed into service by a prescribed date that varies with technology. The creation and development of a major energy infrastructure project is a complex and expensive undertaking, the timetable for which is not predicted with precision and is often subject to delay during the critical permitting and regulatory approval stage. Because the innovators and developers of the clean energy economy need reasonable assurance that the economic incentives upon which their investments are based will still be available when their projects mature, we recommend the Section 1603 program deadline for commencing construction be extended by a minimum of two years, along with all other deadlines under Section 1603. Far better would be to make permanent this

mechanism (or similar) for directly delivering the intended economic incentive in cash rather than delivering it indirectly through tax credits.

The Section 1603 grant program was implemented as a direct outfall of the financial crisis of 2008-09 to reduce dependence of renewable energy projects on their traditional investors which suffered significant financial losses, undermining the value of federal tax credits. Even in good times, structuring projects to utilize tax credits is a more complicated and less efficient method to deliver the economic incentive offered by the Federal government to induce renewable energy projects. Many of the companies that develop renewable energy projects are start-up ventures that can not utilize tax credits. Other countries have successfully utilized “feed-in tariffs” to attract and incentivize investments in renewable power. The Section 1603 cash grant program is comparable to a feed-in tariff. The cash grant enables more options for developers to finance their projects and expands the universe of investors able to participate in making the projects a reality. While the tax credit mechanism has been effective for wind projects, where the construction schedule is less than one year, it is far less effective for solar thermal, geothermal and biomass projects with their multiple year construction schedules. Projects with longer construction periods are better served with the Section 1603 cash grant because it is a bankable forward commitment the value of which is not impaired by the uncertainty of future profitability.

In summary, we believe that a two year extension of the Section 1603 program of cash grants in lieu of tax credits, or better, making the program permanent, is vital to sustaining the current momentum for transitioning the US to a clean energy economy.

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**Biotechnology Industry Organization, Statement**



**Written Testimony of  
The Biotechnology Industry Organization**

**Before the United States House of Representatives  
Committee on Ways and Means**  
Hearing on Energy Tax Incentives Driving the Green Job Economy

**April 14, 2010**

The Biotechnology Industry Organization (BIO) is pleased to provide this written testimony on the critically important topic of energy tax incentives driving the green job economy. BIO thanks the Committee for its continuing leadership in stimulating renewable energy, fuels and chemicals innovation and production and for convening this hearing to discuss how we can further incentivize innovative technologies which will lead the way to lowering our dependence on foreign oil imports, lowering our greenhouse gas emissions and also create thousands of green jobs ensuring that the United States is a leader in the technologies of the future.

BIO's membership includes more than 1,200 biotechnology companies, academic institutions, state biotechnology centers, and related organizations in all 50 states. BIO members are involved in cutting edge research and development of health care, agricultural, industrial and environmental biotechnology products that are revolutionizing advanced biofuels and green products such as bioplastics and renewable specialty chemicals, all replacing petroleum based counterparts.

#### ***Background***

Industrial biotechnology is the key enabling technology for producing biofuels and biobased products like bioplastics and renewable specialty chemicals to aid in reducing our dependence on foreign sources of oil, thereby reducing greenhouse gas emissions. Industrial biotechnology is the application of life sciences to improve traditional manufacturing and chemical synthesis by using micro-organisms like bacteria and fungi as well as enzymes to improve manufacturing processes and make new biobased products and materials, including biofuels, from renewable feedstocks. Our member companies are using this technology to improve the yield, efficiency and energy inputs in first generation biofuels production, develop new feedstocks such as purpose-grown energy crops, broaden the use of algae technologies, make advancements in end molecule diversification for fuels and commercialize advanced biofuels, renewable specialty chemicals and bioproducts.

The United States has invested considerable amounts of taxpayer dollars to try to revive our economy. Too often, though, the resulting jobs are being created overseas, as other countries invest in green technology deployment. As a result, the opportunity to improve our economic competitiveness is lost. The United States is a leader in the research and development of green technologies, but to maintain that lead we must invest in the companies that are putting that green technology to work in our economy. To translate innovation into products for the market place, most small businesses need private capital. What government can do to help is encourage that private investment. If policies fail to do this, then innovation and jobs will go elsewhere. We've seen this happen with long-established industries, such as chemicals and plastics manufacturing. These industries have shed hundreds of thousands of domestic jobs over the past two decades, as petroleum producing countries have attracted more capital investment. U.S. chemical and plastics companies have increased capital investment outside the United States by 32 percent over the past decade, while increasing investment within U.S. borders by only 2 percent.

Because bioproducts use locally grown biomass as feedstocks and because biorefineries that produce biofuels, biobased chemicals and biobased products can be located anywhere in the country, making use of these local renewable raw materials and the people who grow them, will create jobs all over the United States that will stay in the United States.

#### ***US Economic Impact of Advanced Biofuels Production***

The Renewable Fuel Standard (RFS) enacted as part of the Energy Independence and Security Act of 2007 (EISA) sets the minimum level of renewable fuel that must be produced and blended into the US transportation fuel supply at 36 billion gallons by 2022. Twenty-one billion gallons of that requirement must be cellulosic or advanced biofuels. Direct job creation from the advanced and cellulosic biofuels volumes in the RFS could reach 29,000 by 2010, rising to 190,000 by 2022. Total job creation could reach 123,000 in 2010 and 807,000

by 2022.<sup>1</sup> These jobs will be across many sectors of the economy. Some of the projected job creation sectors are: labor/freight, mixing and blending machine operators, shopping/receiving/traffic clerks, truck drivers, chemical equipment/technicians, chemical plant/system operators/electrical, sales etc.<sup>2</sup>

In addition, cellulosic feedstocks for advanced and cellulosic biofuels production are likely to come from a wide variety of sources, including crop and forest residues, urban wood waste, purpose-grown energy crops like switchgrass and miscanthus, and short rotation woody crops like poplar and willow. Based on economic impact and job creation assumptions, farm and forestry sector employment related to feedstock production, harvesting, transportation and storage would increase to 88,000 by 2022, while the total value of feedstock produced would exceed \$11 billion in that year.<sup>3</sup>

We would like to thank the Committee and Congress for recognizing the potential of cellulosic biofuels by enacting the cellulosic biofuels production tax credit (PTC) and accelerated depreciation as part of the 2008 Farm Bill. These provisions have helped drive strong investment in cellulosic biofuels development. However, due to the overall downturn in the worldwide economy and the impending expiration of the credits in 2012, their ability to spur construction of commercial facilities has been limited. These credits need to be extended now in order to signal to investors that a plant being constructed this year will have certainty in the availability of that tax credit once the plant begins production.

The tax code should also recognize the broad diversity in advanced biofuels producers and their business models by providing flexibility in electing the form of incentive that best suits a given project. Other renewable energy projects have the ability to elect an investment tax credit (ITC) in lieu of production tax credits. The tax code does not show the same flexibility for biofuels producers. BIO asks that advanced biofuels developers who need capital up front to construct a biorefinery be provided the option to receive an investment tax credit for their project.

Finally, algae-based fuels possess the same favorable characteristics as cellulosic biofuels in terms of job creation, energy security, and environmental profile. It is our understanding that they may not have been originally considered in the enactment of the cellulosic biofuel production tax credit due to limited awareness of algae's commercial potential. Because of this discrepancy, it is extremely challenging for algae-based fuel start-up companies to attract the capital required for commercial scale production. We hope that obtaining tax incentive parity for algae-based and cellulosic fuels will rapidly open the doors to financing of the first commercial scale algae-based fuels production.

#### ***Biobased Chemicals and Products: A New Driver of US Economic Development and Green Jobs***

Recently a number of small U.S. companies have pioneered biotechnology applications for producing chemicals and plastics from renewable resources. Some of these renewable specialty chemicals and plastics can directly replace those made from petroleum in a range of products, such as food packaging and water bottles. Some companies are producing plastics with new environmentally friendly properties – such as a flexible choice between recycling or composting the end product – that can drive opportunities for new uses and markets. These innovations could help the United States further reduce reliance on imported petroleum while also cleaning up our environment. But again, these benefits can only be achieved if the companies can find the investment capital needed to expand production and create sufficient market space.

Historically, the U.S. chemicals and plastics industry was the envy of the world. At its peak in the 1950s, the industry was responsible for over 5 million domestic jobs and a \$20 billion positive trade balance for the United

<sup>1</sup> James Newcomb, U.S. Economic Impact of Advanced Biofuels Production: Perspectives to 2030; bio-era, BIO Economic Research Associates (2009) pg 13 <http://bio.org/ind/EconomicImpactAdvancedBiofuels.pdf>

<sup>2</sup> *Ibid.*, pg 11

<sup>3</sup> *Ibid.*, pg 7

States. Jobs associated with the industry were typically among the highest paid in U.S. manufacturing<sup>4</sup>. However, the petro-chemicals and plastics industries are now hemorrhaging jobs overseas. Conversely, biobased products and chemicals production, like domestically produced biofuels, will stay in the U.S., in close proximity to their biomass feedstocks. Total US employment in the chemicals industry declined by over 20% in the last two decades and is projected to decrease further<sup>5</sup>. The US is a world leader in Industrial Biotechnology with a wide range of companies pioneering new, renewable pathways to traditional petroleum-based chemicals and plastics.

The potential job creation from bio-products is immense. Consider that the nascent biobased products industry employed over 5,700 Americans at 159 facilities in 2007 and every new job in the chemical industry creates 5.5 additional jobs elsewhere in the economy<sup>6</sup>. Currently the biobased products portion represents only about 4 percent of all sales for the industry. Targeted investment and production tax credits can help them to expand their share of the market and grow additional domestic jobs. As an industry with the potential to grow by over 50% per year, bio-products can form the basis for a strong employment growth engine for the US.

Strong federal support for pioneering production of biobased products is clearly warranted, but presently the tax code does not reward investment in these highly promising technologies.

#### ***BIO's Tax Priorities***

*Congress Should Encourage Domestic Production of Biofuels and Biobased Products to Displace Fossil Feedstocks and Reduce Carbon Emissions:* Consistent, sustained and diverse federal support is the key to rapid growth of a sustainable advanced biofuel industry. Biotechnology is enabling the production of a new generation of advanced biofuels and biobased products – chemicals and plastics produced from renewable biomass – that can supplement or substitute for traditional petroleum-based fuels, chemicals and products. The emergence of this technology represents a historic opportunity to reverse job losses in the U.S. chemicals and plastics sectors, boost rural economies, lower our dependence on foreign sources of oil, increase U.S. energy security, and reduce greenhouse gas emissions. To help accelerate commercialization of this promising and vital new generation of renewable fuels and materials, Congress should:

#### Extend the Cellulosic Biofuel Production Tax Credit (IRC Section 40(a)) and the Cellulosic Bonus Depreciation Incentive (IRC Section 168(l)) through December 31, 2016

Because this tax credit, enacted in 2008, remains essentially unused due to lower than expected production volumes, and because the cellulosic biofuels industry is largely in the commercial scale biorefinery construction stage, this tax credit needs to be extended now and cannot wait to be considered for extension in two years when it is on the verge of expiring. Cellulosic biofuels producers looking for financing to build their first plant need to be able to rely on a production tax credit that will be there when their plant is up and running. Many producers, if they started building a cellulosic biofuels plant in the next 6-18 months, would not be producing fuel prior to the 2012 expiration date and therefore cannot include the expiring credit to their business plan to present to potential investors. Therefore, even if the credit were to get extended in 2012, it is not a useful market signal to build into a business plan of today.

Again, extending the cellulosic biofuel credit and the enhanced depreciation treatment through 2016 will provide American businesses the certainty they need to make long-term investment decisions in new cellulosic facilities and get plants built today.

<sup>4</sup> Biotechnology Industry Organization, *Biobased Chemicals and Products: A New Driver of U.S. Economic Development and Green Jobs* (2010) pg 1 <http://bio.org/ind/20100310.pdf>

<sup>5</sup> *Ibid.* pg 2

<sup>6</sup> *Ibid.* pg 4

Provide an investment tax credit (ITC) for next generation biorefineries

Capital costs for construction of next generation biorefineries, which utilize renewable biomass to produce next generation biofuels and biobased products, are a substantial barrier to commercialization. Congress should provide an investment tax credit to help accelerate construction of next generation biorefineries and speed deployment of next generation fuels, chemicals and products. *The American Recovery and Reinvestment Act of 2009* created flexibility in tax incentives for the renewable electricity sector in choosing production or investment tax credits. In contrast, the tax code doesn't show the same flexibility for biofuels producers. We would like to see the tax code allow similar flexibility for biofuels producers with the objective of creating the most functional and productive incentive structure.

Enact tax parity between algae-based biofuels and cellulosic biofuels to encourage this cutting-edge technology

Algae-based biofuels possess the same favorable characteristics as cellulosic biofuels in terms of job creation, energy security, and environmental profile. It is our understanding that they may not have been originally considered in the enactment of the cellulosic biofuel production tax credit due to limited awareness of algae's commercial potential. Congress should ensure that the cellulosic biofuel production tax credit and accelerated depreciation are extended to algae-based biofuels so as to provide a level playing field for these promising biofuel technologies.

Enact a production tax credit (PTC) for biobased products

A production tax credit for biobased products will promote investment, production, and adoption of biobased products such as the existing biodiesel and cellulosic biofuels tax incentives have done for investment in those industries, and will help offset the higher costs of pioneering production.

Modify the Advanced Energy Project Credit (IRC Section 48C) to include biobased product biorefineries

The current 48C advanced energy manufacturing credit provides much needed assistance to developers of a wide range of energy efficiency and renewable energy technologies, including biofuels projects, but fails to clearly recognize biobased products manufacturing projects as eligible. Statutory language should be clarified to ensure that biobased product manufacturing property is unambiguously eligible.

**Conclusion**

In conclusion, BIO urges this Committee to continue to recognize that innovations such as these are some of the most promising sources of green jobs and economic growth for the future. Ensuring that emerging companies producing new technologies can access and secure the investment capital necessary for success should be a high priority for the nation.

On behalf of its more than 1,200 members across the nation, BIO appreciates the opportunity to submit this testimony and present our data on the renewable energy and green job creation potential for industrial biotechnologies and products. We are ready to work with this Committee and be a resource as you draft a green jobs package of renewable energy tax incentives.



**BullDog BioDiesel, LLC, Letter**

BullDog BioDiesel, LLC:

Ellenwood, GA

April 13, 2010

Chairman Sander M Levin  
Committee on Ways & Means  
U.S. House of Representatives  
1102 Longworth House Office Building  
Washington D.C. 20515

RE: Hearing on Energy Tax Incentives Driving the Green Job Economy

Dear Chairman Levin,

We, the parties listed below, are writing to you regarding the time sensitive need to retroactively extend the excise tax incentives for domestic biodiesel production.

We own and operate a biodiesel production facility in Ellenwood, Georgia that produces very high quality fuels from waste restaurant oils and animal fats. Our business offices are in Pennsylvania where we also operate test facilities that explore new raw materials and other process improvements. We have been in commercial production for three years and are the only BQ9000\* certified facility in Georgia. We have invested wisely, but significantly in our technologies and in the training of our thirty person crew.

Since Congress allowed the biodiesel excise tax incentives to expire at the end of last year, we have continued our production and have subsidized the price of our product under the belief that a retroactive extension would be in place. At this time, we have depleted our operating cash and we are idling our plant. Lost will be most of the thirty direct employees and our investment in them. Also impacted will be several small entrepreneurial businesses that collect, process and supply restaurant oils, other raw material suppliers, small farms, rendering operations, trucking companies, and other services with which we contract.

A one year extension of the credit will not solve many problems. Our creditors, our customers and our suppliers have expressed grave concern for the stability of our industry in light of the expired tax credits and the annual challenges of seeking renewal. If you have run a business, you know that relationships and trust develop over time. If the credits are merely extended to the end of 2010, we have very little lead time with which to build into 2011 business. Additional credit for operations will be scarce and expensive or non-existing.

Solving America's Energy Security problems requires an intricate strategy utilizing many and all possible sources. Our Plant replaces 15 Million gallons per year of imported petroleum fuels and it reduces the transportation required to bring these imported products to market. Biodiesel emits significantly lower lifecycle carbon dioxide emissions compared to petroleum fuels and it provides significant job creation and environmental benefits. It contributes to America's energy security. These benefits are being lost with every day that the biodiesel tax credit is allowed to lapse. We

respectfully request that you take all steps necessary to retroactively extend the biodiesel tax incentive as soon as is possible.

Thank you in advance for your consideration of this request and for your attention to this important issue.

Sincerely yours,

BullDog  
BioDiesel



**Capstone Turbine, Letter**



**CAPSTONE TURBINE CORPORATION**  
21211 Northhoff Street • Chatsworth, CA 91311 • tel. 818.734.5300 • fax 818.734.5320  
[www.capstoneturbine.com](http://www.capstoneturbine.com)

The Honorable Sander Levin  
Chairman  
Ways and Means Committee  
United States House of Representatives  
1102 Longworth House Office Building  
Washington, DC 20515

April 28, 2010

Dear Chairman Levin:

Attached please find Capstone Turbine Corporation's written testimony on the Committee's April 14, 2010 hearing on energy tax incentives.

I thank you for the opportunity to provide comment on this important issue.

Sincerely,

Darren R. Jamison  
President and CEO

## TESTIMONY PREPARED BY CAPSTONE TURBINE CORPORATION

## HEARING: ENERGY TAX INCENTIVES DRIVING THE GREEN JOB ECONOMY

## HOW MICROTURBINES AND COMBINED HEAT AND POWER CAN CREATE JOBS, STIMULATE AMERICAN MANUFACTURING AND LOWER EMISSIONS

April 28, 2010

On behalf of the nearly 200 employees of Capstone Turbine Corporation, our 90-plus distributor companies, and our thousands of customers throughout the world, I would like to thank you for holding this hearing on the importance of U.S. energy tax incentives. As an American manufacturer of clean energy technology, energy tax incentives are vital to the deployment of our product in the United States. However, the current tax credits for microturbines and combined heat and power systems are inadequate to help customers purchase innovative energy systems in today's economic climate.

Current Tax Credits Versus What Is Needed

Since the passage of EPACT 2005, microturbines have been eligible for a ten percent investment tax credit up to \$200 per kilowatt. However, since the average microturbine project costs up to \$3,000 per kilowatt installed, owners are not able to claim the full ten percent. Since 2008, combined heat and power (CHP) systems are also eligible for a ten percent investment tax credit.

Our experience has been that the ten percent tax credit is inadequate to stimulate widespread adoption of ultra low-emission, highly efficient microturbine technology, and that CHP deployment has been stagnant despite the implementation of the tax credit. In fact, over 60% of our sales are outside of the United States, with the majority of those sales in countries where incentives are more readily available. This means that the American market is lagging the rest of the world in adopting ultra low-emission microturbine-based CHP.

The need for financial assistance to enable highly efficient CHP projects in the U.S. market is substantial. Last year the Department of Energy released a solicitation to fund approximately \$150 million worth of "shovel ready" CHP projects. According to the DOE the program received over \$9 billion in applications representing projects that would have created 57,000 U.S. jobs. A thirty percent tax credit is necessary to move the balance of the unfunded projects forward and create much needed green jobs.

Microturbines and CHP

We support raising the tax credits for both microturbines and for CHP. A microturbine is a small, ultra low emission gas turbine, generally under two hundred fifty kilowatts. Capstone Turbine's products include microturbines with output ratings of thirty kilowatts, sixty-five kilowatts, and two-hundred kilowatts, as well as a one megawatt package. Microturbines produce usable efficient thermal energy and clean electrical

power, which can be harnessed in cogeneration, also known as combined heat and power. Microturbines are also used in renewable fuel applications such as landfill gas and digester, or biogas. In addition, they are now being used as onboard range extenders for hybrid electric vehicles, including transit buses, trucks and cars. Customers are starting to select microturbines as their technology solution because of their ultra low emissions, high reliability and overall efficiency.

Because of low pollutant emissions, microturbines are among the cleanest ways to drive a CHP system. Only microturbines and fuel cells are certified by the California Air Resources Board to meet its 2007 emissions standard. Fuel flexible, microturbines can run on fossil fuels such as natural gas, coal bed methane, diesel, propane and kerosene, and on renewable fuels such as digester gas, landfill gas, and biodiesel. Capstone Turbine is also developing a solar power microturbine system with grant funding from the U.S. and Israeli governments, as well as a synthetic gas-powered microturbine with funding from the U.S. Department of Energy.

#### Our Company – Capstone Turbine Corporation

Our company is a prime example of the type of innovative American manufacturer of clean, efficient technology that energy tax incentives are designed to promote. Based in Chatsworth, California, we are the world's leading manufacturer of low emission microturbine energy solutions, and were the first to market commercially viable microturbine energy products. Founded in 1988, Capstone Turbine has shipped over 5,000 Capstone MicroTurbine® systems to customers worldwide.

Here are a few examples that provide insight into how microturbine technology is helping to create a cleaner, more efficient economy in the United States:

- At Syracuse University, microturbines power a new, state-of-the-art data center that uses 50 percent less energy than a traditional data center. Capstone Turbine's Hybrid UPS is the first power system to integrate low emission microturbines directly with a dual-conversion UPS to provide power for mission-critical loads. Syracuse University's Green Data Center features a clean and extremely efficient trigeneration system. Exhaust heat from the Capstone microturbines is piped to double-effect absorption chillers, which use the heat energy to make cold water to cool the data center's computers. The microturbines also serve the heating and cooling needs of a nearby office building.
- In our home state of California, sixteen 65 kilowatt microturbines provide electricity to the Ronald Reagan Presidential Library. The waste heat from the turbines runs through an absorption chiller to provide air conditioning to the Air Force One Pavilion. Installing this CCHP system eliminated the need to construct an additional power line to the site and saves the facility \$300,000 per year in utility bills.
- In Michigan, at the Dulk Dairy in Ravenna, the biogas from cow manure powers a microturbine that creates clean onsite power while the heat is used in the farm's

processes. This dairy project and others like it help farmers become cleaner, more efficient, and more productive.

- DesignLine, located in North Carolina, installs our microturbines into hybrid electric transit buses. Municipal bus fleets in New York, Baltimore, Denver and U.C. San Diego in California, among others, have purchased buses. The bus's microturbine can run on diesel, biodiesel, or compressed natural gas, and is much more energy efficient and produces significantly less emissions than a traditional transit bus.
- In Oregon, a microturbine CHP plant provides electricity and hot water to the LEED Platinum Oregon Health and Science University building. The CHP system helped OHSU to receive LEED energy points and attain Platinum status. The building is a showcase of our technology interacting with other clean and efficient technologies, such as solar energy.
- In New Mexico, fifteen of our units provide remote power to a booster station on an oil pipeline near Ramon, where there is no grid power. The reliability of our technology was the motivation for this customer. Microturbines provide primary power at pumping stations across New Mexico and in other oil and gas producing states.
- In New York City, we have several microturbine CHP plants located on rooftops and setbacks of high rise office buildings. The electricity produced from these systems reduces energy costs while also providing secure power through loss of grid power. The waste heat captured by the system provides heat and air conditioning to the buildings.

#### Why Tax Incentives Are Vital

- **To Bring State-of-the-Art Clean and Green Technologies into Mainstream American Businesses.** New and innovative technologies benefit from government incentives to promote commercial deployment. Capstone Turbine is a relatively new company, having been formed in 1988 and engaged in commercial production for approximately ten years. With over 5,000 units shipped, our company has achieved product acceptance, primarily outside of the United States. Widespread commercial deployment will accelerate in the United States with additional U.S. Government tax incentives for customers.
- **To Promote U.S. Manufacturing in Key Industries.** American companies currently dominate the global microturbine industry, but this preeminence is not assured to continue. Two American manufacturers, Capstone Turbine and Ingersoll Rand account for over ninety percent of global microturbine sales. A robust tax credit for microturbines is needed to maintain American manufacturing dominance. A March 2010 report by Pew Charitable Trust observed that China has moved ahead of the United States in clean energy spending. In the report,

Energy Secretary Steven Chu is quoted as saying that the U.S. "has fallen behind" other countries in the race to be at the forefront of the clean-energy industry.

As stated earlier, Capstone Turbine ships the majority of its product overseas, mainly to Europe due to the existence of feed-in tariffs which compensate owners of clean energy systems. While we are very pleased to be able to contribute to U.S. trade, we hope that the American market will improve so that microturbines and CHP can be adopted by U.S. consumers.

- **To Help American Companies Bring Down Energy Costs and Be Green.** Most businesses choose to install CHP systems to save money on energy costs. CHP is clean because of the higher efficiencies that systems achieve relative to separate production of electricity and heat and their ultra low emission technology. When customers choose to purchase a microturbine to generate CHP, they often do so because they want the cleanest technology available. While microturbines and other CHP systems save the customer money on a monthly basis, the biggest hurdle is the initial cost of the system. With tight debt markets and businesses holding cash for necessary business operations, clean CHP is beyond many businesses' current financial capabilities.

#### **Why CHP and Microturbines Deserve Parity with Renewables**

A thirty percent tax credit for microturbines and CHP gives parity with renewable technologies such as wind, solar and geothermal, as well as non-renewable technologies such as fuel cells. A 2008 Department of Energy report enumerated the many environmental and economic benefits that achieving 20% of U.S. power from CHP would deliver:

- Deliver CO<sub>2</sub> savings equivalent of taking 154 million cars off the road;
- Save an estimated 5.3 quadrillion BTUs of fuel annually (the equivalent of half of all energy consumed by U.S. households);
- Generate \$234 billion in new investments;
- Create 1 million skilled jobs.

Microturbines deserve parity with renewables and fuel cells because they have ultra low emissions and represent a state-of-the-art, high-tech energy solution. Moreover, the global microturbine market is currently dominated by American manufacturers, including Capstone Turbine (manufactures in California) and Ingersoll Rand (manufactures in New Hampshire). Providing a thirty percent tax credit for microturbines means that more consumers will adopt innovative American technology as opposed to dedicating U.S. tax dollars for the purchase of foreign equipment benefiting overseas companies.

Microturbines, like renewable power and fuel cells, are an emerging technology that have not yet benefited from economies of scale. Although lifecycle costs of microturbines can be lower than traditional reciprocating engines that emit significantly more pollution, microturbines have higher upfront costs. This creates a "catch-22," because until microturbines have greater commercial penetration they will not be able to achieve the economies of scale necessary to drive down production costs, but until they drive down production costs they continue to face difficulties achieving widespread commercial adoption.

Conclusion

Congress has a unique opportunity to pass legislation that would have a threefold benefit to Americans by increasing the tax credit for microturbines and CHP to 30%. One, drive up demand for these systems and therefore create much-needed jobs in the manufacturing, construction, engineering and trades. Two, provide investment into the clean energy economy and drive forward deployment of innovative green technologies. Three, clean the air, conserve fuel, and lower greenhouse gases by increasing the efficiency of how American businesses generate electricity and heat.

We strongly urge you to pass H.R. 4751 and also to increase the tax credit for microturbines.

Thank you for the opportunity to provide testimony on this issue of critical importance to America.

DARREN R. JAMISON  
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**Climate Energy, LLC, Statement**

Testimony of Dr. Eric Guyer, President, Climate Energy, LLC

Submitted to the Committee on Ways and Means

U.S. House Representatives  
Washington, DC

Hearing on Energy Tax Incentives Driving the Green Job Economy  
April 14, 2010

Mr. Chairman and Members of the Committee, I am pleased to have this opportunity to submit this statement for the hearing record regarding energy tax incentives driving the green job economy.

**Micro-combined heat and power (micro-CHP) technologies can greatly improve energy efficiency in a majority of homes in the US while creating thousands of new green energy jobs across America.** Micro-CHP systems utilize the concept of cogeneration to provide heat and electricity to residential buildings. Micro-CHP systems replace a homes' boiler or furnace, and create electricity by running an efficient, state-of-the-art generator, recapturing the heat created from the generator engine to heat the home. Because it is so efficient, homeowners will now be able to achieve drastic energy efficiency improvements in their homes, as well as reduce their energy costs and reduce pollutant emissions all at the same time. Adoption of micro-CHP systems brings about benefits not only to the homeowner, but also to utility corporations and society as a whole.

Energy efficiency continues to be the most cost-effective, and the most immediate way to reduce the burden of rising energy and environmental costs as well as our energy-related carbon footprint. How effective is micro-CHP at addressing improvements in home energy efficiency and emissions reductions? Roughly speaking, micro-CHP can, for most homes, double the fuel efficiency of electrical power generation. A micro-CHP system will utilize over 90% of the fuel input to create heat and power for a home, a vast increase over the efficiency of central power generation. Micro-CHP can reduce total energy consumption and carbon emissions in the home by over one-third. Wide-spread adoption of micro-CHP can make better use of our significant natural gas reserves, can limit the need for new central power plants, and it can provide an important resource in meeting peak electricity demands and energy security needs during grid outages.

But, just as important, micro-CHP can be efficiently applied to nearly all existing homes. In contrast to other green home energy strategies, there are very few application and siting restrictions. This has already been demonstrated in many homes in the Northeastern US where homeowners use a lot of fuel to heat their homes, and pay very high prices for electricity. There is also great opportunity for broad deployment of Micro-CHP. A recent EIA (Energy Information Administration) report stated that 20% of US homes have a heating system that is greater than 25 years old. Each of the three to four million central heating systems installed or replaced across the US this year alone are candidates for conversion to micro-CHP. Ten years of large scale application of micro-CHP can transform the residential energy sector.

The resulting jobs and benefits by the creation of a robust micro-CHP industry in the United States are numerous. Micro-CHP systems are sold, installed, serviced, and maintained by small business companies – primarily small plumbing, HVAC, and electrical companies throughout the US that are modifying their businesses to include micro-CHP as an additional offering, and moving into the emerging green economy. Manufacturers already established in the US are adding engineering, manufacturing, sales, customer service, training, and support positions. And, US manufacturers have created tremendous expertise and are already exporting manufactured micro-CHP systems and components to other parts of the world. It is expected that in excess of

10,000 jobs could be created over 10 years as a direct result of the creation of a solid micro-CHP industry in the US, with many more indirect jobs as manufacturing increases.

The challenge to fulfilling the energy promise of micro-CHP has several dimensions. The first major challenge is education and awareness. Breaking with traditional thinking is not easy when there are millions of individual decision-makers involved and the issues are complex. Another major challenge is achieving product production and delivery efficiency. Volume is needed to drive the economics to where they need to be.

The federal government can assist the emerging micro-CHP industry by leveling the playing field with regard to incentives now provided for other transforming home energy technologies such as solar and geothermal. Such incentives will bring attention to micro-CHP as an alternative and boost the adoption rate. Indeed, today's informed customers now routinely look for these incentives to validate their forward looking decisions and the commitment they are poised to make.

HR 2328 – a bill that is pending before this Committee that will provide a 30% tax credit similar to solar and geothermal– will create thousands of jobs. With this limited commitment from the federal government, micro-CHP is poised to transform home energy. The states have taken the lead in providing favorable interconnection and net metering rules for micro-CHP in the home. The federal government should build upon the work already done by the private sector and the states by providing support for the practical energy efficiency strategy called micro-CHP.

Submitted by:

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**Coal Utilization Research Council, Statement**

Written statement submitted for the record on April 28, 2010 by Ben Yamagata on behalf of the Coal Utilization Research Council (CURC)

Coal Utilization Research Council  
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**Written Statement of the Coal Utilization Research Council  
submitted to  
The House Committee on Ways and Means  
on  
Energy Tax Incentives and the Green Job Economy**

This written statement is submitted by the Coal Utilization Research Council (CURC). We request that it be included as part of the record for the public hearing that the Committee conducted on April 14, 2010 entitled: "Energy Tax Incentives Driving the Green Job Economy."

**INTRODUCTION:**

CURC is an organization of U.S. coal producers, electric utilities, equipment manufacturers and technology suppliers, state governments and academic institutions interested in coal technology policy and research. CURC is organized specifically to promote the research, development, demonstration and early deployment of advanced coal and carbon capture and sequestration (CCS) technology.

Coal is an important contributor to the nation's energy mix and provides just under half of our electricity generation. However, coal is also a contributor of greenhouse gases, and the nascent CCS technologies are costly. Currently available CCS technologies will typically increase the cost of power, versus power from a pulverized coal system without capture, by 65-75%. Expressed in terms of cost per tonne of CO<sub>2</sub> avoided, CCS systems cost approximately \$70 per tonne. Financial incentives are necessary to enable the industry to gain experience with these new technologies through the construction and operation of large-scale CCS projects, and, when combined with continuing research, to drive down costs for future units to a point where incentives are no longer needed. At such time, it should be expected that all low-carbon energy technologies will be able to compete in the market without government subsidies.

These remarks will focus on an existing financial incentive authorized by Section 115 of PL 110-343 (The Energy Improvement and Extension Act of 2008), as amended by Section 1131 of PL 111-5 (The American Recovery and Reinvestment Tax Act of 2009), and implemented through Internal Revenue Bulletin 2009-44 (Notice 2009-83). The incentive, set forth in Section 45Q of the Internal Revenue Code, is a tax credit of either \$10 or \$20 per tonne of CO<sub>2</sub> captured and sequestered under certain conditions, as explained below. The Committee should also consider the addition of several new tax incentives that would encourage the development and commercial use of advanced coal technologies to energy facilities equipped with CCS technology systems.

Written statement submitted for the record on April 28, 2010 by Ben Yamagata on behalf of the Coal Utilization Research Council (CURC)

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**CURC REQUEST OF THE COMMITTEE TO MODIFY SECTION 45Q THE CARBON SEQUESTRATION TAX CREDIT:**

Section 45Q authorizes a tax credit available to a taxpayer that captures qualifying carbon dioxide (CO<sub>2</sub>) and causes such CO<sub>2</sub> to be permanently sequestered. The taxpayer may dispose of the CO<sub>2</sub> either by permanently storing the CO<sub>2</sub> into geologic formations or by using the CO<sub>2</sub> for hydrocarbon recovery and thereafter permanently storing the CO<sub>2</sub>. The taxpayer may store the CO<sub>2</sub> directly or cause another to transport and/or store the CO<sub>2</sub>. The Secretary of the Treasury is authorized to issue credits for no more than 75 million tonnes of qualified CO<sub>2</sub>.

As currently drafted and administered by the IRS, the taxpayer who captures CO<sub>2</sub> must claim the section 45Q credit at the end of its tax year. From one tax period to another, a CO<sub>2</sub> capture project is not assured that sufficient credits remain unclaimed and therefore will be available. This is so because currently there is a cap of 75 million tonnes of CO<sub>2</sub> against which the section 45Q credit may be claimed. No administrative mechanism exists that would enable a given CO<sub>2</sub> capture project to rely upon the existence of the credit in any given year.

The section 45Q credit should be structured to provide a CO<sub>2</sub> capture project with certainty that credits for a given qualified CO<sub>2</sub> capture project will be available for a specified period of time. In this way, the credit, much like the existing renewable energy production tax credit, can be used to secure financing for early, first-of-a-kind CO<sub>2</sub> capture projects.

A full-scale fossil fuel based capture project would emit (but for CO<sub>2</sub> capture) two to five million tonnes of CO<sub>2</sub> annually. With a cap of 75 million tonnes, several of these full-scale projects would consume the entire number of credits within a matter of a few years or alternatively, multiple projects could claim the credit thereby consuming the available credit/tonne of captured CO<sub>2</sub> quickly. In either case, the credit, as currently administered cannot be incorporated into a project's financial projections and therefore cannot be utilized to secure financing or project cash flows.

Second, we believe that the IRS has misinterpreted Congressional intent in its determination that a taxpayer receiving a section 48A or section 48B investment tax credit for advanced coal power generation technology is not eligible for the section 45Q tax credit. As discussed more specifically below, Congress should modify the section to make clear that receipt of credits under sections 48A or 48B does not preclude eligibility for credits under section 45Q.<sup>7</sup>

<sup>7</sup> Public Law 110-343, the Emergency Economic Stabilization Act requires that qualified projects awarded a section 48A or section 48B investment tax credit must capture a designated percent of CO<sub>2</sub> that would

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Third, while CURC agrees that the taxpayer who causes the CO<sub>2</sub> to be captured and stored is the appropriate party that should be eligible to claim the credit, there should be a mechanism by which that tax credit owner can transfer the credit to another taxpayer. Such flexibility would enhance the ability of the party capturing the CO<sub>2</sub> to utilize the credit as a tool for heightening the economic viability of the project.

Fourth, the current language of section 45Q does not provide that the utilization of technologies by the taxpayer to convert CO<sub>2</sub> to a stable form which will permanently store it is eligible for the tax credit. As discussed more specifically below, we urge Congress to modify 45Q to make CO<sub>2</sub> converted to a stable form eligible for the credit. Such eligibility should extend to converted CO<sub>2</sub> which is beneficially used.

Finally, early carbon capture and sequestration projects will be exceedingly expensive and very technically challenging. The existing value of the section 45Q credit is insufficient to meaningfully assist these early projects.

#### **FURTHER DESCRIPTION OF PROPOSED MODIFICATIONS TO SECTION 45Q**

##### **I. The 75,000,000 Ton Limit.**

The Section 45Q credit applies to qualified carbon dioxide sequestered or used "before the end of the calendar year in which the Secretary ... certifies that 75,000,000 metric tons" have been captured and disposed of or used as a tertiary injectant (and disposed of).

Because the project owner can claim annual credits only so long as the overall 75,000,000 ton cap has not been exceeded (collectively by all participants), and therefore has no idea, at the inception of the project, how many credits can be claimed, it is impossible to calculate the value of the credit with any certainty when determining a project's economics. This problem and uncertainty has been recognized by financial institutions and potential investors in such projects and they will not take into account the potential receipt of any credit by the project for purposes of determining whether to provide financing or investment.

In order to provide an incentive that would encourage early deployment of carbon capture and sequestration systems and operations, Congress should modify 45Q and structure the incentive similar to a production tax credit, by specifying a date by which carbon capture systems must be "placed into service" rather than the current 75M ton cap. The credit

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otherwise be emitted into the atmosphere. Prior to enactment of P.L. 110-343, eligibility for such tax credits was not conditioned upon the actual capture of CO<sub>2</sub>.

Written statement submitted for the record on April 28, 2010 by Ben Yamagata on behalf of the Coal Utilization Research Council (CURC)

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would apply with respect to qualified carbon dioxide captured at a facility after carbon capture equipment is placed into service. The taxpayer would be entitled to claim the credit for a 10-year period commencing on the date when the carbon capture system is placed into service.

## II. Eligibility for Credits.

In its interim guidance, IRS takes the position that a taxpayer cannot claim section 45Q tax credits if it is claiming credits pursuant to the qualifying advanced coal project program of section 48A or the qualifying gasification project program of section 48B as authorized by public law 110-343. Ordinarily, eligibility for a credit is excluded when Congress determines that the receipt of another credit would result in a double benefit. It seems clear that section 45Q credits and credits under sections 48A and 48B do not fit in this category. The credits under sections 48A and 48B are *investment tax credits for eligible property* and the credits under 45Q are *credits for carbon dioxide sequestration*. The credits are entirely distinct and separate and undoubtedly, Congress saw them as such.

While the Service does not provide an explanation for its position, it seems to find rationale for the exclusion in the 45Q definition of “qualified carbon dioxide”, which provides that such term means carbon dioxide captured from an industrial source which would “otherwise be released into the atmosphere as an industrial emission of greenhouse gas.” The Service appears to be taking the position that since 48A and 48B require, for receipt of an investment tax credit, that at least 65 percent of the carbon dioxide from the facility must be captured and sequestered, such carbon dioxide would not otherwise be released into the atmosphere.

The word “otherwise” appears to be the source of the misinterpretation by the Service. While perhaps the policy is not clearly articulated, it seems that the most simple way to reflect what we believe to be the true intent of Congress would be to substitute the phrase “,but for the capture and sequestration,” for the word “otherwise”. Subsection (b)(1)(A) would then read as follows:

“(A) would, but for the capture and sequestration, be released into the atmosphere as industrial emission of greenhouse gas, and”

When Congress intends to preclude eligibility for one credit when another is received, as it did specifically in section 48B(e), it provides a statutory exclusion. Here, there is no statutory exclusion because that was not the intent of Congress. We encourage Congress to modify the section to make clear that the receipt of an investment tax credit under sections 48A or 48B does not preclude eligibility for capture and sequestration credits under section 45Q.

Written statement submitted for the record on April 28, 2010 by Ben Yamagata on behalf of the Coal Utilization Research Council (CURC)

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### **III. Person Entitled to the Credit.**

Under the provisions of section 45Q, only the taxpayer who owns the "qualified facility" is entitled to the credit under this section. CURC agrees with this structure of the credit. However, there will be numerous cases in which the owner of the facility will transfer the captured carbon dioxide to a third party to sequester or use. Section 45Q should be structured in a manner that would allow the owner of the facility to transfer the right to claim the credit to a third party in receipt of the carbon dioxide, if contractually agreed upon by the parties and consistent with such transfer rules as may be prescribed by the Secretary. In addition, section 45Q does not currently permit the owner of the credit (the taxpayer who captures the CO<sub>2</sub>) who has no tax liability to transfer the credit to a third party that has tax liability and can take advantage of the credit. Such transferability will permit the entity that captures the CO<sub>2</sub> but has no tax liability to obtain value from the credit.

### **IV. Beneficial Reuse of Captured Carbon Dioxide**

Section 45Q, as currently written, provides for credits for two specific categories, qualified CO<sub>2</sub> which is captured and permanently sequestered in geological storage and qualified CO<sub>2</sub> which is captured, used as a tertiary injectant, and thereafter permanently sequestered in geological storage.

New technologies are being developed and refined that enable CO<sub>2</sub> to be converted to a stable form in which it will be permanently and safely stored and, in some cases, allow the converted CO<sub>2</sub> to be used for a beneficial purpose. This method of permanently sequestering captured CO<sub>2</sub> provides flexibility in storing the CO<sub>2</sub> and can provide value to society in its beneficial use.

We encourage the committee to modify section 45Q to allow entitlement to the section 45Q tax credit not only for use of the captured CO<sub>2</sub> as a tertiary injectant, but also for conversion to a form that ensures permanent stability without subsequent release into the atmosphere and for the converted CO<sub>2</sub> to be beneficially used.

### **V. Increased Value of the Per Tonne Credit**

As noted above, the existing credit per tonne of CO<sub>2</sub> is insufficient to meaningfully assist and encourage early adoption of carbon capture and storage technologies. Currently available technologies add a cost of at least \$70 per tonne of CO<sub>2</sub> captured to power production cost over the life of a power plant, typically 30 years or longer. Clearly, an incentive of \$10 or \$20 per tonne can offset only a small percentage of this cost increase. CURC recommends a significant increase in the value

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of the per tonne credit provided under section 45Q to encourage early adoption of this costly technology. It is particularly important that we gain experience and knowledge with the capture and permanent sequestration of CO<sub>2</sub> into deep geologic structures. In the longer term, these permanent storage repositories may be relied upon almost exclusively to sequester CO<sub>2</sub> and thus the value of the tax credit now should reflect this need by assigning a significantly higher value to such permanent storage as compared to the use of CO<sub>2</sub> for hydrocarbon recovery. In the nearer term, however, the financial viability of a CCS project may depend upon the use of CO<sub>2</sub> for hydrocarbon recovery. The cost of CCS cannot be recovered through the sale of CO<sub>2</sub> for such hydrocarbon recovery uses and, as a result, a substantial increase in the credit for use of CO<sub>2</sub> for hydrocarbon recovery is also recommended.

**CURC REQUEST OF THE COMMITTEE TO CONSIDER ADDING ADDITIONAL TAX INCENTIVES TO ENCOURAGE THE USE OF ADVANCED COAL TECHNOLOGIES WITH CARBON CAPTURE AND SEQUESTRATION:**

As the Committee continues its examination of tax policy changes to support the "Green Job Economy" CURC also requests that consideration be given to the importance of clean coal technologies equipped with carbon capture and sequestration that will thereby ensure the use of our Nation's most abundant fossil fuel resource while greatly reducing the emissions of CO<sub>2</sub>. Such actions will also create and maintain jobs and provide greater energy security.

To advance these multiple goals the Committee is encouraged to consider the enactment of a 30 percent investment tax credit that would be used to assist in reducing the capital costs of installing equipment needed to capture CO<sub>2</sub> from existing or new power generation facilities using coal. Such a new credit would be applied against only the increased costs incurred from the installation of such equipment as determined by measuring such costs against the costs of constructing a baseline supercritical pulverized coal facility (current technology) without such capture equipment.

Second, it has become apparent that many "first mover" gasification projects seeking to use coal or petcoke and simultaneously capture the CO<sub>2</sub> emissions from such facilities plan to produce substitute natural gas (SNG) which can then be transported and comingled with natural gas and used for electricity production or other uses. These coal to SNG facilities permit very low cost carbon capture, thus making the capture and sequestration of CO<sub>2</sub> easier and less costly. The Committee is encouraged to consider amending section 45 to allow a tax credit for facilities using coal and other feedstocks such as petroleum coke or biomass to produce substitute natural gas so long as a specified percentage of CO<sub>2</sub> which would be emitted from such facility is captured and sequestered.

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**Continental Resources, Incorporated, Statement**

Testimony of Harold Hamm  
Chairman and Chief Executive Officer  
Continental Resources, Inc.

U.S. Independent Exploration and Production Companies:

Leading the Development of Reliable U.S. Energy Resources and  
Reducing U.S. Dependence on Foreign Oil

For the U.S. House Committee on Ways and Means

April 27, 2010

Continental Resources, Inc. (NYSE: CLR) is an independent producer of crude oil and natural gas, operating primarily in the Rockies and Mid-Continental United States. Based in Enid, Oklahoma, the Company has 425 direct employees, as well as employing thousands of indirect contractors (drilling, etc.). The Company is the third largest producer of crude oil in the Rocky Mountain Region and its 2009 production was 74% crude oil and 26% natural gas.

## OVERVIEW:

U.S. independent exploration and production companies have been the leaders – not “Big Oil,” the integrated refiners – in increasing U.S. production and finding significant new reserves of crude oil and natural gas in the past decade. Because of the success of the independents, the United States is today the #1 producer of natural gas in the world and the #3 producer of crude oil and natural gas liquids.

This “quiet energy revolution,” involving advanced technologies such as horizontal/directional drilling and high-pressure fracture stimulation, has significantly increased U.S. production and reserves in recent years, and at the same time reduced imports of petroleum liquids. The application of advanced technologies and U.S. entrepreneurial investment are decreasing our dependence on foreign oil.

In contrast to conventional wisdom, world and U.S. petroleum reserves are also increasing, with world crude oil reserves now sufficient to meet growth in demand through the 21<sup>st</sup> century. Only a few years ago, we feared that U.S. natural gas reserves would be exhausted in about a decade. Now we are measuring them in at least a century of usage, because of domestic shale gas development.

These positive trends are supported by recent changes in the SEC reserve rules that finally recognized the increased scope of oil and gas reserves in continuous geological accumulation plays, such as the Bakken, Barnett and Haynesville shales. Crude oil and natural gas reserves in the United States can now be projected realistically on the same terms as those of other countries.

The United States is also moving forward in the developing of renewable energy technologies, and some are approaching market readiness. Domestic E&P companies, however, are the “boots on the ground” in developing the hydrocarbon energy resources that will remain the primary foundation of our country’s energy system for the 21<sup>st</sup> century.

The United States has the opportunity, taking advantage of new technologies and recent discoveries by domestic E&P companies, to continue increasing domestic production and reduce petroleum imports to less than 50% of consumption by 2018. We should continue investing in the development of additional advanced energy technologies and creating sustainable, long-term American jobs.

Independent exploration and production companies (E&Ps) are leading the development of huge new domestic reserves of crude oil and natural gas in the United States, not the major integrated producers and refiners, such as ExxonMobil.

Independent E&Ps drilled 90% of all oil and gas wells drilled in the lower 48 United States in 2008-2009. They produce 86% of all natural gas and 68% of all crude oil in the United States.

**The tax preferences targeted by the Administration disproportionately affect domestic, independent oil and gas producers, and if enacted would be devastating to the industry.**

**The effect of eliminating these preferences will be to decrease the amount of oil and gas produced in the U. S. and increase, not decrease our reliance on imported oil during the transition period to greener energy sources. One of the most significant preferences, percentage depletion, is only available to domestic independent producers and may not be utilized by major, integrated oil companies. Another of the significant preferences, intangible drilling costs, is only fully available to domestic independent producers and can only be partially used by major, integrated oil companies and then only for their domestic activities.**

Independents, not Big Oil, were the essential players with the service companies in developing the advanced technologies – horizontal/directional drilling and high-pressure fracking -- that resulted in the “quiet energy revolution.” (“The Quiet Energy Revolution,” by Max Schulz, *The American* magazine, February 2010) Independents also led in the development of the key U.S. shale plays – Barnett, Fayetteville, Bakken, Haynesville, Marcellus, etc. -- that have transformed domestic energy production and reserves.

Contrary to conventional wisdom, the U.S. is becoming increasingly self-sufficient by growing domestic production and reserves of crude oil, natural gas and natural gas liquids. We are reducing the percentage of petroleum liquid imports needed to meet demand.

Although one often hears, “The U.S. imports 70% of the crude oil, mainly from hostile, unstable countries,” this is misleading on a number of levels. Crude oil and natural gas liquids – not just crude oil – are the key inputs in the U.S. refinery complex, and U.S. production of each is growing. With the growth in U.S. natural gas production, U.S.-produced NGLs now constitute 40% of the overall input stream.

As a result, in the second half of 2009, U.S. production of crude oil and natural gas liquids equaled 47% of national consumption of 18.6 million barrels per day. Imports constituted only 53%, and that number is declining. (U.S. Energy Information Agency, February 2010)

The EIA projects that U.S. reliance on imported oil as a share of U.S. liquids use will decline to 45% by 2035. (EIA, Annual Energy Outlook 2010)

As for imports from “hostile countries,” in November 2009 Canada remained our largest source for net petroleum imports, accounting for 2.3 million barrels per day. This was more than the combined totals for Venezuela (#3), Saudi Arabia (#4) and Russia (#8). Nigeria was our second largest source of net imports, and Mexico is #5.

The 2009 change in SEC rules to recognize the extent of continuous accumulation resource plays will move the U.S. crude oil reserve base to the more realistic number of 10% of the world’s actual proved reserves, mirroring our production volumes.

Another often-stated misunderstanding is that we are running out of crude oil and natural gas. World and U.S. reserves are actually increasing, driven by advances in exploration and well-completion technology and the efforts of U.S. independent exploration and production companies.

As of November 2009, the United States was the third largest liquid petroleum producer in the world (9.3 million barrels per day), behind Russia (10.1 million) and Saudi Arabia (9.9 million). (U.S. Energy Information Administration, 2010)

U.S. production is also increasing. U.S. crude oil production averaged 5.5 million barrels per day in November 2009, compared to 5.0 million Bpd in November 2007 and 4.8 million Bpd in November 2005. This four-year positive trend reversed decades of falling U.S. production in the United States, and relates directly to advances in drilling and well-completion technology that have enabled new discoveries in the last decade, such as shale plays, to be economically developed. (EIA, U.S. Field Production of Crude Oil).

“Assuming that in the near future consumption returned to 2008 levels and then stayed constant, our planet’s proven reserves of oil – currently estimated at between 1.1 trillion and 1.3 trillion barrels – would have about 40 years to go. (However) advanced exploration and extraction methods can keep oil production growing for decades to come and could allow oil supplies to last at least another century.” (“Squeezing More Oil from the Ground,” by Leonardo Maugeri, Scientific American magazine, October 2009)

In late 2009, the United States overtook Russia as the #1 producer of natural gas in the world. (EIA, February 2010)

Estimated U.S. natural gas supplies have increased 35% in the last two years as a result of technological advances in horizontal drilling and well completion. “When the Petroleum Gas Committee’s results are combined with the U.S. Department of Energy’s latest available determination of proved gas reserves, 238 trillion cubic feet as of year-end 2007, the United States has a total available future supply of 2,073 Tcf, an increase of 542 Tcf over the previous evaluation.” (Colorado School of Mines, Potential Gas Committee release, June 18, 2009)

The Bakken Shale Play of North Dakota and Montana is a clear example of American entrepreneurial investment, technology development and resourcefulness. The Bakken illustrates the path to reducing our dependence on imported petroleum, while providing high-paying jobs to U.S. workers.

In 1995, the U.S. Geological Survey (Department of the Interior) assessed the Bakken Shale Play as having recoverable reserves of 150 million barrels of oil, based on current technology at that time. (USGS, National Assessment of Oil and Gas Fact Sheet, April 2008.)

However, the advent of horizontal/directional drilling and multi-stage fracture stimulation technologies in the last 15 years greatly increased the productivity of the tight shale rock of the Bakken play. As a result, in April 2008 – only 13 years later – the USGS re-assessed the Bakken Shale Play as having recoverable reserves of 3 billion to 4.3 billion barrels of crude oil, using current technology, or 28 times the 1995 estimate. The Bakken is the largest oil accumulation in the onshore, lower-48 states ever assessed by the USGS. (USGS, National Assessment of Oil and Gas Fact Sheet, April 2008.)

Since the April 2008 assessment, Continental has led in the development of a second reservoir, the Three Forks/Sanish Formation, which underlies the traditional target – the Middle Bakken

shale – in most of the Bakken Shale Play. The industry now estimates that the likely amount of recoverable oil in the Bakken may be double the USGS’s 2008 estimate.

As a result of the Bakken Shale’s development, crude oil production in North Dakota averaged 245,490 barrels per day in November 2009, a 78% increase over the average production of 137,642 bpd in January 2008.

As of year-end 2007, the oil and gas industry in North Dakota accounted for 39,702 direct and indirect jobs, approximately 9% of the state’s total nonfarm employment base. (North Dakota Policy Council)

North Dakota is one of only four states currently that do not have budget shortfalls – the others being South Dakota, Montana and Wyoming. All four states benefit significantly from hydrocarbon energy revenues. (The Kiplinger Letter, January 29, 2010)

As of late summer 2009, North Dakota had a budget surplus of \$1.2 billion, the nation’s lowest unemployment rate at 4.2%, and more than 9,000 unfilled jobs. (“In N.D., the Road to Economic Recovery,” Washington Post, August 14, 2009)

The U.S. energy industry has an excellent track record of finding and developing new domestic energy reserves, minimizing environmental impact and creating high-paying jobs. For two decades, U.S. independents have consistently led the technology revolution in the oil patch, especially in horizontal drilling and hydro-fracture stimulation, using environmentally-sound and industry-proven safe practices.

Horizontal drilling minimizes the number of surface holes that are drilled in an unconventional resource play, resulting in a reduced surface footprint while accessing a large, oil-or-gas bearing formation. Continental has trademarked the term “ECO-Pad” in our North Dakota Bakken development. Instead of one five-acre pad per well, we are drilling four wells per seven-acre drilling pad, greatly reducing surface disturbance.

The U.S. oil and natural gas industry has also been an engine for growth in the U.S. economy, accounting for 9.2 million jobs and adding \$1 trillion. (American Petroleum Institute, 2009).

The United States cannot quickly transition from a hydrocarbon-based energy system to renewable energy sources. Energy system conversions require decades of technology and infrastructure development as new energy technologies become market-ready.

While non-fossil energy use is expected to grow rapidly, the EIA projects that fossil fuels will still account for 78% of U.S. energy consumption in 2035 – two and a half decades from today. (EIA, Annual Energy Outlook 2010) Crude oil currently supplies 94% of the nation’s transportation fuel. The EIA estimates that by 2035, crude oil will still account for 85% of transportation fuel, despite advances in natural-gas and battery-powered engines.

“Energy transitions from established prime movers to new converters take place across time spans measured in decades, not in a decade... In the case of primary energy supply, the time span needed for significant market penetration is mostly the function of financing, developing, and perfecting necessarily massive and expensive infrastructures. For example,

the world oil industry annually handles more than 30 billion barrels, or four billion tons, of liquids and gases; it extracts the fuel in more than 100 countries and its facilities range from self-propelled geophysical exploration rigs to sprawling refineries, and include about 3,000 large tankers and more than 300,000 miles of pipelines. Even if an immediate alternative were available, writing off this colossal infrastructure that took more than a century to build would amount to discarding an investment worth well over \$5 trillion—but it is quite obvious that its energy output could not be replicated by any alternative in a decade or two.” (“Moore’s Curse and the Great Energy Delusion,” by Vaclav Smil, University of Manitoba, *The American*, A Magazine of Ideas, November 19, 2008)

“New promises of rapid shifts in energy sources and new anticipations of early massive gains from the deployment of new conversion techniques create expectations that will not be met and distract us from pursuing real solutions. Unfortunately, there is no shortage of these unrealistic calls, such as the popular claim that America should seek to generate 30% of its electricity supply from wind power by 2030.” (Ibid, Vaclav Smil)

We have the technology to continue reducing pollutant emissions from burning hydrocarbon fuels, and we should continue to invest in the development of these, as well as investing in the development of renewable alternatives.

We should encourage increased U.S. production growth, targeting the reduction of energy imports to less than 50% of our consumption by 2018. We should continue investing in the development of additional advanced energy technologies, and, in the case of all fuel technologies, the creation of sustainable, long-term jobs.

According to the preliminary summary of EIA’s “Annual Energy Outlook 2010,” U.S. production of petroleum liquids and biofuels is expected to surpass 50% of U.S. consumption in 2026. If we maintained the pace of improvement achieved from 2008 to 2009, we would hit the 50% mark in 2018. How would this benefit the United States?

1. More domestic production would strengthen the U.S. economy and the U.S. dollar worldwide.
2. Less dependence on imported oil will strengthen U.S. national security and reduce currency transfers to unstable countries in the Middle East.
3. Less dependence on imported oil will improve the U.S. trade balance.
4. Increased U.S. production will reduce commodity price volatility and increase U.S. employment.
5. Increased U.S. production will generate a pro-American psychological lift for the American public/consumer.

## CONCLUSION

U.S. supplies of both crude oil and natural gas have been underdeveloped for the past 50 years. Development was curtailed by the huge influx of cheap foreign oil, regulated only by the whims of OPEC, and by harmful regulations and anti-development energy policies. These included windfall profits taxes and the elimination of most of the depletion allowance, despite the fact that 136 other mineral producers receive depletion allowances, including such non-strategic elements as sand and gravel. Government policy also scaled back intangible drilling cost treatment from the integrated oil companies and imposed tax measures that incentivized companies to find and develop oil and gas resources outside the United States. Throughout most of the last 50 years, oil and gas commodity prices remained at sub-economic lows below U.S. development thresholds.

As a result, the oil and gas exploration and production industry has operated at half capacity or less for a lengthy time, preserving much of the remaining U.S. supply. The combination of these factors resulted in the much bally-hooed "energy crisis" of 2008, which is now a fading memory. Gasoline at the pump is less than \$3 per gallon, and natural gas reserves have surged 50% in the past five years. Our U.S. crude oil supply is on the upswing as the largest ever onshore, lower-48 field – the Bakken Shale Play of North Dakota and Montana -- is developed.

We have the strategic opportunity and the technology to develop the Bakken field, as well as other shale plays, but to do so we must have an economic and regulatory environment that supports development of this vital U.S. resource. Market disruption from additional new Canadian pipeline deliveries must be properly managed and sufficient take-away capacity must be provided. A sound domestic pipeline and refining infrastructure is crucial for the growth and development of U.S. supply.

With a positive focus on U.S. oil and natural gas supply development, we can make meaningful additional strides toward reducing our dependence on foreign imports over the next decade. **Punitive tax policy changes that single out crude oil and natural gas producers will delay this development. The bottom line is that if it is the intention of the Administration to decrease our reliance on imported oil, eliminating particular tax preferences for domestic independent producers will not accomplish the Administration's objective.** As has been demonstrated these past few years, our domestic oil and gas potential is large and development imminent if the U.S. energy industry is not further burdened with punitive regulations and market manipulation.

**Domtar Corporation, Statement**



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**Committee on Ways and Means  
U.S. House of Representatives  
Hearing on Energy Tax Incentives Driving the Green Job Economy  
April 14, 2010**

Domtar Corporation appreciates the opportunity to provide input to the committee on efforts Congress may take to promote green energy, job creation and investment in America.

Domtar Corporation (NYSE/TSX:UFS) is the largest integrated manufacturer and marketer of uncoated freesheet paper in North America and the second largest in the world based on production capacity, and is also a manufacturer of papergrade, fluff and specialty pulp. The Company designs, manufactures, markets and distributes a wide range of business, commercial printing and publication as well as converting and specialty papers including recognized brands such as Cougar®, Lynx® Opaque, Husky® Offset, First Choice® and Domtar EarthChoice® Office Paper, part of a family of environmentally and socially responsible papers. Domtar owns and operates Domtar Distribution Group, an extensive network of strategically located paper distribution facilities. Domtar also produces lumber and other specialty and industrial wood products. We operate 13 pulp and paper mills (nine in the United States and four in Canada) and employ more than 10,000 people.

Domtar is a leader in the generation and consumption of renewable energy. As a company, we fulfill over 70 percent of our power needs from burning carbon neutral wood pulping residuals and other forms of biomass. This is power that would otherwise have to be sourced from the electrical grid. Our company's manufacturing processes are also extremely efficient. The combined heat and power systems deployed at our mills allow us to operate at levels exceeding 65 percent efficiency. We do so by capturing the heat from our industrial processes and utilizing that thermal energy in other applications—space heating and drying or steam generation. Thermal efficiency has huge potential for helping address our nation's energy needs. A little known fact is that heat is captured and utilized in only 9 percent of power generation applications worldwide. If that percentage were to increase only 3 points, it would equal the total annual worldwide production of wind energy.

That is why Domtar strongly supports the Green Energy Paper Manufacturing Act of 2009 (H.R. 4389) sponsored by Representatives Scott Murphy, Michael Michaud, Steve Kagen and Phil Roe. The bill would provide a tax credit based on thermal energy output and cap the total per facility benefit to \$25 million annually. Importantly, the bill pairs the tax credit with a reinvestment component requiring half the proceeds from the refundable credit to be reinvested in the facility. Domtar believes that policy recognition of thermal energy benefits and this bill's reinvestment requirement will help us to continue to improve our processes, continue to innovate and protect the excellent paying jobs that our company supports.

The company and our 10,000 employees stand ready to work with the committee as it begins to craft new energy tax policy that delivers on the twin benefits of reducing foreign energy dependence through the use of green, renewable fuels, while shoring up manufacturing jobs that are the backbone rural communities and small towns across the country.

*For more information about the Green Energy Paper Manufacturing Act of 2009, please contact Tom Howard, Vice President, Government Relations for Domtar*

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## EC Oregon, Statement

### The Need for Feed-in Tariffs to Accelerate Biogas Plant Development in the State of Oregon

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Renewable energy is critical to addressing climate change by providing distributed renewable thermal and electrical energy without the production of detrimental greenhouse gas emissions generated by traditional fossil fuel based energy. Renewable energy also presents a massive opportunity for economic development and the creation of permanent, so-called, "green collar" jobs often located in rural regions. Biomass energy technologies, such as biogas plants, provide the added benefit of managing problematic organic residue while increasing energy and fertilizer independence. The growth of the renewable energy market in the United States has suffered from inconsistent and/or inadequate support at both the Federal and State level. Feed-in Tariffs, which require electrical utilities to purchase renewable energy at above-market rates, have shown to stabilize the growth of renewable energy market in Germany and other countries. Feed-in Tariffs typically support all renewable energy development, although some technologies, such as biogas plants, require less support than their geothermal or photovoltaic counterparts. Should the State of Oregon adopt a Feed-in Tariff for biogas plant development it would stimulate an estimated USD\$900+ million in economic development throughout the state.

#### Abbreviations:

BETC, Business Energy Tax Credit; CNG, Compressed Natural Gas; CHP, Combined Heat and Power; EU, European Union; ELP, Energy Loan Program; FIT, Feed-In Tariff; GHG, Green House Gas; ODOE, Oregon Department of Energy; REC, Renewable Energy Credit; USDA, United States Department of Agriculture; VER, Verifiable Emissions Reduction

#### Introduction

The European nations of Austria, Germany, Italy, and Spain, among others, have shown that properly planned Feed-in Tariffs (FITs) can facilitate accelerated evolution of renewable energy markets, job creation and stabilize manufacturing industries all in a cost efficient way. A FIT is an incentive structure to encourage the adoption of renewable energy through government legislation. The regional or national electricity utilities are obligated to purchase renewable electricity at above market rates set by the government.

One such proven technology that would benefit from FITs is biogas plants. A biogas plant is a facility utilizing a combination of equipment that employs both anaerobic digestion to produce biogas (a blend of methane and carbon dioxide) and an energy recovery technology to produce renewable thermal and/or electrical energy.

Anaerobic digestion is a process that utilizes a consortium of bacteria in an engineered system to produce biogas from biomass. While anaerobic digestion is traditionally associated with livestock manures, nearly any biomass may be appropriate for biogas production. Anaerobic digestion of multiple biomass types in combination, known as co-digestion, generates the greatest methane yield and is commonly used in modern biogas plants.

The energy recovery technology may be as simple as biogas lamps and kitchen burners or as complex as an industrial-scale combined heat and power (CHP) system which simultaneously provides for heat and power (aka thermal and electrical energy). Efficiency of methane use may exceed 85% in well engineered distributed energy systems (compared with less than 30% at traditional centralized power plants). Alternately, biogas may be upgraded to pipeline standards for use as a natural gas replacement and/or compressed for utilization as transportation fuel in compressed natural gas (CNG) vehicles.

**The Need for Feed-In Tariffs to Accelerate  
Biogas Plant Development in the State of Oregon**

With various degrees of sophistication anaerobic digestion technology has been widely implemented at both large and small scale throughout the European Union (EU) and Asia. Throughout Asia and the Indian sub-continent literally millions of low technology biogas plants have been in operation for decades to provide the essential energy needed for rural subsistence. On the European continent biogas plants have reached a state of high technology and efficiency where they are used to simultaneously manage waste, recover nutrients, and provide sustainable renewable energy from biomass.

In Germany biogas plants have been deployed as one of the primary technologies to increase energy independence in food production, primarily located in the rural communities. Over the last several decades the German government developed and orchestrated FITs to stimulate biogas plants and nearly all renewable thermal and electrical energy. With over 3,800 biogas plants and an installed capacity of more than 1,400 MW Germany is seen as the leading country for this technology development (Gomez, 2008). Studies have determined that the EU's natural gas needs can be entirely met by biogas, eliminating all imports and that an EU-wide biogas feed-in strategy will result in 2.7 million new agricultural, construction, and management jobs (Thran et al, 2007).

**Biogas Plants in the United States and Oregon**

In the U.S. approximately 100 farm-based biogas plants have been developed since the 1970's as reported by the USDA AgStar program. Until recently, these biogas plants have generally been developed as waste management technology for livestock manures as a first priority and for renewable energy as a second priority.

Due to the fact that the revenue potential for the methane as a fuel source for thermal or electrical energy has been traditionally low – efficiency in the designs deployed has not been a critical design element. Often times when anaerobic digesters are used primarily as waste management technology the solution with the

lowest capital expenditure is chosen. Such technology choices have led to a multitude of failures and even more plants with extreme operation and maintenance challenges. Only when the revenue potential for the renewable energy is stable, and financially appealing, can high efficiency biogas plants be designed and deployed.

There are two existing farm-based biogas plant in operation in Oregon both of which are located on dairies. In both cases the anaerobic digester components have been reported to perform far below the potential of the manure feedstock. That is, the total energy generated from manure is as much as 300% less than similar scaled anaerobic digesters in Germany. This pattern of under performing low-technology anaerobic digesters appears to extend throughout the many installations across the USA.

**Renewable Energy Incentives in Oregon**

The renewable energy industry in Oregon benefits from state-based incentives. The Oregon Department of Energy (ODOE) has developed the innovative Business Energy Tax Credit (BETC) and provides for loans via the Energy Loan Program (ELP). Both of these programs have facilitated energy efficiency and renewable energy development in Oregon for more than two decades. Recently, a biomass energy tax credit has been made available that further assists projects that convert biomass into renewable energy.

While the BETC does improve the investment potential in biogas plants it does so in a much different, and often more complex, manner than a FIT. The BETC can either reduce the total state tax obligation of the enterprise when in operation or, if sold, reduce the total capital expenditure of the development. It does not, however, necessarily improve the annual revenue potential or stimulate efficient biogas plant designs.

The Oregon Public Utility Commission mandates the acceptance of renewable energy generated from Qualified Facilities, which are

**The Need for Feed-In Tariffs to Accelerate Biogas Plant Development in the State of Oregon**

interconnected to investor owned utilities, for a standard contract period of 20 years. In Oregon as with other regions of the U.S. environmental credits also provide financial incentive once the project is operational. Both Renewable Energy Credits (RECs / "greentags") and Verifiable Emissions Reductions (VERs / "carbon credits") originating from a biogas plant may be traded in the appropriate voluntary markets.

The future of these voluntary markets is undetermined and thus there is no long-term certainty. This means that there is reluctance on behalf of investors to get involved in the first place and those that do get involved are often short-term speculators rather than long-term entrepreneurs and so instability is inherent.

While all of the aforementioned incentives benefit the development of biogas plants they do so in a manner irrespective of the size of energy generation and quality of feedstock. Thus, large project realize an economy of scale. That is, small projects realize no additional incentive over those of large projects. This results in small projects not being able to achieve a similar return on investment and fails to provide incentives to maximize methane yields regardless of scale.

**Barriers to Development**

The development of biogas plants in Oregon is technically feasible. Large-scale biogas plants (over approximately 1,500 kW installed capacity) with quality feedstock have also been determined to be financially feasible when the biogas is used to fuel renewable thermal and electrical energy generation. This is due in part to the fact that interconnected electrical sales are secure and not effected by commodity prices as is seen with biofuels. At least one large-scale, state-of-the-art, biogas plant is know to be in development in Oregon at a food processing facility and is expected to become operational in early 2009.

For small-scale digester projects regardless of feedstock quality and for large digesters with poor quality feedstock, such as manure, financial feasibility, in Oregon, remains elusive. Due to the

fact that much of the infrastructure and development cost are fixed and that the energy yield from manure will be substantially lower than most biomass used in a large-scale project the return on investment will be much less attractive. For example, an \$8 million capital expenditure at a large-scale project would yield about 1,500kW of electrical capacity where a \$4.5 million capital expenditure at small-scale, manure based, project would yield about 450kW. These values have been taken from one project under development and another in planning, respectively.

Given these two simple cases; the smaller-scale project would require nearly 90% greater revenue from electrical sales to achieve a similar simple return on investment. That is, unless FiTs were in place to improve the return on investment for small-scale biogas plants, it is unlikely that they will be developed. Or – if they are developed, they will almost certainly be done so with less efficient technology solutions.

**Current Structure of Existing German and Proposed U.S. Feed In Tariffs**

The current status of FiTs in Germany and the U.S. proposed FiTs for biogas, shown in Table 1, support smaller projects with higher fixed prices. Four U.S. states (MN, RI, MI, and IL) have proposed identically structured Biomass or Biogas FiTs that mimic Germany's structure (Rickerson 2008).

Table 1. FiTs Germany and U.S. Proposed

Electrical Production	Germany	U.S. Proposed
	Fixed Price (€ cent / kWh)	Fixed Price (US cent / kWh)
< 150 kW	11.5	14.5
> 150 kW and < 500 kW	9.9	12.5
> 500 kW and < 5 MW	8.9	11.5
> 5 MW and < 20 MW	8.4	10.5

In Germany, additional production bonuses are also available in the range of 2 to 10 €cents/kWh for plants that operated in an efficient manner and utilize innovative technology. Some of the U.S. proposed FiTs also establish a

### The Need for Feed-In Tariffs to Accelerate Biogas Plant Development in the State of Oregon

Reasonable Profit as well as an efficiency requirement. In all four U.S. state cases, the proposals would sell 100% of the electricity to the utility and the utility would bear the cost of interconnection. This type of FiTs structuring benefits both small scale projects and provides incentives for maximizing biogas plant efficiency at all scales.

The current FiTs in Germany and those proposed in the U.S. suggest that biogas FiTs are cheaper than both geothermal and photovoltaic FiTs (Rickerson 2007 and 2008). German geothermal FiTs at the 5 MW limit (15 ¢cent/kWh) are approximately twice that of biomass FiTs. Photovoltaic FiTs range from 45.7 to 54 ¢cent/kWh or 4 to 6 times greater than that of biomass FiTs.

#### Case for Feed-In Tariffs

Throughout the state of Oregon there are estimated 350 dairy farms. Of these – less than 5% are likely to have the potential to be large-scale projects. That is, the mass majority of the biogas plant development in Oregon is at the small-scale. The cost of developing efficient biogas plants at these locations is estimated to range from USD \$0.25 Million to 6 Million and is thus estimated to represent a potential of USD \$900 Million in economic development (The Pacific Northwest in total would represent about 5x the potential of Oregon).

These small-scale projects are primarily located in rural areas on family-farms and they require FiTs to be developed successfully and

with the same financial returns as their larger counterparts.

In 2007 energy from biomass and organic residues contributed to the German primary energy demand with a share of 4.6%; for 2020 it is expected to be 10%. Nearly 100,000 people are employed; the corresponding reduction of CO<sub>2</sub>eq emission was 54 million metric tons (Ott 2008). The state of Oregon alone represents a total surface area about 70% the total surface area of Germany. If the entire Pacific Northwest was considered the potential for biogas development is likely to be equal to or greater of that demonstrated in Germany and other European countries.

#### Summary

The immediate benefits of FiTs for biogas plants are as follows:

1. Distributed Renewable Thermal and Electrical Energy Development
2. Greenhouse Gas Emission Reductions
3. State-wide Economic Development and Permanent Job Creation
4. Beneficial Management of Problematic Organic Residues
5. Increased Energy and Fertilizer Independence for Family Farms
6. Stabilizes Renewable Energy Markets
7. More Economical to Support When Compared with other Renewable Energy Technologies

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**Edison Electric Institute, Statement**STATEMENT FOR THE RECORD  
EDISON ELECTRIC INSTITUTE

Before the  
Committee on Ways and Means  
United States House of Representatives  
Energy Tax Incentives Driving the Green Job Economy  
April 14, 2010

Edison Electric Institute (EEI) is the trade association of U.S. shareholder-owned electric companies and has international affiliate and industry associate members worldwide. EEI's U.S. members serve 95 percent of the ultimate customers in the shareholder-owned segment of the industry and represent about 70 percent of the U.S. electric power industry. We are pleased to submit comments for the record on new energy tax initiatives we encourage Congress to consider.

**The STORAGE Act of 2009**

EEI supports legislation (H.R. 4210) introduced by Representative Mike Thompson (D-CA). The bill would: allow a 20% energy tax credit for investment in energy storage property directly connected to the electrical grid; make such property eligible for new clean renewable energy bond financing; and allow a 30% energy tax credit for investment in energy storage property used at the site of energy storage. This will address the overlooked issue of storing renewable energy and spur the development of energy storage technologies.

Rapid deployment of these technologies offers significant potential to increase the benefits of renewable energy resources, while lowering production cost and enhancing reliability of the electric grid. The technologies produced by these industries play a vital role in reducing greenhouse gas emissions, creating new green collar American jobs, and spurring economic growth. The investment tax credit for energy storage facilities and equipment is necessary to create a market demand for energy storage technologies.

**The Renewable Integration Credit Act**

EEI supports legislation (H.R. 4149) introduced by Representative Betsy Markey (D-CO). The bill establishes a tax credit, known as the Renewable Integration Credit (RIC), to offset the costs of integrating wind and solar resources into the electric grid. Because wind and solar are *intermittent* resources – meaning that electricity is only available when the wind is blowing or the sun is shining – there are costs to back up the system and maintain the flow of electricity at all times.

A recent Department of Energy study found that the costs of integrating wind resources into the grid average more than \$5 per Megawatt hour (a half-cent per kilowatt hour) of

electricity for wind capacity penetrations up to about 30% of peak load. These costs, which are currently passed along to customers, include investments in quick-start natural gas baseload generating facilities that can be immediately switched on when the wind is not blowing, ramping baseload plants down and up depending on whether renewable energy is available or not, as well as investments in renewable energy storage projects.

This tax credit will encourage utilities to take proactive steps to accommodate additional wind and solar generation in their portfolios, and will mitigate existing disincentives to reach significant levels of wind and solar penetration. Adequate governmental incentives, such as the RIC, are critical to encouraging large-scale development of renewable energy resources. This will help the important role that utilities play as agents for the public in the acquisition and delivery of clean energy resources.

Most importantly, this legislation would create jobs in the green economy and offset the costs associated with integrating clean power onto the grid. While the PTC and ITC have been very successful in holding down the cost of renewable power as a commodity, these credits are directed at developers and do not help utilities and their customers with the costs associated with delivering intermittent power. The RIC would fill this hole and create a powerful new incentive for job creation in the energy sector.

#### **Removing Obstacles to Using the Section 45 Tax Credit for Biomass**

Our nation is attempting to increase significantly the use of renewable energy. Biomass is potentially a very large source of renewable energy. Federal tax laws attempt to encourage greater use of biomass to generate electric energy by providing a production tax credit (PTC), or an investment tax credit (ITC) or Treasury grant in lieu of the PTC for the sale of electricity generated using either open-loop or closed-loop biomass. Many of our companies are exploring ways to increase their use of biomass in generating electricity. However, existing provisions in the tax law impede the utilization of the available tax incentives. Congress could remedy these problems by making several changes to the current tax law (most importantly, eliminating the co-firing limitation, described below):

- The current tax code provisions regarding a qualified open-loop biomass facility are too restrictive and limit widespread participation in renewable energy production using biomass. A qualified open-loop biomass facility does not include a facility in which biomass is burned in conjunction with fossil fuel (**co-firing**) beyond such fossil fuel required for startup and flame stabilization. Significant efficiency reductions occur with 100% biomass firing. Utilities need to co-fire with fossil fuels to generate commercial levels of power with biomass. Therefore, the limitation against co-firing with any fossil fuel should be eliminated.

- Possibly the most efficient use of resources is for a company to take an old fossil fuel plant and convert it to using biomass. However, the IRS has taken the position that unless 20% or less of the facility's total value is attributable to the old facility then a converted facility generally will not qualify for the PTC. This limitation should also be eliminated.
- Generation equipment at a wind facility, solar facility and a geothermal facility qualifies for a five-year life for depreciation purposes. A change should be made so that biomass property also qualifies for a five-year life for depreciation purposes.
- Under current law, the PTC rate for open-loop biomass is half the PTC rate for solar, wind and certain other types of renewable energy generating facilities. Changes should be made to the PTC rate for open-loop biomass so that the incentives for biomass are comparable to those available for solar and wind.

#### **Renewable Gas Tax Credits**

Current law does not provide tax incentives for the production of "renewable biogas" from biomass, referred to as renewable gas. Renewable gas can be a supplement to traditional pipeline quality natural gas. Conditions in today's U.S. energy market are such that policy makers should consider providing incentives to increase the production and sale of renewable gas.

To accomplish this objective, the production tax credit (PTC) could be expanded to provide a tax credit for the creation of renewable gas from biomass.

#### **Tax Incentives For Electric Vehicles**

Increasing vehicle electrification is recognized as critical to achieving our national energy security and greenhouse gas emissions goals. Extending and expanding tax incentives for hybrid and battery electric vehicles in the medium and heavy-duty fleet and promoting the expansion of residential and commercial recharging options will support an increasingly electrified U.S. fleet of vehicles.

Convenient recharging alternatives are essential for large-scale adoption of grid-connected cars and trucks. As more electrified vehicles enter the fleet, drivers will want diverse options for recharging at home and on the road. Extending the expiring Section 30C credit for residential and commercial recharging ensures that the credit effectively recognizes expenses unique to electric recharging.

These incentives will enable widespread and diverse vehicle electrification options and establish the charging, demand management and billing protocols to support a grid-

connected fleet. In addition, they will reduce oil consumption and greenhouse gas emissions.

#### **Extension of Treasury Section 1603 Grant Program**

Early last year, before the American Recovery and Reinvestment Act (ARRA) was signed into law, the renewable energy industry anticipated that renewable power development might drop by as much as 50% from 2008 levels, with equivalent job losses. The swift implementation of ARRA, including the Section 1603 Treasury Grant Program, effectively boosted the renewable industry and, more than that, provided a mechanism so effective that the wind industry had a record year, with almost 10,000 megawatts of capacity installed.

The Grant Program continues to be an effective policy tool to help developers raise capital in the marketplace to attract debt and equity, complete financing on wind projects and bring those projects to completion. The Grant Program is a successful, simple, and proven method of expanding the pool of investors for renewable energy projects beyond the still greatly diminished tax equity market. Unfortunately, for a project to qualify for the grant, the project must be placed in service before the end of 2010 or construction must have started in 2009 or 2010. With the Grant Program unavailable for projects commenced after this year, and the continued weakness of the tax equity market, which makes the value and usability of the PTC and ITC uncertain, the renewable industry could be without an effective incentive mechanism in 2011 and beyond.

Extending the Grant Program (or a substitute program, such as refundable tax credits) through the end of 2012 would ameliorate this problem, and allow the renewable energy industry to continue growing. Providing greater certainty to project developers would increase turbine orders from manufacturers, leading to greater manufacturing activity and job creation in the short-term and cost efficiencies in the long-term.

#### **Bonus Depreciation**

Unfortunately, the important investment incentive provided by bonus depreciation expired at the end of 2009. EEI strongly recommends extending this provision, which was recently recommended by President Obama. Our companies have largely maintained our huge investments in the U.S. economy while this policy has been in place, with 30 cents of every capital dollar going towards good jobs here in the U.S. Extending bonus depreciation will promote investment, bolster economic growth, and create jobs.

Economists have rated bonus depreciation/expensing as one of the most economically productive of economic stimulus initiatives. A 2010 paper prepared by PriceWaterhouseCoopers, states "there is evidence that the bonus depreciation provision enacted in 2002 and extended in 2003 had a substantial impact on investment in business equipment and employment."

EEI appreciates the opportunity to provide comments for the record on energy tax incentives that can bolster the economy and create new jobs.



**Electric Drive Transportation Association, Statement**

*Promoting Clean, Sustainable Transportation Technologies*

## STATEMENT FOR THE RECORD

ELECTRIC DRIVE TRANSPORTATION ASSOCIATION  
BEFORE THE  
COMMITTEE ON WAYS AND MEANS  
UNITED STATES HOUSE OF REPRESENTATIVES

## ENERGY TAX INCENTIVES DRIVING THE GREEN JOB ECONOMY

April 14, 2010

The Electric Drive Transportation Association, founded in 1989 promotes the adoption of vehicles that use electricity to displace petroleum. Electric drive includes battery, hybrid, plug-in hybrid, and fuel cell electric vehicles and our members include all of the industry stakeholders, including automotive and other vehicle manufacturers, component and battery suppliers, utilities, and recharging infrastructure companies.

The importance of electric drive transportation has been well-documented. Multiple studies have demonstrated the benefits of displacing oil with electricity across the environmental, economic and national security sectors. Advanced technology vehicles throughout the supply chain - from materials to manufacture to sales to recharging - will also create jobs and reduce the approximately \$440 billion the U.S. spends annually on foreign oil.

According to the Pacific Northwest National Laboratory, if 73% of the nation's light duty vehicles were fueled by electricity - the amount estimated that could be supported by excess capacity in today's grid -- the U.S. could displace an estimated 6.2 million barrels of oil a day, about 52% of current oil imports.

In addition to the strategic and economic costs of oil dependence, the environmental costs are also substantial. The transportation sector accounts for about a third of the greenhouse gas emissions in the U.S. and about 80% of urban air pollution. Electrification is a solution here as well.

Hybrids emit fewer air pollutants and reduce greenhouse gas emissions by up to 50%. Plug-in vehicles have zero-emission capability and boast greenhouse gas reductions on par with hybrids. Battery electric vehicles and fuel cell electric vehicles have zero tailpipe emissions. And uniquely, these plug-in vehicles will become cleaner over time. As electric fuel from the grid becomes cleaner, the environmental benefits of the vehicles will increase.

Congress recognized the environmental and security value of electric drive in 2005 and 2007 energy legislation and also recognized its economic potential in the American Recovery and Reinvestment Act. That legislation acknowledged the job creation potential of advanced vehicles and provided support for expanded battery and vehicle manufacturing, as well as up- and downstream tax incentives for electric drive vehicles, including Section 48C advanced energy investment tax credits for manufacturing facilities, expansion of the number of plug-in electric drive light duty vehicles eligible for the Section 30D purchase credit of up to \$7500 and an expanded Section 30C investment credit for alternative fuel vehicle refueling property, which includes electricity recharging infrastructure.

The electric drive industry is poised to grow exponentially in the next few years – providing jobs, greenhouse gas reductions and greater energy independence – as well as advanced vehicles. The only real question is whether those benefits are headquartered here.

To lead the advanced vehicle industry, there are important next steps Congress can take. Federal tax policies can jump start near-term markets and provide the clear signals needed to promote longer term investments.

Specifically, the Section 30D credit for light duty plug-in electric drive vehicles is a critical incentive that will bring these vehicles into the mainstream faster. Moving forward, federal policy can do the same for advanced technology in the medium and heavy duty sector. The Chairman of the committee has already laid out that next step in H.R. 3367, which would extend and expand the incentives for hybrid, plug-in hybrid and battery electric trucks. It is an essential incentive for growing this U.S.-led industry and supporting job creation throughout the supply chain of advanced components, manufacturing and sales. For truck purchasers, more efficient vehicles also lower the cost of ownership and put more money in the pockets of the operators

On the passenger vehicle side, we also believe that providing incentives directed at fleet purchasers of advanced electric drive vehicles could have great benefit in moving markets, building demand and advancing the installation of infrastructure.

Another important step that the Committee should take is to provide a long-term extension of the Section 30C credit for alternative fuel vehicle refueling property, which is scheduled to expire at the end of this year. The fueling options for plug-in electric drive transportation need to move into the market as quickly as the vehicles themselves. The 30C credit will help individuals and businesses invest in diverse, safe and convenient electric recharging options. In addition to the certainty provided by a longer term credit, the credit itself should be updated to explicitly recognize the unique elements of electric recharging infrastructure.

For both vehicles and infrastructure, we also recommend that the Committee look at ways to make the incentives more effective for an emerging industry. We believe that providing greater flexibility in the vehicle and infrastructure credits, such as greater transferability of the credits between buyers and sellers, could provide an additional boost to the early markets for plug-in electric drive vehicles and recharging property.

Clear signals for long term investment can be provided through an expansion of the 48C advanced energy investment credit. As the Committee is aware, total credits under 48C were limited to \$2.3 billion and the credit is already oversubscribed. Promoting greater industry investment in electric drive vehicle and component manufacturing will build U.S. leadership and competitiveness in advanced technology. A recent battery manufacturer projection estimates that an investment of \$6.1 billion to support advanced vehicle and battery manufacturing in the U.S. would create approximately 24,000 jobs.

Congress has established the policy foundations that will support an electric drive transportation sector and a green jobs economy. The industry has responded with increased investments in manufacturing facilities and advanced technologies. Consumers have responded with great interest in electric drive vehicles. Working together, the next steps for electric drive technology and policy should focus on accelerating mainstream adoption. We believe that continued support for domestic manufacturing capacity will bring down costs for the industry and for consumers. Further, extended incentives for the

purchase of vehicles and investment in infrastructure will help electric drive reach national scale in the near term.

EDTA appreciates the Committee's leadership in moving toward an electric drive transportation sector. We look forward to working with you to build upon the significant private and public investments that have been made and provide consumers with clean, efficient transportation. In so doing, we can also help the U.S. reduce its dependence on oil and achieve our energy, economic and national security goals.

**Encana Natural Gas, Letter**

**Encana Corporation** tel: 1-877-386-2200  
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United States

Tuesday, April 13, 2010

Chairman Sander M. Levin  
Committee on Ways & Means  
U.S. House of Representatives  
1102 Longworth House Office Building  
Washington D.C. 20515

**RE: Hearing on Energy Tax Incentives Driving the Green Job Economy**

Dear Chairman Levin,

Encana is the second largest natural gas producer in North America, and its U.S. Division, headquartered out of Denver, Colorado, employs more than 1,600 hard-working Americans.

Encana strongly supports the increased use of natural gas in the power generation and transportation sectors because it will create new American jobs, provide a secure and stable energy future for our country and reduce our overall carbon footprint.

During the past decade, the natural gas industry has undergone a renaissance like no other time in our history due to technological innovations that allow producers to safely supply unconventional natural gas. Because of these advances we now have a 100-year supply of natural gas at current production rates. This new, clean, abundant and affordable supply of natural gas has reduced prices to less than \$4.50/mmBTU. Natural gas prices are now competitive with coal in many regions of the country and on an energy equivalent basis, are one-third the price of oil. This makes natural gas a great alternative fuel to gasoline, diesel and ethanol and since there does not appear to be a clear viable alternative for powering large trucks, natural gas provides the most cost-effective way to reduce emissions, reduce costs and create jobs.

Encana supports legislation such as the Natural Gas Act (H.R. 1835), which will increase natural gas use for transportation. Currently, there are over 10 million vehicles worldwide that run on natural gas, but only 125, 000 of those vehicles reside in North America. We are taking a leadership role in promoting increased usage of natural gas vehicles that use this clean-burning resource as an alternative fuel to gasoline.

Affordability is just one of the virtues of using natural gas in place of oil and coal. Imported oil cost the U.S. \$160 billion annually, despite an abundance of domestic natural gas supply readily available to replace gasoline for transportation purposes. Natural gas has proven its value to the economy by generating \$385 billion dollars in 2008. In this same year, natural gas supported the creation of an estimated 2.8 million jobs. We estimate that for every additional billion cubic feet per day (bcf/d) of natural gas supply, 30,000 to 50,000 jobs are created. In addition, incorporating more natural gas will benefit the environment by reducing emissions by 50 percent

from coal-fired power plants and by 25 to 30 percent from gasoline and diesel vehicles. Furthermore, using natural gas will greatly reduce nitrogen oxide and sulphur dioxide emissions by 55 and 73 percent in the power generation sector and by 20 and 30 percent in the transportation sector, significantly improving the quality of our air.

As part of our commitment to improving our environment and energy security, we have taken a leadership role in promoting the expanded use of natural gas. In addition to our extensive community outreach and education efforts, we are piloting natural gas vehicles in our working fleet and for our drilling rigs. Our message is clear: Natural gas is a clean, affordable and domestic alternative to gasoline as a source for transportation, but we need government support to make a significant economic and environmental impact.

We believe in an energy future that progressively improves the environment, creates American jobs and most importantly, provides a secure and stable energy future in which North America is less reliant on unstable, foreign oil. The passing of the Natural Gas Act is an integral aspect of making this future a reality.

Sincerely,



Eric Marsh  
Executive Vice-President, Natural Gas Economy  
Encana Corporation

cc.: T. Boone Pickens, Chairman, BP Capital Management.  
Don McClure, Vice-President, Government and Stakeholder Relations, Encana USA



**Environmental Working Group, Statement**

**Comments of the Environmental Working Group  
For the Full Committee Hearing:  
Energy Tax Incentives Driving the Green Job Economy  
Held on April 14, 1020**

**Comments compiled by David DeGennaro  
Submitted April 28, 2010**

The Environmental Working Group (EWG) appreciates the opportunity to submit comments for the record of the hearing of the House Ways and Means Committee on the topic of energy tax incentives and green jobs. EWG is an organization committed to the discovery and dissemination of accurate, scientifically based information that is relevant to policy making. We hope you find these comments helpful.

In short, EWG's analysis has shown that the dominance of corn-ethanol in the arena of U.S. renewable energy tax incentives is an extremely inefficient method of subsidizing alternative energy and produces minimal job support or creation, especially compared to other renewable energy types. At a cost of more than \$5 billion this year, and more in coming years thanks to the escalating renewable fuel standard (RFS) mandated by Congress, this tax incentive should be abandoned, and greater emphasis placed on other clean energy types and developing green technology. While there is robust debate regarding the environmental benefits of these incentives, our comments here will focus on the job growth potential, in keeping with the hearing's stated topic.

**Inflated Industry Job Creation Estimates**

With our country still recovering from a deep recession and national unemployment hovering around 10 percent, there is ample reason for the Congress and this Committee to seek to maximize job creation. It is with this in mind that we point out the relatively few jobs that are created and sustained by the corn-ethanol industry.

The industry has circulated wildly optimistic job-creation numbers that do not stand up to independent scrutiny. The latest estimates come from the group Growth Energy, which relied on a study it had commissioned from the Windmill Group in support of the industry's petition to have the ethanol blend limit in gasoline lifted from 10 percent to 15 percent. Doing so would essentially double ethanol production from 10.1 billion gallons in 2008 to 20 billion gallons. The Windmill Group's report projected that such an expansion would result in an additional 136,101 new jobs.<sup>1</sup> This estimate, however, is based on a number of faulty assumptions and is far out of line with other independent analyses.

The study uses input-output analysis, which is a common procedure in estimating the economic impacts of a given stimulus. This analysis is based on economic data

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<sup>1</sup> Hodur, N., F.L. Leistriz, and D. Senechal. Economic Impacts of Increasing the Ethanol Blend Limit. Report prepared for Growth Energy by the Windmill Group, LLC. March 4, 2009. [http://www.growthenergy.org/2009/reports/03-05-09\\_jobs\\_study.pdf](http://www.growthenergy.org/2009/reports/03-05-09_jobs_study.pdf)

maintained by the U.S. Bureau of Economic Analysis (BEA). Input-output analysis estimates three kinds of job creation: direct, indirect, and induced. Direct jobs are the ones created at the ethanol plant itself. Indirect jobs are those created in businesses providing materials or services to the ethanol plant. Induced jobs are created when the people holding the new jobs spend their earnings to purchase goods and services. The ratio of inputs to outputs is used to estimate "multipliers."

It takes additional economic analysis and insight to adjust the multipliers BEA estimates for large sectors of the national economy to fit the unique input requirements of a particular industry such as a corn-ethanol plant. Most important, the analysis of new jobs created must subtract the jobs and economic activity that was already going on before the ethanol plant came on-line. To do this, independent analysts spend a great deal of time collecting additional data and fine-tuning their economic models. Industry-commissioned reports, however, use the BEA multipliers without modification.

The practice of fine-tuning multipliers is particularly important in studies of the economic impact of corn-ethanol. The BEA collects no data specific to the ethanol industry. In BEA's data and its multipliers, corn-ethanol is subsumed under the much larger "organic chemicals" category. Taking off-the-shelf multipliers for organic chemicals and using them to analyze the corn-ethanol industry, as Growth Energy does, leads to inflated estimates of job creation.

Another major mistake committed in a different economic analysis commissioned by the Renewable Fuels Association (RFA) is assuming that there was no activity among the input supplier industries until the arrival of corn-ethanol. The RFA consultant (LEGC LLC) allows corn-ethanol to take credit for all the economic activity generated by growing corn, which was happening in commercial bulk long before the advent of ethanol. More than half (53%) of the jobs RFA credits to the corn-ethanol industry are in fact jobs that already existed for growing the corn that was already being produced for food and feed.<sup>2</sup>

Independent analysts rightfully criticize the RFA for dramatically over-estimating the employment impacts of their industry.

David Swenson, an economist at Iowa State University and an expert in input-output analysis has reviewed multiple studies of job creation produced by ethanol industry consultants. His conclusion:

"In short, there are claims to economic outcomes associated with ethanol production that seasoned analysts cannot swallow, but that proponents and politicians will certainly tout as gospel unless confronted with better (or, for the most part, actual) research. The gap between sensible analysis and outright nonsense is huge."<sup>3</sup>

<sup>2</sup> Urbanchuck, J.M. Contribution of the Ethanol Industry to the Economy of the United States. Prepared for the Renewable Fuels Association by LEGC LLC. February 23, 2009. [http://www.ethanolrfa.org/objects/documents/2187/2008\\_ethanol\\_economic\\_contribution.pdf](http://www.ethanolrfa.org/objects/documents/2187/2008_ethanol_economic_contribution.pdf)

<sup>3</sup> Swenson, D. Input-Outrageous: The Economic Impacts of Modern Biofuels Production. Paper originally prepared for the Mid-continent Regional Science Association and the Biennial Implan

#### Comparison to More Realistic Assessments

The Growth Energy consultants state that a single 100-million-gallon-per-year (MGY) corn-ethanol plant would employ 45 people, which is in line with independent analysts' estimates. Forty-five jobs are significant in a rural community, but hardly the rural renaissance promised by ethanol supporters, so the key to their large job figures are the economic multipliers. The consultants estimate that those 45 jobs and the total economic activity they represent would result in 1,418 jobs across the economy. That translates to 31.5 jobs for each job at the prospective ethanol plant, a highly questionable multiplier. Unfortunately, the Growth Energy report provides none of the specific data and details about the model parameters and assumptions they used to produce their estimate. That makes it impossible to determine why the discrepancy between their results and those from independent analysts is so large.

Independent analyses show that the Growth Energy job creation estimates are likely 5 to 10 times too high (see Table 1).

**Table 1:** Growth Energy Job Multipliers 5 to 10 Times Too High

	Job Multipliers Used by Independent Analysts	Job Multiplier Used by Growth Energy	Growth Energy Compared to Independent Analysts
Swenson 2006 <sup>3</sup> 50 MGY Plant	2.80	31.50	11 times too high
Swenson 2007 <sup>4</sup>			
50 MGY Plant	3.79	31.50	8 times too high
100 MGY Plant	3.70	31.50	9 times too high
Low & Isserman 2009 <sup>5</sup>			
Hamilton County IL	3.92	31.50	8 times too high

National Users Conference, Indianapolis, IN, June 2006.  
[http://www.econ.iastate.edu/research/webpapers/paper\\_12644.pdf](http://www.econ.iastate.edu/research/webpapers/paper_12644.pdf)

<sup>4</sup> Swenson, D. Understanding Biofuels Economic Impact Claims. April, 2007.  
[http://www.econ.iastate.edu/research/webpapers/paper\\_12790.pdf](http://www.econ.iastate.edu/research/webpapers/paper_12790.pdf)

<sup>5</sup> Low, S. and A.M. Isserman. Ethanol and the Local Economy: Industry Trends, Location Factors, Economic Impacts and Risks. *Economic Development Quarterly* 2009: 23 (71).  
<http://edq.sagepub.com/cgi/content/abstract/23/1/71>

100 MGY Plant			
Kanakee County IL 100 MGY Plant	6.41	31.50	5 times too high
Harlan County IL 60 MGY Plant	2.83	31.50	11 times too high
Coles County IL 60 MGY Plant	4.34	31.50	7 times too high

The estimates from independent analysts consider economic impacts at the county- or state-level, whereas the Growth Energy study considers impacts at the national level. That could explain a small part of the wide discrepancy between independent analysts and the Growth Energy consultant. However, a December 2007 study by David Swenson estimates a national-level job multiplier of 5.26 for a U.S. ethanol industry producing 14.6 billion gallons a year and of 5.63 for a U.S. ethanol industry producing 29.1 billion gallons a year.<sup>6</sup> Moreover, Mr. Swenson indicated that increasing the county or regional job multipliers by only one job would likely account for the extra jobs created in the national economy – still far lower than the multiplier used by Growth Energy. Using his model he determined that the extra 12 billion gallons needed to supply enough ethanol for a 15 percent blend with gasoline would create 38,850 jobs – 3.5 times fewer than Growth Energy’s job creation claims.

In another March 2009 report, this one from the Iowa Department of Revenue, state officials sounded this warning about industry predictions regarding jobs created by corn-ethanol:

“Several papers have attempted to estimate the number of direct and indirect jobs created by the ethanol industry. There is a wide range of estimates for the number of indirect jobs created by the biofuels industry. On the high side, a 2008 report prepared by Urbanchuk for the Renewable Fuels Association (RFA) found that a 50 MGY plant creates 40 direct jobs and 578 indirect jobs, and a 100 MGY plant creates 50 direct jobs and 1,087 indirect jobs. On the low end, Swenson (2006) found that a 50 MGY plant creates 35 direct jobs and just 75 indirect jobs. The discrepancy is due to differences in assumptions made and consequently

<sup>6</sup> Swenson, D. Estimating the Future Economic Impact of Corn Ethanol Production in the U.S. December, 2007. [http://www.econ.iastate.edu/research/webpapers/paper\\_12864.pdf](http://www.econ.iastate.edu/research/webpapers/paper_12864.pdf)

the estimated multiplier used. The actual number is likely modest and closer to Swenson's estimate."<sup>7</sup>

#### **Cost Per Job**

The RFS requires that the amount of corn-ethanol blended into gasoline increase from 12 billion gallons this year to 15 billion gallons in 2015 and beyond. The volumetric ethanol excise tax credit (VEETC) is paid to oil refiners in addition to this mandate, a curious arrangement in which the federal government provides a tax benefit (i.e. cash) for doing something it required those companies to do. If the credit is extended for another 5 years at the current rate of 45 cents per gallon, the Treasury will give back to the oil refineries \$31.05 billion as they comply with the RFS.

According to RFA's industry assessments for 2010, existing ethanol plants have a production capacity of 13 billion gallons per year (bg), meaning that only an additional 2 bg will be needed to meet the 2015 mandate, which would require the construction of 20 100-million-gallon-per-year ethanol refineries. That would result in a direct ongoing job increase of 900 to run the additional refineries, and using the Swenson estimate above, would result in a total of 4,734 additional jobs over the next 5 years. That computes to a federal expenditure of \$7.7 million per job – jobs that would have been created regardless of the tax credit because of the blend mandate.

#### **Comparison to Other Renewable Industries**

At this point, corn-based ethanol is a mature industry with adequate capacity and resources and a guaranteed demand for its product. Other renewable industries, however, are still in their infancy and have greater need for government assistance to overcome initial capital and regulatory barriers to development. Nevertheless, ethanol receives far more federal funding through the VEETC alone than any other renewable industry. In 2007, the federal government issued \$3 billion to blend ethanol into gasoline, but it provided only \$724 million in tax benefits to the wind industry, and \$26 million in tax benefits to all other renewable sources.<sup>8</sup> The ethanol subsidy will increase to \$5.4 billion this year and more than \$6.2 billion in 2013, while the Joint Committee on Taxation (JCT) has estimated that the wind production tax credit, the largest expenditure after biofuels, will cost only \$0.9 billion and \$1.6 billion in 2010 and 2013, respectively.<sup>9</sup>

<sup>7</sup> Jin, Z. and B. Teahan. Iowa's Tax Incentive Programs Used by Biofuel Producers: Tax Credit Program Evaluation Study. Tax and Research Program Analysis Section, Iowa Department of Revenue. March 2009. <http://mpr.ub.uni-muenchen.de/14795/>

<sup>8</sup> Energy Information Agency, U.S. Department of Energy. Federal Financial Interventions and Subsidies in Energy Markets 2007. SR/CNEAF/2008-01. April 2008. <http://www.eia.doe.gov/oiaf/servicert/subsidy2/pdf/execsum.pdf>

<sup>9</sup> Joint Committee on Taxation. Estimates of Federal Tax Expenditures For Fiscal Years 2009-2013. January 11, 2010. <http://www.jct.gov/publications.html?func=select&id=5>

In addition to being less costly, the U.S. Department of Energy (DoE) has estimated that large increases in wind production will result in significant employment gains. It found that ramping up wind power to provide 20 percent of the nation's electricity by 2030 (which could be accomplished through a mandate analogous to the RFS) would support a total of 500,000 full-time workers per year by the end of that time.<sup>10</sup> The American Wind Energy Association states that the industry last year employed 85,000 people, which would mean an increase of about 415,000 – which is three times the corn-ethanol industry's own job estimate, and up to 34 times the estimates of independent analysts. Similarly, DoE cites an independent study that estimates that the solar industry will create 440,000 jobs in 2016 as a result of the extension of the investment tax credit<sup>11</sup>, to which the JCT attributes very small cost.<sup>12</sup>

Clearly, providing incentives for wind and solar production is a much better and far less costly driver of job growth than corn-ethanol, and valuable budget offsets should be reserved for the time when those credits expire rather than used this year to further prop up an industry that has failed to live up to its economic and environmental promises.

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<sup>10</sup> Department of Energy, Office of Energy Efficiency and Renewable Energy. E20% Wind Energy by 2030. July 2008 <http://www1.eere.energy.gov/windandhydro/pdfs/44889.pdf> and <http://www.nrel.gov/docs/fy08osti/41869.pdf>

<sup>11</sup> Department of Energy, Office of Energy Efficiency and Renewable Energy. 2008 Solar Technologies Market Report. January 2010. <http://www1.eere.energy.gov/solar/pdfs/46025.pdf>

<sup>12</sup> Joint Committee on Taxation, 2010.

**Excelsior Energy, Incorporated, Letter**



April 20, 2010

VIA EMAIL (wmsubmissions@mail.house.gov)

The Honorable Sander M. Levin, Chairman  
The Honorable Dave Camp, Ranking Republican  
Committee on Ways and Means  
U.S. House of Representatives  
1102 Longworth House Office Building  
Washington, D.C. 20515

Re: Energy Tax Incentives Driving the Green Job Economy

Dear Chairman Levin and Congressman Camp:

Excelsior Energy Inc., an energy development company based in Minnetonka, Minnesota, submits the following comments to the Committee on Ways and Means in connection with its April 14, 2010 hearing on Energy Tax Incentives Driving the Green Job Economy. Excelsior Energy is currently developing the Mesaba Energy Project (the "Project" or the "Mesaba Project"), a 602 megawatt (net) Integrated Gasification Combined Cycle ("IGCC" or "coal gasification") electric generating power station fueled primarily by subbituminous coal that will demonstrate clean coal technology at commercial scale and will be one of the cleanest coal-fueled power plants in the world.

The Project was selected in 2004 for \$36 million in funding under a competitive solicitation in Round 2 of the Department of Energy's Clean Coal Power Initiative program due to its dramatically reduced criteria pollutant and mercury emissions compared to conventional pulverized coal generation. In addition, the Project is the recipient of \$133.5 million in federal investment tax credits under Section 48A of the Internal Revenue Code, allocated by the Department of Treasury in 2008 under a competitive solicitation process pursuant to the Energy Policy Act of 2005 ("EPAAct 2005"). Finally, the Project is authorized to receive a federal loan guarantee under section 1703(c)(1)(C) of EPAAct 2005.

Excelsior Energy submits these comments to urge the Committee to support and ensure that the vital federal awards previously made to the Mesaba Project remain in place in order to achieve the important goals of existing tax credit and other federal incentive programs to drive technological innovation for all energy sources in the nation towards a future cleaner, energy independent economy. No additional federal funding is required to protect the Project's existing federal awards, but additional action by Congress is necessary in order to extend existing tax credits and otherwise ensure that these important federal benefits remain effective and in place.

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The Mesaba Project will create more than 1,200 full-time construction jobs at its peak during a four-year construction schedule in an economically depressed region of northeastern Minnesota in need of economic development and diversification. More than 120 full-time skilled jobs will be created during the life of the plant. In addition, increased economic activity associated with plant operations will generate another 290 new jobs. Furthermore, the plant will expand the tax base at its Itasca County, Minnesota location, becoming a significant source of property tax revenue, thereby further stimulating the local economy.

As members of the Ways and Means Committee noted on several occasions during oral testimony on April 14, 2010, our nation's path to energy independence and a new energy economy will not come on the heels of any single technology. Moving forward, in addition to expanding new renewable energy sources, we will need to continue to embrace our abundant domestic fuel resources, such as coal, to keep our economy growing and our citizens employed. As we do so, we will need to continue to provide incentives for newer, cleaner technologies to ensure this takes place in an environmentally responsible matter. As President Obama recently noted in his February 3, 2010 Presidential Memorandum -- A Comprehensive Federal Strategy on Carbon Capture and Storage:

For decades, the coal industry has supported quality high-paying jobs for American workers, and coal has provided an important domestic source of reliable, affordable energy . . . Charting a path toward clean coal is essential to achieving my Administration's goals of providing clean energy, supporting American jobs, and reducing emissions of carbon pollution. Rapid commercial development and deployment of clean coal technologies, particularly carbon capture and storage (CCS), will help position the United States as a leader in the global clean energy race.

The Mesaba Energy Project's IGCC technology could allow Minnesota to significantly reduce its carbon dioxide emissions from baseload electric generation, even before carbon capture. Because IGCC facilities are much more efficient than traditional coal-fired plants, the Mesaba Project's carbon dioxide emission rate is approximately 23 percent lower than the average emission rate for the entire fleet of existing coal-fired plants in Minnesota. Comparing the Mesaba Project to just older coal units in Minnesota, the difference is even larger. In 2007, the latest year for which complete data is available, eight of Minnesota's oldest coal-fired generating units (built between 1953 and 1967) produced 3.9 million megawatt hours of electricity and emitted 5.2 million tons of carbon dioxide. The Mesaba Project could replace those 3.9 million megawatt hours while emitting only 3.8 million tons of carbon dioxide, a reduction of 28 percent. Replacing these aging coal units with the Mesaba Project would also reduce emissions of sulfur dioxide, nitrogen oxides, particulate matter, and mercury by roughly 80 to 90 percent. These reductions would yield significant additional environmental benefits and help to achieve state and national goals such as reducing mercury content in fish tissue and haze in national

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parks. Investing in IGCC sets the stage for even deeper carbon dioxide reductions through carbon capture, which the Mesaba Project will be able to implement more cost effectively than the fleet of existing conventional coal plants.

Given these significant advantages, the Mesaba Project represents one of the nation's premier opportunities to showcase a path forward to energy independence through the use of environmental responsible technology. Unfortunately, the Project's existing tax credit award will expire at the end of April 2010, and can only be extended by Congress. The Project's inability to achieve the Department of Treasury's requirements for maintaining the credits has been caused by the significant length of time it took to complete the Project's federal Final Environmental Impact Statement (EIS)—over four years with a Record of Decision still remaining to be published. Extension of the tax credits is needed to help realize the purpose behind EPA's 2005's Qualifying Advance Coal Project Program—to encourage the commercialization of innovative clean coal technologies—which the Mesaba Project is poised to demonstrate after more than five years of productive collaboration with the Department of Energy under its Clean Coal Power Initiative.

In addition, under current market conditions in order to maintain a competitive cost of electricity from the Project while ensuring construction will begin at the earliest possible date, the Project's federal loan guarantee authorization should be modified to accommodate the potential "staging" of the Project (i.e., allowing for construction of the natural gas combined-cycle facilities in advance of the installation of the gasification island that produces syngas from coal).

Attached please find additional information relating to each of these important requests. Thank you very much for your time and consideration, and please do not hesitate to contact us with any questions or requests for additional information.

Sincerely,

A handwritten signature in black ink that reads "Thomas A. Micheletti".

Thomas A. Micheletti  
Co-President and CEO  
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tommicheletti@excelsiorenergy.com

A handwritten signature in black ink that reads "Julie A. Jorgensen".

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**PROPOSED INCLUSIONS TO THE  
YEAR-END 2009 ENERGY AND/OR JOBS CREATION BILLS**

1. EXTEND EXCELSIOR'S EXISTING FEDERAL TAX CREDIT AWARD.

Excelsior's Mesaba Energy Project (the "Project") was awarded \$133.5 million of investment tax credits by the Internal Revenue Service in April 2008 under Section 48A of the Energy Policy Act of 2005 (EPAAct). In order to qualify for these tax credits, the DOE had to confirm that the Project met all of the required criteria, primarily related to reduced emissions compared to conventional coal technologies. This award established that federal agencies charged with ensuring domestic energy security and environmental stewardship confirmed Excelsior's early judgment that IGCC, and in particular the Mesaba Energy Project, would play a key role in helping the Nation meet the significant energy challenges of the future. However, the award of tax credits required that the Project order major equipment or commence construction by the spring of 2010. Due to delays associated with the federal government completing the Project's EIS, uncertainties regarding carbon requirements, adverse economic conditions, and other similar matters, the Project will not likely be able to meet the deadline imposed under EPAAct. Excelsior requests that the deadline be extended by statute.

The following amendment to Title XIII—ENERGY POLICY TAX INCENTIVES, Section 1307(b) of EPAAct would address this issue:

(a) In General—Section 1307(b) of the Energy Policy Act of 2005 (26 U.S.C. 48A(d)(2)(D)) is amended to read as follows:

“(D) TIME TO MEET CRITERIA FOR CERTIFICATION—Each applicant for certification shall have 2 years from the date of acceptance by the Secretary of the application during which to provide to the Secretary evidence that the criteria set forth in subsection (c)(2) have been met. The Secretary shall extend the deadline established under this paragraph until December 31, 2014, if the Secretary determines, in the sole discretion of the Secretary, that the criteria set forth in subsection (c)(2) have not been met within the time period due to circumstances beyond the control of the applicant.” (new language underlined)

2. PROVIDE FLEXIBILITY TO EXISTING FEDERAL LOAN GUARANTEE PROGRAM

DOE deemed Mesaba's full Application for a loan guarantee complete in December 2008, and Excelsior Energy continues to negotiate the federal loan guarantee for the Mesaba IGCC project. The Minnesota Legislature recently enacted tax law changes to facilitate "staged" development at state-designated innovative energy project sites, allowing for construction of natural gas combined-cycle facilities first, followed, when warranted, by subsequent installation of integrated gasification facilities at these sites. Given the continuing credit crunch, adapting the loan guarantee program to support this approach will further national energy goals and provide much-needed stimulus in northeastern Minnesota.

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The following addition to Title XVII—INCENTIVES FOR INNOVATIVE TECHNOLOGIES, Section 1703(c)(1) of EPAAct would address this issue:

“(x) Staged Natural Gas Combined Cycle/IGCC Facilities.—

“The Secretary shall provide loan guarantees for projects that initially produce electricity using natural gas combined-cycle technology, on a site designated by a state development agency as an innovative energy project site under state law enacted prior to 2005. The Secretary shall issue subsequent loan guarantees for the integrated gasification and all related facilities when such facilities are constructed at or for the innovative energy project site.”

**Flodesign Wind Turbine Corporation, Statement**

**Written Testimony of Lars Andersen, CEO, FloDesign Wind Turbine Corp.  
Submitted to the U.S. House of Representatives Committee on Ways and Means  
Hearing on "Energy Tax Incentives Driving the Green Job Economy"  
April 14, 2010**

Chairman Levin, Ranking Member Camp, and Members of the Committee.

Thank you for the opportunity to present the perspective on energy tax incentive programs of an emerging small, innovative U.S. corporation entering the mature and extremely aggressive wind turbine market place. By way of background on this topic, FloDesign Wind was incorporated in 2007 with private capital to apply an advanced aerospace technology to the highly competitive world wind turbine industry. After two years of development and the raising of over \$40 million dollars of private venture equity, our early prototypes are under test with an initial commercial product offering on the horizon. We are some years from profitability with substantial additional investment needed prior to full market entry, yet the attraction of the recent round of tax incentives, especially those that offered grants in lieu of credits and exchange of tax incentives in financial markets, is compelling.

In 2009, FloDesign Wind carefully considered pursuing the joint Energy Department/Internal Revenue Service Advanced Energy Manufacturing Tax Credit (MTC), authorized in Section 1302 of ARRA. The MTC, also referred to as Section 48C of the Internal Revenue Code, offered significant, fungible incentives for investment in Green Manufacturing for large and small businesses. According to the Department of Energy's Recovery and Reinvestment webpage, this oversubscribed, completed program provided a "...30% credit for investments in new, expanded, or re-equipped advanced energy manufacturing projects." Earlier this year, President Obama announced award of \$2.3 billion in MTCs to be allocated for advanced energy projects, supporting total capital investments of almost \$7.7 billion in new renewable and advanced energy manufacturing projects. FloDesign Wind determined that additional development work was required before we would be able to realistically compete for such an important and valuable incentive program. Now, that additional development work is well underway thanks to the recent award of an \$8,325,400 technology investment agreement from the new DOE ARPA-E Office. Furthermore, the company has an initial commercial product offering on the path to production and will be investing significantly in manufacturing, support and operations/maintenance capability over the coming few years. These investments will result in the creation of hundreds of jobs requiring maximum leveraging of the private and government funds raised in order to offer a wind turbine that is

cost and performance competitive in the global marketplace. Additional funding for Section 48C MTC, and provisions for trading of granted credits, would help ensure that competitive position.

As commercial introduction of this Next Generation Wind Turbine proceeds, it is obvious to us that significant additional technology must be developed in order to broaden our family of turbines to address new world market segments and help the United States achieve the lofty goals enumerated by DOE as 20% Wind by 2030. This can only be achieved through the marshalling of added private and government resources. We anticipate that our investors will continue to generously contribute capital as the company evolves and certainly hope the U.S. Government will also continue to invest. Attainable small business incentives which will help attract the private investment and leverage funds to the utmost are critical to this effort. One recent set of incentives that seemed to fill that requirement was the so-called "grant in lieu of credits" provisions of certain federal R&D investment tax credit programs. These provisions enabled those organizations (mostly emerging small businesses) to convert tax credits to grants that could be directly applied to technology development efforts. It is important to add that many new businesses do not achieve profitability, and therefore, have no income tax liability, for many years after reaching the commercial market. FloDesign Wind fully expects to fall into that category and will cause valuable income tax incentives to be effectively 'unattainable' to us without the cumbersome and costly process of obtaining a tax equity partner. Tax incentives with expanded, yet carefully crafted conversion options, are extremely important to our development growth strategy.

In conclusion, I have considerable experience in the global wind turbine industry and have seen first-hand the explosive growth of the market. I also managed, from scratch, the development of new, low cost manufacturing facilities for a major world corporation that was relatively unhindered in regards to capital investment. FloDesign Wind and other U.S. renewable energy companies have a great opportunity to enter these markets but it will require the mobilization of huge amounts of private and government capital in order to just compete and even more support to achieve leadership positions that can lead to meaningful energy independence and sustainability. Creative application of incentives for the U.S. energy segment is a critical component of any national energy tax policy. Thank you kindly for your time.



**Friends of the Earth (FOE), Statement****SUBMITTED STATEMENT OF  
FRIENDS OF THE EARTH  
ON  
FOR THE  
WAYS AND MEANS COMMITTEE OF THE  
U.S. HOUSE OF REPRESENTATIVES**

April 14, 2010

Mr. Chairman and members of the Committee. Thank you for your efforts to explore policy options to incentivize the energy efficiency and renewable energy solutions that will be needed address and regulate global warming pollution. Friends of the Earth was founded over 40 years ago as a national environmental organization and is a network of with more than two million members and supporters worldwide. Friends of the Earth U.S. is a founding member of Friends of the Earth International - a network of member organizations in 77 countries. It is the mission of Friends of the Earth to create a more healthy and just world. As part of its mission to protect people and the environment, Friends of the Earth has been working on tax, trade and finance policy since the early 1980s.

**Role for Ways and Means Committee**

Due to its unique jurisdiction, the Ways and Means Committee must play a critical role if we are going to promote renewable energy and efficiency and achieve aggressive greenhouse gas (GHG) reduction targets.<sup>1</sup> We submit several policy suggestions for the Committee to consider that include putting a price on carbon without creating a giant new carbon market, decarbonizing the tax code and financing renewable energy and efficiency.

**Pricing Carbon**

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Perhaps the greatest step the United States can take to reduce our carbon emissions and increasing our efficient use of energy is to place a price on carbon. In that vein, it is time that Congress, the American public and energy and environmental advocates seriously consider the various uses and benefits of a carbon tax or fee on all carbon intensive fuels, or on specific carbon intensive

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<sup>1</sup> The term greenhouse gases (GHG) or GHG pollution is used interchangeably with global warming pollution, and carbon pollution.

uses like gasoline that would put a price on carbon without creating a giant new market.

A market dominated by speculators may push up prices, create a bubble and spur the development of subprime assets. In a carbon bubble, unscrupulous intermediaries may overpromise on offset projects by selling future credits based on projects that do not yet exist, are not additional, or which simply do not deliver the promised GHG reductions. This would not only have financial impacts, but also environmental consequences, as economies fail to meet GHGs reduction targets.

Several bills from members of this Committee would design carbon markets that have a stable price path and thus creates limited markets, or eliminates them all together. A stable price path eliminates the basic incentive for speculation, because there would be very limited arbitrage opportunities. In contrast, most "traditional" cap-and-trade bills would create markets dominated by financial speculators seeking to profit from carbon price movements. Secondary markets would be particularly dominated by financials, and will likely overshadow primary trading. As more investors get involved in the market, it will likely spur the creation of new financial products, and open the door to "innovative" and complex carbon instruments which pose regulatory and market risks while providing few environmental benefits.

Stable prices, as envisioned by members of this Committee, also would help prevent a boom-bust cycle in carbon markets. In boom years, skyrocketing carbon prices would increase compliance costs for companies, which may be passed onto consumers. In bust years, plummeting carbon prices may undermine low-carbon technology and capital investments, for example.

Friends of the Earth welcomes the creative problem-solving that have been developed in the House Ways and Means Committee. For too long, the discourse on national climate policy has been restricted to a cap-and-trade system, which has shut out a broader discussion of the role that other strategies can have in a national greenhouse gas reduction plan.

Friends of the Earth commends this Committee for their efforts to propose system which attempts to create both the price stability afforded by a tax and the environmental certainty of a firm carbon cap. We believe that bills from this Committee are a vital contribution to a much-needed discussion on how to best solve one of the most pressing environmental problems of our time.

**Decarbonizing the Tax Code**

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As we head towards a climate crisis we need rapidly reform the existing system of energy tax preferences that has for decades primarily benefited the fossil fuels industry at the expense of renewable energy, energy efficiency and taxpayers. The tax code can be an essential tool to help guide our economy in a carbon-constrained world. With companies like ExxonMobil posting multi-billion profits while paying no U.S. taxes this year, there is no reason for the government to continue subsidizing oil and gas companies. Several bills have already been introduced that would begin the process of purging oil and gas tax breaks from the tax code.

Minimizing the global warming impact of the tax code must be an essential component to any successful climate policy. This is done by eliminating subsidies for the production and use of carbon intensive technologies and fuels (also referred to "decarbonizing the tax code"), while expanding incentives that encourage scaling up renewable forms of energy, conservation, and energy efficiency.

The first step in decarbonizing the tax code is to assess the actual impacts of the tax code on global warming pollution. Thanks to the leadership of the House Ways and Means Committee Congress is already taking steps to determine the footprint of the tax code through a National Academy of Sciences carbon audit of the tax code. This audit will be essential to informing the Committee's efforts in designing future global warming policy.

While we await the completion of this audit, there are a number of explicit energy tax preferences, breaks, and credits in the tax code that encourage the use of fossil fuels that can be immediately addressed. By Friends of the Earth's last count, there are dozens of incentives in the federal tax code (some relatively known, others hidden) that directly reward fossil fuel use and energy waste costing over \$30 billion through 2015.

Other, more subtle, preferences in the tax code that encourage wasteful energy use can also be found. In the housing market, the federal mortgage interest deduction for first homes allows home buyers to deduct interest from the first \$1 million of the cost of their home. With median house prices at approximately \$203,000 the deduction subsidizes the purchases of oversized homes with oversized energy needs.<sup>2</sup> There is also a federal mortgage deduction allowed for the purchase of a second home.

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<sup>2</sup>"Existing-Home Sales Slide on Tight Mortgage Availability." National Association of Realtors. September 24, 2008. [http://www.realtor.org/press\\_room/news\\_releases/2008/chs\\_tight\\_mortgage\\_slide](http://www.realtor.org/press_room/news_releases/2008/chs_tight_mortgage_slide)

There has been some effort by the Committee to use the tax code in the automobile sector toward reducing our nation's use of oil. The tax code includes a 1970's era tax on "gas guzzling" automakers that produce inefficient passenger vehicles. Yet, there exists a glaring loophole in the "gas guzzler" tax that exempts sports utility vehicles (SUVs) and other light trucks from the tax. This loophole should be closed as it, in part, undermines the penalty in the tax code and causes more SUVs to be bought and sold.

Ideally, the carbon audit of the tax code will find all the carbon leaks, or areas where high carbon use is rewarded rather than discouraged. The mortgage interest deduction and the "gas guzzler" loophole are just two examples of tax preferences that at first blush do not appear related to energy but which, in reality, have enormous impacts on our energy use - and certainly there are more.

As we take care of the carbon leaks by decarbonizing the tax code, Congress has the opportunity to reinforce and increase many of the tax credits meant to make our economy energy efficient and shift our energy consumption away from fossil fuels. This should include finally adopting a long-term renewal of the Section 45 renewable energy tax credit. Wind energy development needs help through the tax code to level the regulatory and financial playing field that has heavily favored traditional sources of energy for decades. Additional incentives, such as for hybrid vehicles that push the envelope of fuel economy and incentives for technologies that increase energy efficiency, could and should also be adopted by way of the tax code.

#### **Polluter Pays Principle**

The principle of making polluters pay for their pollution is a long held principle in environmental protection and regulation. This has the economic impacts of forcing polluters to "internalize" their pollution costs, which incentivizes them to adopt new processes and technologies to eliminate these additional costs. The concept is simple, air is a public resource that polluters should not be allowed to use and compromise free of charge or without consequence.

#### **President Obama's leadership**

President Obama has realized the potential gains that can be achieved by reforming the tax code to eliminate incentives for dirty energy and to promote clean energy alternatives. The President took a bold step in his first budget when he called for ending over \$30 billion in subsidies for oil and gas production. He went a step further at the G20 meeting in Pittsburgh when he called for an end to

all subsidies for fossil fuels. Following his lead, the G20 committing to end subsidies all for fossil fuels. The President then issued a new budget that again called for the elimination of many subsidies for oil, gas and coal.

Repealing these subsidies would be an important first step, but to truly fix the system that has for decades incentivized production of fossil fuels we must go beyond the subsidies that have been outlined in the President's budget and end all subsidies that go to fossil fuels worldwide. This includes ending government support of fossil fuels through international and regional financial institutions, such as the World Bank and the Overseas Private Investment Corporation. The President must also eliminate programs which give preferential financing to the fossil fuels industry such as the Rural Utility Service and the Department of Energy's Title XVII loan guarantee program.

#### **Stop wasting money on bad biofuels**

While President Obama has made a commitment to stop subsidizing fossil fuels he has not made the same commitment towards eliminating subsidies for harmful biofuels and in fact continues to promote them.

The biofuels produced in the U.S. today - predominantly corn ethanol - can result in severe environmental degradation. From the fertilizers and pesticides used to grow biofuel crops, to the amount of land on which they are grown, biofuels are certainly not the solution to energy security or global warming. Recent analysis by the Environmental Protection Agency indicates that the vast majority of corn ethanol produced in the U.S. today causes more global warming pollution than gasoline. Environmental concerns aside, continued support for corn ethanol also contributes to increased food prices both here in the U.S. and around the world as more resources are devoted to producing fuel than food.

Despite the adverse environmental and social impacts from today's biofuels, Congress continues to subsidize dirty biofuels through a series of policies that do little to transition ourselves to cleaner options. The Renewable Fuels Standard (RFS) creates a guaranteed market for biofuel consumption that rises each year. Through this, 15 billion gallons of corn ethanol will be consumed annually by the year 2015. Yet, at the same time lucrative tax credits continue to be doled out for corn ethanol. This year alone, \$4.5 billion dollars will be handed out to oil companies for their purchase of corn ethanol through the Volumetric Ethanol Excise Tax Credit (VEETC). Because of the increasing mandate of the RFS, this figure will continue to rise. If the tax credit is extended, it could cost more than \$30 billion from 2011 to 2015.

This double subsidization is not only economically wasteful, but it is also duplicative and unnecessary. A 2009 analysis of these two policies by the Government Accountability Office stated that because of the RFS's guaranteed market "the VEETC does not affect the level of ethanol consumption and is a duplicative policy tool for increasing ethanol consumption... removing the VEETC would not adversely affect the demand for corn for ethanol and the income of corn producers, which depend on the total level of ethanol consumption."<sup>3</sup>

Meanwhile, continued investment into corn ethanol absorbs precious dollars from other, more sustainable renewable energy. Currently, more than 75 percent of the subsidies for all renewable energy goes to corn ethanol. If we want to transition to actually sustainable and low carbon energy sources, we must stop funding dirty energy sources and invest in clean alternatives.

#### **Stop wasting money on oil refineries**

At a time when we should be moving away from fossil fuels like oil, taxpayer money is subsidizing new oil refinery infrastructure. Under the "Election to expense certain refineries" subsidy, oil companies can deduct half of the cost of new refineries and refinery upgrades from their taxable income for the first year of operation. These upgrades can allow existing refiners to refine oil from Canada's tar sands, one of the dirtiest and most expensive sources of oil on the planet. This tax credit was extended in the financial bailout bill and expanded to explicitly include the dirtiest sources of oil, tar sands and oil shale.

According to the Office of Management and Budget, this tax break will cost taxpayers \$3.92 billion over 5 years.<sup>1</sup>

#### **Congressional action needed**

While we applaud the President's leadership in calling for an end to subsidies for fossil fuels Congress must act if the tax code is going to be reformed. Several bills have already been introduced that would begin the process of purging oil and gas tax breaks from the tax code, but these bills have not passed both chambers. With our country facing record deficits, now is the time for us to get serious about cutting wasteful government spending. We can start this by eliminating subsidies for polluting industries that increase global warming pollution.

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<sup>1</sup> Government Accountability Office, *Biofuels: Potential Effects and Challenges of Required Increases in Production and Use*, 99 (August 2009).

**Don't go in wrong way**

Unfortunately, Congress is currently working on a tax extenders bill that would continue to perpetuate the existing system of government subsidies for polluting industries. At the end of last year the House of Representatives passed a tax extenders bill (H.R. 4213) that included subsidies for fossil fuels such as coke as well as a wasteful extension of the biodiesel tax credit. While these tax extensions are egregious and should be removed in the final passage of the bill, the House bill let some of the most harmful tax credits expire. Expiring tax credits include a 50 cents a gallon tax credit for liquid coal, a dirty fuel that has twice the lifecycle greenhouse gas emission of oil. The House bill also allowed tax credits for open loop biomass and refined coal to expire. There is no justification for extending these credits except to increase the profits of large multi-national corporations at the expense of taxpayers.

Unfortunately the Senate passed a version of the tax extenders bill that not only included the coke and biomass tax credits from the House bill but also added many of the tax credits that the House had let expire, including the open loop bio-mass tax credit as well as the refined coal and liquid coal tax credits. If signed into law this tax extenders bill would continue the failed Bush-Chaney energy plan of incentivizing the production of fossil fuels while doing nothing to promote alternatives or efficiency, and increasing our dependence on fossil fuels.

While biomass electricity has been promoted as a viable alternative to fossil fuels, it is not as clean as it may seem. Not only are there sizable greenhouse gas emissions associated with burning biomass for electricity, other harmful air emissions are also associated with burning biomass, putting local communities at risk. Additionally, unfettered financial support for biomass can drive deforestation and ecosystem destruction in order to source bioelectricity plants. The open-loop biomass tax credit, meanwhile, was never intended to be a credit that is renewed over and over again. Its purpose was to support the biomass industry in its infancy so that it could stand on its own. The credit's goal has been achieved: today, biomass is cost competitive with fossil energy, making these tax credits unnecessary and simply providing taxpayer funded windfall profits to the industry.

**Financing clean energy**

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If we are going to avoid the worst effects of catastrophic climate change then we are going to have to invest resources in developing and implementing clean energy solutions such as renewable energy and efficiency both within the U.S. and around the world. There is a limited amount of money that can be invested in energy and we cannot squander this money on failed solutions like nuclear

reactors and fossil fuels. Because of its role as the single largest historic emitter of greenhouse gas pollutions the U.S. has a moral obligation to help other countries develop in a more sustainable fashion. .

**Financial transaction tax**

Developing countries are already being forced to address the impacts of climate change though they did little to cause the climate crisis. When the United States ratified the United Nations Framework Convention on Climate Change, we agreed to provide new and additional financing to developing countries to help enable them to reduce their greenhouse gas emissions, embark on low carbon growth paths, and address the unavoidable impacts of climate change. At the United Nations climate conference in Copenhagen last December, the United States further committed to mobilizing \$100 billion by 2020. As large as this number may seem, the actual need for funds in developing countries to mitigate and adapt to climate change is far greater. A recent report by the UN Department of Economic and Social Affairs in its 2009 World Economic and Social Survey said that developing countries need about 1 percent of world GDP – currently \$500 to \$600 billion annually.

A financial transaction tax could provide an important source of revenue for climate finance. Funding from annual appropriations and potential revenue from carbon pricing may provide some finance, but by themselves they will be inadequate to the task at hand. Innovative sources of climate finance, like a financial transaction tax, are necessary components of meeting the tremendous climate finance need.

A financial transaction tax - a very small tax levied on all financial market transactions involving stocks, bonds, foreign exchange and derivatives (futures and options) - would raise well over \$100 billion per year. According to the Center for Economic and Policy Research, a varied financial transaction tax (0.5% on stock trades, 0.01% on bond trades, 0.01% on swaps) would generate more than \$175 billion annually in the US alone (assuming a 50% reduction in trading volume). The revenue generated should go, at least in part, towards developing countries' climate needs, global health, and other development challenges while curbing the financial speculation that helped fuel the current economic crisis

**Federal clean energy bank**

The federal government has been subsidizing fossil fuels for over a century, and the nuclear industry for over 60 years. Clean energy technologies such as renewables and efficiency have not received nearly as much government support and thus they are behind the older mature industries in their development. One

of the largest barriers to increasing the amount of renewables that are online in this country is a lack of private financing. This problem was worsened by the financial crisis. To overcome this hurdle we believe that Congress should create a green energy bank to invest in truly renewable and sustainable projects and efficiency and hasten the transition away from fossil fuels.

One of the biggest concerns with any green bank proposal is that the money is directed to actually renewable and sustainable technologies and efficiency and that it is not captured by mature technologies such as nuclear reactors, corn ethanol and coal power generation. False solutions such as nuclear power, corn ethanol and carbon capture and sequestration must not be eligible to receive financing from a greenbank or the bank could quickly turn into a permanent government slush fund for mature technologies. Funding these dirty technologies will not only divert money that could be better used on real innovations, but it will also stifle the development of renewable technologies.

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#### RECOMMENDATIONS

**Price Carbon**— Perhaps the greatest step the United States can take to reduce our carbon emissions and increase our efficient use of energy is to place a price on carbon. Congress needs to make sure this is achieved without creating a giant, unregulatable carbon market.

**Decarbonize the Tax Code**—Congress should remove and subsidies that encourage wasteful energy use and the use and production of fossil fuels and redirect them towards clean energy and efficiency. Friends of the Earth finds over \$30 billion could be freed up through a decarbonization of the tax code that could be applied to activities that encourage the efficient use and production of clean energy.

**Financing Clean Tech**— If we are going to avoid the worst effects of catastrophic climate change then we are going to have to invest resources in developing and implementing clean energy solutions such as renewable energy and efficiency both within the U.S. and around the world. This financing cannot be squandered on false solutions like nuclear reactors and fossil fuels.

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<sup>i</sup> FY 2010-2014 (<http://www.whitehouse.gov/omb/budget/fy2010/assets/spec.pdf>)



**Geothermal Energy Association, Letter****GEO THERMAL ENERGY ASSOCIATION**

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April 15, 2010

The Honorable Sander Levin, Chair  
Committee on Ways and Means  
U.S. House of Representatives  
Washington, D.C. 20515

RE: April 14 Hearing on Energy Tax Incentives Driving the Green Job Economy

Dear Chairman Levin,

The US geothermal power industry continued strong growth in 2009, and the federal tax incentives included in the stimulus bill (The American Recovery and Reinvestment Act of 2009) are the principal factor that this industry achieved sustained growth despite the recession. According to the report we released this week, *The April 2010 US Geothermal Power Production and Development Update*, there was a 26% growth in new geothermal power projects under development in the United States in 2009. As a result, today there are 188 projects underway in 15 states which could produce as much as 7,875 MW of new, baseload electric power.

New geothermal power projects are in progress in Alaska, Arizona, California, Colorado, Hawaii, Idaho, Louisiana, Mississippi, Nevada, New Mexico, Oregon, Texas, Utah, Washington and Wyoming. In addition to large utility scale power projects, the survey continued to show expanding interest in small power systems (under 1MW) with projects in Mississippi, Louisiana, Texas, Oregon and Wyoming.

While the geothermal power market lags behind the wind and solar markets, it is growing quickly and this new development is significant. 7,000 MW of new baseload power capacity is enough to provide electricity for 7.6 million people, or 20% of California's total power needs, and roughly equivalent to the total power used in California from coal-fired power plants. This demonstrates, for example, that California could achieve its 2020 goal for global warming emissions reductions just by keeping energy demand level and replacing its coal-fired generation with geothermal power.

These geothermal power projects will create substantial new employment across the country. Not only are we seeing more and more development and hiring in places with a long history of geothermal like Nevada and California, but for the first time these jobs are being created in the Gulf Coast, in states such as Louisiana and Mississippi. Along with a huge number of new construction jobs, geothermal power also creates many permanent positions that can never be outsourced. With 85 geothermal power projects at stages of

development that require exploration or production drilling. geothermal drilling rigs alone could mean almost 10,000 additional jobs this Summer. Together, the direct, indirect and induced employment created by these projects when completed is estimated to be 29,750 permanent jobs and 112,000 person-years of construction and manufacturing employment. The projects under development will represent capital investment of more than \$35 billion.

The provisions of the ARRA were particularly effective in supporting continued growth in the geothermal power industry at a time when the overall economy was in recession. The continued industry growth is a testament to this, particularly give the high risk and long-lead times involved in bringing geothermal power projects on-line. There is no question that all of the geothermal power projects coming on line in 2009 benefited from the stimulus bill's tax provisions.

As the Committee's documents detail, ARRA included several important provisions affecting the geothermal industry. In particular, the extension of the Production Tax Credit through 2013, the temporary election to claim the investment tax credit in lieu of the production tax credit, the Treasury Department energy grants in lieu of tax credits, and the 30% ITC for certain renewable energy manufacturing facilities (limited to \$2.3 billion). In our view, the results show that these were timely, targeted, and effective measures.

While not within the Committee's jurisdiction, we should also note that ARRA included other provisions of importance to the geothermal industry. In particular, the Department of Energy loan guarantee programs and the \$400 million for applied research, development and demonstration through DOE are important to the future of the geothermal industry and complement the tax provisions. The new DOE funding represents the first major federal investment in new geothermal technology in almost 30 years. The \$311 million in new cost-shared awards announced late last year by DOE were matched by \$258 million in private funds, resulting in nearly \$600 million of investment in advanced technology, which we expect will help restore the US industry's position as a leader in the fast-growing global geothermal power market.

Our April 2010 Geothermal Industry Update is available on-line, which provides more details on the state of the geothermal power industry in the United States. You can download it free of charge at: <http://www.geo-energy.org/reports.aspx>.

Thank you for the opportunity to provide our input on the question being examined by the Committee.

Sincerely,

Karl Gawell  
Executive Director



**Griffith Ulum, Statement**

Committee on Ways and Means  
U.S. House of Representatives  
Hearing on Energy Tax Incentives Driving the Green Job Economy  
April 14, 2010

**Testimony of:**

**John Griffith, Chief Executive Officer, Climax Global Energy, Inc., Summit, NJ**  
**Chris Ulum, Chief Executive Officer, Plas2Fuel Corporation, Tigard, OR**

Thank you Chairman Levin, and members of the House Committee on Ways and Means, for allowing us to submit this written testimony to you. We respectfully request that this testimony be accepted into the written record for this hearing.

**Background**

Despite the best efforts of communities and individuals across the country to increase plastic recycling, today over 90% of all plastics we use in our daily lives are dumped into landfills – approximately 28 million tons per year according to the EPA. Millions of additional tons are landfilled or incinerated from undocumented industrial sources. Improper disposal has become a significant environmental problem, leading to such highly publicized outcomes as the “Pacific Gyre” – a land area in the Pacific Ocean the size of Texas filled with floating plastic debris.

Furthermore, landfill space is an increasing problem in many parts of the country, as diminishing capacity has led to high landfill “tipping fees” borne by municipalities. To reduce these costs, waste is routinely and unnecessarily trucked over long distances, clogging our highways in parts of the country that are already highly congested. And “triple rinsing” and disposal of agricultural plastics is a significant cost burden on our farming community.

At the same time we find ourselves swimming in plastic waste, we are acutely aware of America’s dependence on foreign oil, as we import more than 70% of our daily needs. Today, more than ever, our country needs alternative sources of fuel in order to begin reversing this energy security problem. The emerging plastics-to-oil industry simultaneously addresses these twin problems of plastic waste and energy security with advanced technology solutions, being developed here in the U.S., which cleanly convert waste plastics into high grade synthetic oil.

The recession of 2008-9 has decimated the jobs market, particularly in many industrial and low income rural areas. The technologies being developed by the plastics-to-oil industry will create thousands of green jobs throughout the country, in cities such as Paterson, New Jersey, which has a remarkable industrial history but has fallen on hard times, and states like North Dakota and Montana, which have substantial agricultural plastics but limited recycling infrastructure. By building out a nationwide network of plastic conversion facilities in urban, agricultural and industrial communities, we will give birth to an industry which will clean up a significant environmental problem, create a new, clean, domestic fuel source, and create thousands of permanent green jobs.

The purpose of our testimony is to raise the Committee’s awareness of this breakthrough, widely applicable technology and encourage Members to support H.R. 3592 - The Plastics Recycling Act of 2009. This proposed legislation, introduced by Congressmen Pascrell and Reichert, will stimulate capital

investment into this nascent industry and jumpstart a build-out of clean production facilities throughout the country.

#### **Plastics-to-Oil Solution**

A number of companies in the U.S. are developing clean technologies to convert landfill-bound plastics into high grade synthetic oil, which can be refined into ultra-low sulfur diesel fuel, synthetic lubricants or commercial waxes. It is important to note that this business model is geared toward plastics that would otherwise be landfilled, and not those for which recycling markets already exist. There are currently active domestic and international recycling markets for plastics such as soda bottles and milk jugs (soda bottles and milk jugs are polyethylene terephthalate or "PET" and high density polyethylene or "HDPE" respectively). Our goal is to create a new market and beneficial use for plastics which are currently difficult and uneconomic to recycle and thus landfilled.

While these advanced technologies being developed across the country have their own unique aspects, one key characteristic they share is they are non-combustion conversion technologies. They fall into the categories of "pyrolysis" or "gasification", raising the plastics to high temperatures in an oxygen-starved environment (either no oxygen or partial oxygen). In a reaction chamber, long-chain hydrocarbon molecules that make up the plastics are broken down into shorter chains. These shorter chain molecules are suitable for production of fuels, lubes and waxes. The heat to run the process can be derived from sources such as natural gas or microwave energy.

Another defining characteristic of these technologies is size. Waste plastics pyrolysis and gasification facilities can be built on a small scale, producing 100 barrels of oil per day or less. This small size allows the facilities to be tucked into existing recycling locations, such as at the back end of a recycling facility, or at stand-alone rural and urban locations near sources of consumer, agricultural and industrial waste plastic. High volumes of plastic can be accommodated by building a number of units that can run in parallel.

#### **Jobs**

There are certain features that make waste plastic conversion technologies attractive in any economic environment, but particularly so in our current state of high unemployment. First, these technologies, which have been demonstrated by a number of companies, are ready today for commercialization. Companies in the industry have build-out plans in midwestern, upper-midwestern, western and east coast states, with the expectation that hundreds of facilities will be built throughout the country. Enactment of H.R. 3592 will serve as a catalyst for this build-out to occur rapidly rather than over a slower adoption period for the technology. Second, processing facilities will require operators, technicians, maintenance, and materials handling – skilled and unskilled labor. A typical location, the size of which will depend upon the volume of plastics, may employ as few as 15 people and as many as 75 people. And third, the technology will require a steady supply of plastics to be diverted from the waste stream and transported to a nationwide network of facilities, followed by transport of synthetic oil from the facilities to refiners located throughout the country.

The plastics-to-oil industry will create an estimated 12,500 – 25,000 new jobs by 2015 if H.R. 3592 is signed into law. Plant operator, technician, maintenance and materials handling jobs cannot be exported or automated – these facilities require skilled and unskilled people on location to make the operations run.

**Domestic Fuel Source**

Recognizing that plastics are derived from oil and natural gas, the plastics-to-oil industry reverses the process by converting the plastics into oil – oil that is far cleaner and higher quality than crude oil. For example, products from the plastics-to-oil process contain essentially no sulfur in comparison to crude oil (sulfur was removed in the creation of the plastics). Depending on the specific technology, one ton of plastic yields approximately five barrels of synthetic oil. As noted above, 28 million tons of plastics are landfilled each year, of which approximately 2.5 million tons are soda bottles and clear jugs. The remaining 25.5 million tons is equivalent to 125 million barrels of oil annually, or approximately 6% of domestic oil production.

**Sustainability**

As noted above, plastics processed using plastics-to-oil technologies are not combusted or incinerated. Therefore, there are no direct air emissions from the process – zero sulfur, dioxins, benzene or other hazardous emissions. Furthermore, lifecycle analysis performed for companies in the industry has validated the net greenhouse gas benefit of plastics-to-oil technologies relative to producing diesel from crude oil. Also, plastics-to-oil technologies consume minimal amounts of water (a commercial facility uses less than one household on a daily basis) and do not discharge water. And finally, converting plastics into oil reduces the land requirements and environmental disruption associated with landfilling and oil exploration and drilling.

**Conclusion**

The plastics-to-oil industry is technologically positioned for a nationwide build-out. There is widespread recycling industry support for plastics-to-oil, as the technology represents a new market and beneficial use for plastics that are destined for landfilling.

H.R. 3592, with thirteen cosponsors in addition to Congressmen Pascrell and Reichert, proposes a production tax credit to allow this industry to attract capital, and therefore achieve the scale required to operate profitably. While an estimate has not yet been received from JCT, the cost of the credit is expected to be modest as a result of restrictions in the bill, including an in-service date limitation (after enactment), a size limitation, and eligible feedstock and product limitations.

Once again we would like to thank members of the Committee for the opportunity to submit this testimony.

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**Growth Energy, Statement****STATEMENT OF GROWTH ENERGY  
TO THE WAYS & MEANS COMMITTEE  
CONCERNING ENERGY TAX INCENTIVES DRIVING  
THE GREEN JOBS ECONOMY  
APRIL 14, 2010**

Growth Energy applauds the committee for conducting a hearing surrounding energy tax incentives. As a coalition of ethanol supporters, we have fully endorsed H.R. 4940, the Renewable Fuels Reinvestment Act (RFRA) of 2010 recently introduced by Ways and Means Committee member Rep. Earl Pomeroy. The RFRA provides multi-year extensions of the Volumetric Ethanol Excise Tax Credit (VEETC), the Cellulosic Biofuel Producers Tax Credit, the Small Ethanol Producers Tax Credit and the Tariff on Imported Ethanol. We strongly encourage the committee to include this legislation in any energy tax incentive package formulated and advanced in the 111<sup>th</sup> Congress.

Growth Energy's membership roster includes 55 ethanol plants across fourteen states; 35 affiliated companies as associate members located throughout 16 different states and more than 17,000 individual members across the nation. These members recognize America needs a new ethanol approach. Through smart policy reform and a proactive grassroots campaign, Growth Energy promotes reducing greenhouse gas emissions, expanding the use of ethanol in gasoline, decreasing our dependence on foreign oil, and creating American jobs at home.

Investing in ethanol offers tremendous benefits to help grow the U.S. economy and those of developing nations, reduce dependence on foreign oil and green our environment. The investments made in ethanol today will help bring about a new, more affordable, cleaner and more secure energy future for the nation.

**Economic Benefits**

Clean, affordable domestically-produced ethanol enhances America's economic prosperity and competitiveness through job growth, lessened dependence on foreign oil and increased GDP and tax revenues. In 2008 alone, the ethanol industry created and supported more than 400,000 new jobs across the country that cannot be exported or outsourced. In addition, ethanol production contributed \$53.3 billion to the nation's GDP and generated \$8.4 billion in federal tax revenues, resulting in a surplus of \$3.4 billion for the Federal Treasury. Ethanol production also plays a critical role in revitalizing America's rural areas — some of the hardest hit by the economic downturn — creating high-paying jobs and stimulating economic growth.

Beyond its contribution today, the ethanol industry has only just begun to realize its full potential to grow the U.S. economy. Increasing ethanol production to meet the Renewable Fuel Standard (RFS) target of 36 billion gallons of renewable fuels by 2022 will provide the following economic impacts:

- The \$631 billion of expenditures to build and produce 35 billion gallons of ethanol will add nearly \$1,230 billion (2000\$) to real GDP by 2022;

- Real household income will increase an average of \$24.6 billion (2000\$) per year between 2009 and 2022;
- As many as 1.18 million jobs will be supported in all sectors of the economy by the expanding ethanol industry; and
- Federal tax revenue will increase \$222.6 billion (2000\$) between 2009 and 2022 while State and local tax revenues will increase \$167.2 billion (2000\$). Ethanol will account for nearly 30 percent of motor fuel use by 2022.

Further, America's increasing dependence on imported oil leaves the economy vulnerable to supply disruptions and price volatility. Energy price spikes have a devastating effect on consumers and the economy as a whole. In addition, the cost of importing oil results in hundreds of billions of American dollars being sent overseas rather than invested at home. Ethanol will displace the equivalent of 10.97 billion barrels of crude between 2009 and 2022 with an aggregate value of \$1.441 billion.

Today's ethanol offers a sustainable solution to powering our country while addressing the serious challenge of global climate change. If the full potential of ethanol is to be realized, it is important to continue vital federal support in the form of extending the VEETC and ethanol tariff, extending incentives for cellulosic producers and small ethanol producers as well as any other incentives that might help attain this goal.

#### Volumentric Ethanol Excise Tax Credit

The VEETC, commonly referred to as the "blenders credit", is a tax credit of \$0.45 per gallon on each gallon of ethanol blended into gasoline for sale or consumption which is set to expire December 31, 2010. The tax credit was established in the American Jobs Creation Act of 2004 as a \$0.51 per gallon payment to gasoline refiners for blending ethanol into the gasoline supply, creating an economic incentive to expand the use of ethanol, similar to the federal production tax credit for investors in wind. It replaced the 1978 exemption ethanol received from the fuel-excise tax; the 2008 Farm Bill reduced the incentive to \$0.45 per gallon.

The blender's credit is needed to ensure market access for ethanol and spur the continued investment necessary to develop and deploy next generation biofuels. Ethanol competes with a heavily subsidized product in oil and depends on that competitor to get ethanol to the consumer. A recent study by the U.S. General Accounting Office found that, since 1968 the oil industry has received approximately \$150 billion in tax incentives. By comparison, the ethanol industry has received \$11.2 billion, despite the fact that ethanol is an emerging technology

Based on current fuel consumption in the United States, eliminating VEETC would result in an immediate tax increase on consumers at the pump equal to \$5.4 billion per year. (12 billion gallons of ethanol in 2010 x \$0.45 per gallon equals \$5,400,000,000.) CFO systems has estimated the net economic benefit of the ethanol tax credit to be \$19.65 billion because of the increase in federal, state, and local revenue and the reduction in farm program payments ([www.cfosystemsllc.com](http://www.cfosystemsllc.com)).

Government investment in ethanol results in significant contributions to the U.S. economy including federal and state tax revenue, increased GDP and reduced farm program and unemployment payments which more than offset initial government investment. In 2009, ethanol production generated \$8.4 billion in federal tax revenues, resulting in a surplus of \$3.4 billion for the Federal Treasury. An Iowa State research team investigated farm subsidies, farm income, and ethanol mandates, incentives and tariffs. The researchers concluded that ethanol policies saved the U.S. government \$2.65 billion in 2007 because farmer support payments, that would have been due under other legislation, would have been higher than the ethanol supports received by farmers.

#### Ethanol Tariff

To prevent American tax dollars from subsidizing foreign-produced ethanol, Congress established a \$0.54 per gallon secondary duty on imported ethanol in the Energy Security Act of 1980. Because all ethanol, regardless of its country of origin, receives the benefit of the blenders credit, the secondary duty was created to offset the value of this tax credit taken by the petroleum industry when ethanol is blended with gasoline. The tariff is set to expire on December 31, 2010 unless extended by Congress. The tariff does not prevent or prohibit foreign ethanol from entering our domestic market, however it is specifically designed to offset financial incentives intended for domestic producers that would otherwise pass freely to an imported foreign product. Trading our nation's dependence on foreign oil for dependence on foreign ethanol does nothing to increase America's energy production or independence.

In addition to offsetting financial incentives, the tariff is a revenue raiser for the federal government. If cut or reduced, American consumers would end up paying higher taxes or see cuts in federal programs to account for the lost revenue. This would be in addition to foreign ethanol producers receiving a tax break courtesy of our taxpayers.

Those who suggest allowing more imported foreign ethanol would help increase America's energy independence are incorrect. Foreign ethanol will not displace a single drop of Middle Eastern oil. Current federal policy limits the amount of ethanol in the marketplace to roughly 10 percent and current U.S. production exceeds market availability. Therefore, rather than displacing foreign oil, removing the tariff will simply displace domestic ethanol and cause economic turmoil throughout the United States.

According to research by the Community Policy Analysis Center at the University of Missouri, allowing the ethanol import tariff to expire would reduce overall total employment of about 160,000 full and part-time jobs. Year-to-year job losses go from 39,506 in the first year after the tariff lapses, to 115,624 in the second year, and 161,384 in the third year. Job losses would continue year-after-year and most of these jobs are never regained according to the study. The decline in economic activity following the lapse of the tariff was calculated at \$9.2 billion the first year, \$26.4 billion the second year, and \$36.7 billion the third year. The decline remains in the double digits during the 10-year projection, hitting \$21.2 billion in 2021.

The attached chart details the state-by-state job loss projections according to the study. The six states that would see the largest declines in economic activity due to removal of the tariff are (in order): Iowa, Illinois, Nebraska, Minnesota, Indiana and South Dakota. Manufacturing, already

a hard-hit sector of the economy, would see the largest decline, followed by the service industry, financial services and wholesale trade sectors.

A separate study conducted by IHS Global Insight predicted that without the tariff, Brazilian ethanol imports would climb to as high as 2 billion gallons a year- but displace *domestic* ethanol and virtually no oil. Global Insight also predicted a 24-month plunge in corn prices due to the decrease in domestic ethanol production. As our nation climbs out of the greatest economic recession in a generation, it is incumbent for policy makers to provide long-term market stabilizers and create jobs, not the opposite.

Foreign ethanol is not produced under the same labor standards, environmental standards or health and safety standards as U.S. ethanol producers. American ethanol producers should not be forced to compete against ethanol producers in countries, who do not meet these same high standards. For the sake of America's economy, jobs, national security and our environment, a long term extension of VEETC and the ethanol tariff is critical.

#### Cellulosic Biofuel Producer Tax Credit

Next generation biofuels, such as cellulosic ethanol, are liquid transportation fuels made from a wide variety of feedstocks including switchgrass, corn stover, citrus pulp, wood chips and even municipal waste. The geographic diversity of these feedstocks will enable cellulosic biofuels production throughout the U.S. While the commercialization of next generation biofuels offers tremendous promise in the near term, grain-based ethanol production is a vital foundation upon which scientists and producers have begun to build. As science moves from making ethanol from corn to producing it from corn cobs and other plant materials, ethanol will continue to be a sustainable and effective energy solution for the world.

Today, significant progress has been made in achieving wide-scale commercialization of cellulosic ethanol. Multiple pilot plants are in operation around the country with commercial-scale projects under construction.

Further, intensive research and development is rapidly advancing the state of cellulosic ethanol technology. A key challenge to commercialization that remains is the complex and costly conversion process necessary to convert cellulosic feedstocks to fuel. Further, cellulosic biorefineries are expected to be far more capital-intensive than grain-based plants. As with all emerging technologies, costs will come down as technology is scaled and efficiencies are improved over time. According to the latest estimates, cellulosic ethanol is expected to be cost-competitive with gasoline by late 2011.

According to DOE, cellulosic ethanol has the potential to reduce greenhouse gas emissions by more than 86 percent relative to gasoline. In addition, dedicated energy crops used in the production of advanced biofuels can be grown on marginal land not suited for traditional crops. The U.S. Departments of Energy and Agriculture's Billion Ton Study found that 1.3 billion tons of U.S. biomass feedstock are potentially available for the production of biofuels — more than enough biomass to meet the new renewable fuel standard mandated by the Energy Independence and Security Act of 2007. Further, a recent report by Sandia National Laboratory and General

Motors found that biofuels could replace nearly a third of current U.S. gasoline use by the year 2030.

Today, ethanol producers are investing heavily in next generation biorefineries. The federal government, in partnership with leading companies and academic institutions, has invested significantly in the research, development and deployment of next generation biofuels technologies. As with other alternative energy technologies, continued government investment is essential to commercializing cost-competitive advanced biofuels. Ultimately, the success of today's ethanol industry is essential to spurring continued investment and ensuring a cleaner, more secure, affordable energy future. The \$1.01 per gallon cellulosic biofuel producer tax credit is available for qualified fuels produced in the United States between January 1, 2009 and December 31, 2012. H.R. 4940 extends eligibility through 2015 which provides a longer-term signal from the federal government to private investors that cellulosic production is a key factor to expanding biofuels production. The Biotechnology Industry Association study, U.S. Economic Impact of Advanced Biofuels Production, found that the advanced biofuels industry could create 29,000 direct new jobs and \$5.5 billion in economic growth over the next three years, with the potential for job creation to reach 807,000 and economic growth to reach \$148.7 billion by 2022.

Mr. Chairman, Growth Energy appreciates the opportunity to relay the importance of the ethanol industry to not only those in farm country, but to the nation's economy, our national security interests and to future generations. Again, we strongly support for the provisions included Mr. Pomeroy's legislation and encourage this committee to incorporate his language in any legislation the committee moves forward. We look forward to working with you and the committee on these and other issues important to the ethanol industry.

**Historic Tax Credit Coalition, Statement**

April 14, 2010

Testimony

John Leith Tetrault

Chairman of the Historic Tax Credit Coalition

Committee on Ways and Means

Hearing on Energy Tax Incentives Driving the Green Job Economy

Chairman Levin, Ranking Member Camp, and distinguished Members of the Committee I appreciate the opportunity to submit a statement for the record highlighting the economic and environmental benefits of promoting energy efficiency in the Nation's vast array of commercial buildings, specifically those designated historic and older, non-historic buildings.

My name is John Leith-Tetrault and I have the distinct honor of being Chairman of the Historic Tax Credit Coalition (HTCC). The HTCC is a newly formed Coalition comprised of a broad base of developers, syndicators, lenders, architects, lawyers and accountants from across the country that interact with the credit on a daily basis. The main purpose of the Coalition is to advocate for and support changes to the Rehabilitation or Historic Tax Credit (HTC), section 47 of the IRC, so it can remain an efficient and effective credit for economic development through the adaptive reuse of historic and older, non-historic buildings. The hearing today is timely given the increased national focus on reducing carbon emissions while creating "green" jobs and Congress' interest in tackling both of the important issues.

In recent years, Congress has enacted legislation that provides incentives to encourage energy use reduction technologies in the country's commercial buildings and residential homes – Section 179D and Section 45L respectively. These incentives are an important tool to help moderate the amount of carbon emissions released by these two sectors of the real estate market. Currently, according to the latest statistics, commercial buildings account for thirty-eight percent of carbon emissions while homes account for another twenty-one percent.

However, it is my belief that Congress has overlooked one segment of the commercial real estate market when it originally constructed these policies and that is the special energy efficiency challenges of older buildings built before World War II including the 1.3 million historic buildings that are listed in or contribute to historic districts on the National Register of Historic Places. Given the number of historic and older buildings and the added expense to rehabilitate them, it is important for Congress to take a serious look at legislation that would specifically target the 20% and 10% Rehabilitation Tax Credits to help achieve significant energy use reductions in these buildings. There is legislation that would accomplish this task and create thousands of jobs but before I describe the proposal I think it would be useful to provide some background on the credit itself.

The concept of using a credit to promote the adaptive re-use of historic and older buildings was passed as part of a broad economic stimulus package known as the Economic Recovery Tax Act of 1981. The original and continuing purpose of the credits is to spur economic investment, create jobs, and produce affordable housing while preserving our cultural heritage. And by all accounts the HTC has successfully achieved each of these four goals.

According to a recently released report by Rutgers University the HTC has created

over 1.8 million jobs (58,000 last year alone), leveraged \$85 billion in private investment (\$5.6 billion in 2008) and was responsible for the creation of over 405,000 housing units. Again, according to Rutgers, the credit has been responsible for encouraging over 40,000 rehabilitation projects across the Nation.

It is clear from this research that the HTC is an economic driver. However, what is not highlighted is the fact the HTC is environmentally sensitive as well. If you take a step back and look at the credit, it was essentially designed to encourage the recycling of old buildings. So, in addition to its obvious economic stimulus benefits, the rehabilitation credit is also responsible for reducing landfill waste and eliminating the energy use needed to manufacture new building materials. Rehabilitating old buildings also reuses existing transit, educational, road and utility infrastructure. The rehabilitation credit is clearly a credit that provides a win-win situation for those concerned about encouraging environmental stewardship and job creation.

While the credit itself is already environmentally friendly, there is a need for Congress to help, as it did with new buildings and residential homes, to encourage a reduction in energy use. As I mentioned earlier, legislation has been introduced by Congresswoman Allyson Schwartz and Congressman Pat Tiberi, H.R. 3715, the Community Restoration and Revitalization Act, (Senators Blanche Lincoln and Olympia Snowe have introduced identical legislation in the Senate) which contains a set of provisions that will modernize the HTC and allow it to meet the President's and Congress's goal of making buildings more energy efficient while creating jobs.

The Community Restoration and Revitalization Act encourages the reduction of energy use of newly renovated historic or older buildings through the creation of an Energy Efficiency Supplement (EES). The EES would encourage building owners who are in the process of rehabilitating their properties to strive for substantial energy savings by providing a supplement to the HTC based on the energy savings achieved. Besides saving energy the EES will also create additional jobs. Based on projections from the Preservation Economic Impact Model, the EES and its related energy saving provisions will create an additional 59,000 jobs over 10-years.

The EES has several components:

The provision would provide an EES to the 20-percent and 10-percent credits that are already available for historic rehabilitations by adding an additional \$2.00 to \$5.00 per square foot in credits depending on the achievement of a range of energy savings over a baseline starting at 30 percent and graduating up to 50 percent. The added incentive may not exceed 50 percent of the total cost of a building's rehabilitation. For example, a prototypical 100,000 square foot building rehabilitation would earn a 21.6 percent credit for achieving a 30% efficiency improvement over documented prior building energy use or accepted national standards for similar buildings.

The provision would allow equipment and materials contributing to energy reduction located outside the building (such as solar collectors and geothermal piping) to be eligible for the 20-percent or 10-percent tax credit. Currently the law only allows rehabilitation expenses within the building to qualify for the credit, which makes the use of alternative energy sources less feasible for most property owners.

The provision allows for the "twinning" of the Section 48 Renewable Energy Tax Credits with the HTC to create an added incentive to achieve the highest possible energy savings. This provision allows the HTC to be combined with Section 48 credit in the same way it is currently combined with the Low-Income Housing Tax Credit. The basis of the Energy Credit would be reduced dollar-for-dollar by the amount of historic tax credits taken.

The provision also encourages standalone retrofits that encompass energy efficiency improvements only to historic buildings that are otherwise in good

condition. For this purpose, the provision eliminates the current substantial rehabilitation test that requires minimum rehabilitation expenditures of 100% of adjusted basis.

It should be noted that unlike other rehabilitations that don't use the HTC, a developer may only claim the credit if he or she works within the constraints of the Secretary's Standards, which are a set of technical guidelines that govern every change made to the building's envelope and interior and is administered by the National Park Service. It is this additional burden to preserve the historic character of the building that increases the cost of the rehabilitation making further investments in energy efficiencies less feasible. The EES is a carefully crafted provision, which mirrors energy related legislation enacted by Congress in the past.

Besides the support from every member of the Historic Tax Credit Coalition this legislation is supported by our partners in the architectural and preservation communities including the National Trust for Historic Preservation, Preservation Action, the National Council of State Historic Preservation Officers, and the American Institute of Architects.

Again, I would like to thank Chairman Levin for allowing me to submit this testimony and look forward to answering any questions the Members of the Committee may have regarding this very important provision.

Members of the Historic Tax Credit Coalition:

Bank of America  
Bryan Cave LLP  
Clark Hill PLC  
DFC Group, Inc.  
Dudley Ventures  
Heritage Consulting Group  
Holland & Knight LLP  
HRI Properties  
John Milner Architects, Inc.  
Kasper Mortgage Capital, LLC  
Kutak Rock, LLP  
MacRostie Historic Advisors LLC  
National Trust Community Investment Corporation National Trust for Historic Preservation  
Nixon Peabody LLP  
Novogradac & Company, LLP  
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Polsinelli Shugart PC  
Reznick Group, P.C.  
RSM McGladrey, INC Real Estate Group  
Stonehenge Capital Company, LLC  
Tax Credit Capital, LLC  
The Alexander Company, Inc.  
US Bancorp  
Winn Development  
Wisconsin Preservation Fund, Inc.  
Wisznia | Architecture + Development

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**Honorable Betsy Markey, Statement**

HEARING STATEMENT  
CONGRESSWOMAN BETSY MARKEY  
Renewable Integration Tax Credit (RIC)  
April 14, 2010

Chairman Levin and Ranking and Ranking Member Camp, thank you for allowing me the opportunity to submit a statement for the record at this hearing on energy tax incentives and driving the green jobs economy. I would also like to thank you for holding a hearing on this issue. I strongly believe the key to future growth in the United States lies in the development of alternative domestic energy resources.

My home state of Colorado has long been a leader in both traditional and alternative energy production. At the end of 2009, Colorado was ranked ninth in the country in total installed wind capacity. My district is home to wind and solar manufacturers, biofuel producers, and alternative energy researchers. The renewable energy investments included in the American Recovery and Reinvestment Act laid the groundwork for creating green energy jobs, but we also need to look for innovative ways to drive demand going forward so the United States remains competitive in the renewable energy sector.

Last November, I introduced the Renewable Integration Tax Credit (RIC), HR 4149. This tax credit is designed to help utilities with the cost of integrating intermittent energy sources like solar and wind into their portfolios at high levels. These costs, which grow as utilities add more clean power to the system, are currently being passed along to customers in order to ensure system reliability. While wind developers can take advantage of tax incentives like the Renewable Energy Production Tax Credit (PTC), utilities that purchase their renewable power from these developers cannot claim that same tax credit. The RIC costs much less than the PTC and will help utilities keep rates low while incentivizing increases to their renewable energy portfolio. The credit phases out over time unless utilities continue to increase their renewable portfolio. This will drive continual investments in wind and solar projects.

The RIC can also be used in the absence or in conjunction with a strong, national renewable electricity standard (RES). The DOE estimates that a nationwide RES of 20 percent by 2030 will create 500,000 jobs. Commonsense policy like a national RES and the Renewable Integration Tax Credit will not only diversify the national energy portfolio, it will ensure market stability in the wind and solar industries in the short term. In the short term, the RIC can be used to add quick-start natural gas generation to serve as a backup when wind and solar are not available. In the long term, this tax credit can be used to invest in projects to store renewable electric power once they become commercially available.

The Renewable Integration Tax Credit concept has been endorsed by a wide range of groups and businesses including the U.S. Chamber of Commerce, the U.S. Hispanic Chamber of Commerce, Environment America, Natural Resources Defense Council (NRDC), National Association of Manufacturers (NAM), American Wind Energy Association (AWEA), Center for American Progress, Energy Future Coalition, Blue Green Alliance, Third Way, Edison Electric Institute, and the Building and Construction Trades Department of the AFL-CIO.

It is imperative that we as a country continue to increase our investment in clean energy and it is with incentives such as the RIC that our goals will be achieved. Not only will this bill help to address these renewable integration costs, it will create jobs, reduce greenhouse gas emissions, and help diversify our energy mix.

Thank you again Chairman Levin and Ranking and Ranking Member Camp for allowing me the opportunity to submit this statement for the record. I urge you to keep the Renewable Integration Tax Credit in mind as you evaluate tax incentives to drive the green jobs economy.



**Honorable Erik Paulsen, Letter**

Representative Erik Paulsen  
126 Cannon HOB  
Washington, DC 20515

April 14, 2010

The Honorable Sander Levin  
Chairman  
Ways and Means Committee  
1102 Longworth HOB  
Washington, DC 20515

The Honorable Dave Camp  
Ranking Member  
Ways and Means Committee  
1139E Longworth HOB  
Washington, DC 20515

Dear Chairman Levin and Ranking Member Camp:

Our nation should pursue a comprehensive domestic energy strategy that incorporates both established energy sources and the growing renewable energy market. Further, as a matter of national security we must reduce our dependence on foreign energy sources.

The House Ways and Means Committee is uniquely positioned to recommend changes in the tax code that would aid a broad range of energy suppliers in their efforts to provide cheaper, more reliable power.

As you know, efforts to expand renewable energy production via changes to the tax code have been effective in the past. Current tax credits for renewable energy like the Renewable Energy Production Tax Credit (PTC) and the Investment Tax Credit (ITC) have been effective in bringing the cost of clean energy down. However, there are additional and substantial costs for integrating renewable energy sources, specifically wind and solar sources which are intermittent additions into the grid.

The U.S. Department of Energy has analyzed the costs of renewable integration, including adjusting the composition of energy sources for base power output, adding backup gas generation and otherwise compensating power supplies for the variable inputs provided by wind or solar radiation.

It is important to recognize the impact of these costs, which grow as utilities add clean energy sources to their portfolios. Additionally, these costs are currently passed on to customers in order to ensure consistent power delivery.

As you may know, more than 25 states have Renewable Energy Standard targets, and momentum is building for a federal Renewal Energy Standard. As this is considered, it is extremely important to consider the financial impact on consumers, while also providing the best economic environment for renewable energy sources to flourish.

Last year, I introduced legislation with Rep. Betsy Markey, establishing the Renewable Integration Tax Credit (RITC; H.R. 4149), which addresses many of the important issues enumerated here. The RITC would amend the tax code to provide a renewable electricity integration credit for a utility that purchases or produces renewable power.

The bill would create a tax credit for utilities that have sizeable portfolios of renewable energy generation. The credit phases out over time unless utilities continue to increase their renewable portfolio. This will drive continual improvements in wind and solar penetration into the grid by incentivizing continual increases in these renewable sources.

Not only will this bill help to address the renewable integration costs consumers are now bearing, but it will create jobs, reduce greenhouse gas emissions, and help diversify our nation's energy portfolio.

The concept of a Renewable Integration Tax Credit has been endorsed by an array of organizations, including the U.S. Chamber of Commerce, the National Association of Manufacturers (NAM) and the Building and Construction Trades Department of the AFL-CIO.

As the committee considers green energy legislation for the remainder of the year, I would appreciate your consideration of the RITC as part of your solutions.

Thank you for your time and consideration,

/s/  
Erik Paulsen  
Member of Congress



**Independent Petroleum Association of America, Statement**



Testimony

On Behalf Of The

Independent Petroleum Association of America

Before

Committee on Ways and Means

U.S. House of Representatives

April 14, 2010

**Statement of The  
Independent Petroleum Association of America,**

the International Association of Drilling Contractors (IADC), the International Association of Geophysical Contractors (IAGC), the National Stripper Well Association (NSWA), the Petroleum Equipment Suppliers Association (PESA), and the following organizations:

Arkansas Independent Producers and Royalty Owners Association	Louisiana Independent Oil & Gas Association
California Independent Petroleum Association	Michigan Oil & Gas Association
Coalbed Methane Association of Alabama	Mississippi Independent Producers & Royalty Association
Colorado Oil & Gas Association	Montana Petroleum Association
East Texas Producers & Royalty Owners Association	National Association of Royalty Owners
Eastern Kansas Oil & Gas Association	Nebraska Independent Oil & Gas Association
Florida Independent Petroleum Association	New Mexico Oil & Gas Association
Illinois Oil & Gas Association	New York State Oil Producers Association
Independent Oil & Gas Association of New York	North Dakota Petroleum Council
Independent Oil & Gas Association of Pennsylvania	Northern Alliance of Independent Producers
Independent Oil & Gas Association of West Virginia	Ohio Oil & Gas Association
Independent Oil Producers Agency	Oklahoma Independent Petroleum Association
Independent Oil Producers Association Tri-State	Panhandle Producers & Royalty Owners Association
Independent Petroleum Association of Mountain States	Pennsylvania Oil & Gas Association
Independent Petroleum Association of New Mexico	Permian Basin Petroleum Association
Indiana Oil & Gas Association	Petroleum Association of Wyoming
Kansas Independent Oil & Gas Association	Southeastern Ohio Oil & Gas Association
Kentucky Oil & Gas Association	Tennessee Oil & Gas Association
	Texas Alliance of Energy Producers
	Texas Independent Producers and Royalty Owners Association
	Utah Petroleum Association
	Virginia Oil and Gas Association

This testimony is submitted by the Independent Petroleum Association of America (IPAA) and the listed national, state and regional organizations. Collectively, these groups represent the thousands of independent oil and natural gas explorers and producers, as well as the service and supply industries that support their efforts, that will be the most significantly affected

by legislative proposals to alter the tax code with regard to natural gas and oil production.

Independent producers drill about 90 percent of American oil and natural gas wells, produce over 65 percent of American oil, and more than 80 percent of American natural gas. American natural gas is a clean, abundant, affordable energy source that should be part of any clean energy agenda; American natural gas and oil should be part of any national energy security initiative.

While today's hearing is characterized as a "Hearing on Energy Tax Incentives Driving the Green Job Economy", its more precisely stated objective is to "...examine the effectiveness of current energy tax policy and identify additional steps that the Committee can take to ensure continued job growth in this area while at the same time advancing national energy policy focus on a discussion of current and proposed energy tax incentives." Therefore, it will be examining a critical issue confronting American natural gas and petroleum production – the role of the tax code with regard to the enhancement or deterioration of American exploration and production of natural gas and petroleum. The federal tax code plays an integral part in providing access to the capital essential to develop American resources – both natural gas and petroleum. Equally important, natural gas and petroleum play a key part in America's energy supply, can play a key part in America's green job development through both the development of US natural gas and the use of this resource to build green manufacturing and backup the green energy that is intermittent, and reduce American dependence of foreign energy sources.

Federal tax policy has historically played a substantial role in developing America's natural gas and petroleum. Early on, after the creation of the federal income tax, the treatment of costs associated with the exploration and development of this critical national resource helped attract capital and retain it in this inherently capital intensive and risky business. Allowing the expensing of intangible drilling and development costs and percentage depletion rates of 27.5

percent are examples of such policy decisions that resulted in the United States extensive development of its petroleum.

But, the converse is equally true. By 1969, the depletion rate was reduced and later eliminated for all producers except independents. However, even for independents, the rate was dropped to 15 percent and allowed for only the first 1000 barrels per day of petroleum produced. A higher rate is allowed for marginal wells which increases as the petroleum price drops, but even this is constrained – in the underlying code – by net income limitations and net taxable income limits. In the Windfall Profits Tax, federal tax policy extracted some \$44 billion from the industry that could have otherwise been invested in more production. Then, in 1986 as the industry was trying to recover from the last long petroleum price drop before the 1998-99 crisis, federal tax policy was changed to create the Alternative Minimum Tax that sucked millions more dollars from the exploration and production of petroleum and natural gas. These changes have discouraged capital from flowing toward this industry.

Independent producers historically reinvest over 100 percent of American oil and natural gas cash flow back into new American production. Lower natural gas and oil prices and the tight credit market are limiting investment capital, but the industry continues to aggressively develop US resources.

Natural gas and oil provide 65 percent of America's energy. New wind energy and solar energy require new natural gas turbines to run when the wind doesn't blow and the sun doesn't shine. American natural gas is essential to meeting any clean energy agenda associated with global climate. American natural gas and oil are essential to any energy security plan.

- In just the last three years, U.S. natural gas producers have made revolutionary gains in the exploration and extraction of shale gas, and an

ocean of energy beneath our feet is now available. The lower 48 states have a wide distribution of these shale gas reservoirs that alone have increased America's natural gas potential by more than 50 percent (Navigant Consulting).

- The U.S. possesses a total natural gas resource base of 1,836 trillion cubic feet (Tcf) and a total available future supply of 2,074 Tcf, equaling about 100 years of supply. Americans consume an average of 22 Tcf per year (AGA/PGC).
- According to studies, America's known resources of natural gas would provide nearly 100 years of supply at current U.S. consumption levels— and we are finding more every day (Navigant Consulting).
- U.S. onshore natural gas production has grown rapidly over the past three years, an accomplishment most energy experts thought impossible a few years ago (EIA).
- From 2006 to 2008, the U.S. saw a near 50 percent rise in number of wells delivering more than 5 Mmcf/d - a huge turnaround in the nation's gas productivity profile (IHS).
- Natural gas use is efficient. While more U.S. homeowners and businesses use natural gas each year, total greenhouse gas emissions from residential and commercial natural gas customers declined 11.7 percent between 2000 and 2006 (NGC).

- Oil provides 40 percent of America's energy, and energy is what drives the U.S. economy. The U.S. currently imports 66 percent of its oil, much of it from foreign, unstable countries. If America's independent producers are allowed to responsibly develop more American resources, it could stimulate the U.S. economy by increasing American supplies of energy, creating more American jobs, generating new revenue for the state and federal treasuries and reducing reliance on foreign energy resources.

Despite these critical roles for American natural gas and oil, the Obama Administration's budget request would strip essential capital from new American natural gas and oil investment by radically raising taxes on American production. American natural gas and oil production would be reduced. It runs counter to the Administration's clean energy and energy security objectives. Following is a review of the Obama Administration proposed changes to natural gas and oil taxation.

*Intangible Drilling and Development Costs (IDC)* – IDC tax treatment is designed to attract capital to the high risk business of natural gas and oil production. Expensing IDC has been part of the tax code since 1913. IDC generally include any cost incurred that has no salvage value and is necessary for the drilling of wells or the preparation of wells for the production of natural gas or oil. Only independent producers can fully expense IDC on American production. Loss of IDC for independent producers will have significant effects on their capital development budgets. A recent Raymond James analysis reports that the loss of IDC would result in capital drilling budgets being reduced by 25 to 30 percent. This compares with anecdotal information provided to IPAA by its members indicating that drilling budgets would be cut by 25 to 40 percent. Regardless of the exactness of the assessments, clearly, the

consequences would be significant. And, the consequences would soon be evident. Roughly half of America's current natural gas production is provided by wells developed during the past four years. American producers are already facing significant reductions in their capital budgets. Layering loss of IDC on top of these limitations or imposing it as the commodity and credit markets recover will only worsen the consequences for American production.

*Percentage Depletion* – All natural resources minerals are eligible for a percentage depletion income tax deduction. Percentage depletion for natural gas and oil has been in the tax code since 1926. Unlike percentage depletion for all other resources, natural gas and oil percentage depletion is highly limited. It is available only for American production, only available to independent producers and for royalty owners, only available for the first 1000 barrels per day of production, limited to the net income of a property and limited to 65 percent of the producer's net income. Percentage depletion provides capital primarily for smaller independents and is particularly important for marginal well operators. These wells – that account for 21 percent of American oil and 12 percent of American natural gas – are the most vulnerable economically. Input to IPAA from its operators who take percentage depletion indicates that the combined effect of the Obama Administration proposals on IDC and percentage depletion would reduce drilling budgets in half. At this lower rate, new production will not offset the natural decline in production from existing wells. For example, one producer now drills ten wells per year; without IDC and percentage depletion, this producer could only drill five wells per year. A five well program will not replace declining production in existing wells and the small business company will have to shutdown. Congress' choice is straightforward: reduce American oil production by 21 percent and its natural gas production by 12 percent or retain the current historic tax policies that have encouraged American production.

*Passive Loss Exception for Working Interests in Oil and Gas Properties* – The Tax Reform Act of 1986 divided investment income/expense into two baskets – active and passive. The Tax Reform Act exempted working interests in natural gas and oil from being part of the passive income basket and, if a loss resulted (from expenditures for drilling wells), it was deemed to be an active loss that could be used to offset active income as long as the investor's liabilities were not limited. Natural gas and oil development require large sums of capital and producers frequently join together to diversify risk. Additionally, natural gas and oil operators have sought individual investors to contribute capital and share the risk of drilling wells. Most American wells today are drilled by small and independent companies, many of which depend on individual investors. There is no sound reason for Congress to enact tax rules that would discourage individual investors from continuing to participate in this system. Moreover, Congress applied the passive loss rules only to individuals and not to corporations. The repeal of the working interest rule, therefore, would senselessly drive natural gas and oil investments away from individuals and toward corporations. There is no apparent reason why Congress would or should favor corporate ownership over individual ownership of working interests. Furthermore, since AMT restrictions apply to IDC of individual working interest investors, the application of the passive loss rules to those investors is unnecessary and excessive – as this committee itself decided in 1986. In sum, to qualify for the exception, the taxpayer must have liability exposure and definitely be at risk for any losses. If income/loss, arising from natural gas and oil working interests, is treated as passive income/loss, the primary income tax incentive for taxpayers to risk an investment in natural gas and oil development would be significantly diminished.

*Geological and Geophysical (G&G) Amortization* – G&G costs are associated with developing new American natural gas and oil resources. For decades, they were expensed until a tax court case concluded that they should be amortized over the life of the well. After years of consideration and constrained by budget impacts, in 2005, Congress set the amortization period at two years. It also simplified G&G amortization by applying the two year amortization to failed as well as successful wells; previously, failed wells could be expensed. Later, Congress extended the amortization period to five years for large major integrated oil companies and then extended the period to seven years. Early recovery of G&G costs allows for more investment in finding new resources. Four years ago, Congress recognized that America benefitted if capital used to explore for new natural gas and oil could be quickly reinvested in more exploration or production of American resources, it was in the national interest. Nothing has changed to alter that conclusion. If anything, current capital and credit limitations enhance the rationale to get these funds back into new investment.

*Marginal Well Tax Credit* – This countercyclical tax credit was recommended by the National Petroleum Council in 1994 to create a safety net for marginal wells during periods of low prices. These wells as stated above account for 21 percent of American oil and 12 percent of American natural gas. They are the most vulnerable to shutting down forever when prices fall to low levels. Congress enacted in this countercyclical tax credit in 2004 after ten years of consideration. It concluded that the nation benefitted if these marginal operations were supported during times of low prices, that the production from these wells were – in effect – a national resource reserve that would be lost forever if the wells had to be shutdown and plugged during difficult economic times. No different conclusion is now warranted. A year ago, as America faced high energy prices, the clear risk of foreign energy dependency was all too

evident; America's marginal wells are a first defense against more foreign imports. Fortunately, to date, the marginal well tax credit has not been needed, but it remains a key element of support for American production – and American energy security.

*Enhanced Oil Recovery (EOR) Tax Credit* – The EOR credit is designed to encourage oil production using costly technologies that are required after a well passes through its initial phase of production. Conventional oil well production declines regularly after it begins production. However, millions of barrels of oil remain in formations when the initial production phase is over. The 2001 National Energy Report indicated that “anywhere from 30 to 70 percent of oil, and 10 to 20 percent of natural gas, is not recovered in field development. It is estimated that enhanced oil recovery projects, including development of new recovery techniques, could add about 60 billion barrels of oil nationwide through increased use of existing fields.” For example, one of the technologies is the use of carbon dioxide as an injectant. In 2006, the Department of Energy studied the potential for using carbon dioxide enhanced oil recovery (CO<sub>2</sub>-EOR) and concluded that: “Ten basin-oriented assessments- four new, three updated and three previously released- estimate that 89 billion barrels of additional oil from currently ‘stranded’ oil resources in ten U.S. regions could be technically recoverable by applying state-of-the-art CO<sub>2</sub>-EOR technologies.” Given the increased interest in carbon capture and sequestration, CO<sub>2</sub>-EOR offers the potential to sequester the carbon dioxide while increasing American oil production. Currently, the oil price threshold for the EOR tax credit has been exceeded and the oil value is considered adequate to justify the EOR efforts. However, at lower prices EOR becomes uneconomic and these costly wells would be shutdown. The EOR tax credit was enacted in 1990 and provides the potential to maintain important US oil production by supporting the development of these wells in low price periods.

*Tertiary Injectants Deduction* – In addition to repealing the Enhanced Oil Recovery tax credit, the budget request would repeal the current deduction for the cost of the injectants – such as carbon dioxide. The costs for injectants, such as carbon dioxide, are legitimate annual expenses comparable to a farmer being able to deduct the cost of fertilizer that is used to increase crop yields.

*Manufacturing Tax Deduction* – Congress enacted this provision in 2004 to encourage development of American jobs. All US manufacturers benefitted from the deduction until 2008 when the oil and natural gas industry was restricted to a six percent deduction while other manufacturers grow to a nine percent deduction. While many producers' deductions are capped by the payroll limitation in the law, it is another tax provision that provides capital to America's independent producers to invest in new production.

Taken together, these tax changes are projected to raise about \$36 billion over a ten year period from 2011 through 2020. The Administration justifies its proposals based on two flawed rationales. First, each provision "... like other oil and gas preferences the Administration proposes to repeal, distorts markets by encouraging more investment in the oil and gas industry than would occur under a neutral system." Second, to the extent that each provision "... encourages overproduction of oil, it is detrimental to long-term energy security and is also inconsistent with the Administration's policy of reducing carbon emissions and encouraging the use of renewable energy sources through a cap-and-trade program."

The first issue is not unique to natural gas and oil tax provisions or to the tax code generally. For natural gas and oil production, these tax provisions are intended to encourage the development of American resources; they were never intended to be neutral. More broadly, these provisions reflect business tax policy that is consistent with comparable treatment of other energy sources. In its report, *Federal Financial Interventions and Subsidies in Energy Markets 2007*, the Energy Information Administration (EIA) assesses the federal government's support for energy sources. As the following tables show, EIA demonstrates that natural gas and oil federal treatment is comparable to other major energy sources on a total basis and is well below other sources on a unit basis. The Obama Administration's first justification is simply an inaccurate characterization of the nature of federal energy tax policies that have been crafted over decades by the Congress.

Beneficiary	Direct Expenditures	Tax Expenditures	Research & Development	Federal Electricity Support	Total
<b>2007 Subsidies</b>					
Coal	-	290	574	89	932
Refined Coal <sup>1</sup>	-	2,370	-	-	2,370
Natural Gas and Petroleum Liquids	-	2,090	39	20	2,149
Nuclear	-	199	922	148	1,267
Renewables	5	3,970	727	173	4,875
Electricity (Not fuel specific)	-	735	140	360	1,235
End Use	2,290	120	418	-	2,828
Conservation	256	670	-	-	926
<b>Total</b>	<b>2,550</b>	<b>10,444</b>	<b>2,819</b>	<b>767</b>	<b>16,581</b>

Energy	Fuel Consumption (quadrillion Btu)	Alternative Measures of Subsidy and Support		Fuel End Use	FY 2007 Net Generation (billion kWh)	Alternative Measures of Subsidy and Support	
		FY 2007 Subsidy and Support (billion dollars)	Subsidy per unit of energy (¢/kWh)			Subsidy and Support Per Unit of Production (¢/kWh or ¢/MWh)	Subsidy per unit of output (¢/kWh or ¢/MWh)
Coal	1.85	78	0.04	Coal	1,816	88	0.04
Natural Gas	9.16	214	1.25	Natural Gas	72	0.165	20.41
Natural Gas and Petroleum Liquids	34.76	1,167	0.63	Natural Gas and Petroleum Liquids	939	87	0.05
Petroleum Products	0.57	3,345	5.70	Nuclear	734	1,057	1.45
Biochemical	0.04	1	0.02	Biomass (incl. Biogas)	45	14	0.86
Solar	0.07	184	2.82	Geothermal	10	14	0.95
Other Renewable	2.82	200	0.11	Hydroelectric	228	174	0.67
Hydrogen	-	222	1.81	Solar <sup>1</sup>	1	14	20.41
Total Fuel Subsidy <sup>2</sup>	60.95	8,207	0.13	Wind	31	114	82.37
Total Non-Fuel Subsidy	161	1,357	1.84	Wave	0	0	0.00
Total End Use and Non-Electric Energy	161	9,564	1.84	Geothermal (non-electric)	1	1	0.12
				Small Scale Hydropower	244	27	1.04
				Renewable (incl. wind)	180	1,088	2.82
				Transmission and Distribution	161	1,015	6.01
				Total	4,231	6,917	1.65

The Administration's second rationale is similarly irrational. Production of American oil and natural gas serves the nation's goal of improving its energy security. Production of American oil and natural gas has been regulated to assure that wells are limited to volumes that conserve the long term production of its reservoir. These limitations have been entrenched since the mid-1930s. Current production reflects the need for American production to be maximized and nothing suggests that it should not be. Similarly, the Administration's climate goals of reducing carbon emissions and encouraging the use of renewable energy sources are enhanced by American natural gas and oil production. Natural gas is a clean, abundant, affordable and American resource that must be a part of any climate initiative. Oil will continue to be a key component of America's energy supply for the foreseeable future and any policies should rely first on American oil rather than foreign sources.

The Administration's revenue estimates raise significant and unanswered questions. Two of them, in particular, stand out. For example, the IDC revenue estimate shows significant revenue changes over the estimating period. The 2011 revenue number is \$1.202 billion but by 2020 the number is \$310 million. Perhaps, this reflects the dramatic reduction in American drilling activity that IPAA's members have projected. If so, substantial questions need to be answered regarding the impact on American production, the issue raised earlier in this testimony. Similarly, the estimates on revenues related to eliminating percentage depletion show increases

from \$522 million in 2011 to \$1.226 billion by 2020. Interpreting the implications of increasing revenue estimates is tricky. What can be said is that they reflect either increased tax collections from the industry affected or a shift in investment from that industry to another where a higher tax rate exists. Based on IPAA's assessments of the implications of these tax changes on American natural gas and oil production investment and operation, these revenue increases would reflect the consequences of significantly reduced investment in American resources – a path that America should not take.

And, this reality raises more fundamental questions about the broader implications of these tax proposals. Over the ten year period of this proposal, the revenues from all of these provisions would average less than \$4 billion annually. In August 2009, the Energy Policy Research Foundation, Inc. (EPRINC) released an analysis, *Do Higher Oil and Gas Taxes Pose a Threat to U.S. Energy Security?*, that addresses issues related to the Obama Administration tax proposals. It concludes, in part, that:

Using existing U.S. government evaluations of the financial cost of imported oil, increased tax revenues forecasted from the removal of upstream production incentives will be offset through lost domestic production as a result of lower investment in domestic exploration and development. Much of the production loss occurs from the accelerated closure of marginal wells, which are particularly reliant on free cash flow to sustain operations, as a result of the repeal of percentage depletion. The tax proposals will also lead to greater emissions of GHGs as domestic natural gas production is curtailed in favor of greater coal use in the generation of electricity – at least in the very near term. Finally, recent

reforms in corporate tax treatment to place U.S. manufacturers on a level playing field with foreign manufacturers would be repealed for the petroleum sector only. These new taxes would assist foreign refiners in gaining greater market share of the domestic market. The share of the U.S. gasoline market now claimed by foreign refiners has doubled over the last nine years and likely will continue to grow as refiners face higher costs from the loss of the manufacturers tax credit.

In the analysis, EPRINC indicates that “the incremental benefit of reducing oil imports by 1 barrel is worth \$14.70.” Thus, if American oil production is reduced by about 745,000 barrels per day as a result of these tax provisions, the cost to the nation of the increased imports would offset the increased revenues. EIA estimates that marginal oil wells produced 864,000 barrels per day in 2008; this production would be lost. Clearly, the economic consequences of the Administration’s tax proposals forcing the closure of America’s marginal oil wells – *without even addressing the impacts of losing America’s marginal natural gas wells and the reduction in drilling affecting new production* – would exceed the revenue expectations of the total tax changes.

As President Obama has said:

The energy challenges our country faces are severe and have gone unaddressed for far too long. Our addiction to foreign oil doesn't just undermine our national security and wreak havoc on our environment – it cripples our economy and strains the budgets of working families all across America.

America needs an energy policy that recognizes the roles that all forms of energy supply can play. American natural gas and oil are essential elements – natural gas should be part of any clean energy initiative; natural gas and oil should be part of any energy security strategy. The Administration's budget request could cripple the American producers that are pivotal in developing US natural gas and oil.

**James Sebesta, Letter****Hearing on Energy Tax Incentives Driving the Green Job Economy**

James J Sebesta,  
Registered Professional Engineer  
Bloomington, MN

The House Committee on Way and Means hearing on Effectiveness of Current Energy Tax  
Policy

Honorable Committee:

It is admirable and timely that the Committee reviews the effectiveness of the current policy and how it applies as a means and method for encouraging investment in renewable energy and energy efficiency incentives for the United States of America.

A little background on myself, I currently work with the AKF Group, one of the largest Building System Consulting Engineering Companies in the United States and headquartered in New York.

Prior to joining AKF, I was founder and CEO of Sebesta Blomberg which grew from a start-up in 1994 to a \$35 million dollar national engineering and commissioning firm with headquarters in Roseville, MN and offices in several cities throughout the US.

Over the past two years I spent significant time working with the University of Minnesota Venture Center as CEO in Residence focusing on emerging technologies in the green and renewable energy arena, assembled a start-up wind development in SE Minnesota which is currently developing interconnect and power purchase agreements, served on the Board of a start-up solar PV development company in North Carolina which is finalizing the financing for its first project in Marion, NC, worked part time for the Midwestern Higher Education Compact, which is a not-for-profit instrumentality of the twelve state compact membership to assist Higher Education Institutions reduce costs through various purchasing and advisory services. I also serve as business representative on the Minnesota Department of Health Heart Disease and Stroke Prevention Steering Committee Force and have served on the Minnesota State Department of Commerce Hydrogen Initiative committee.

That being said, I have experienced firsthand on various projects, the inability to secure private investment for many small distributed renewable energy projects as a result of the current policy and regulation relative to how investments in renewable energy are treated in the Tax Codes. The foundation of this Country is built on investment by individuals in projects and companies and the ability of the investors to all receive a reasonable return for the risk of the investment. The current tax code in reality leaves out and discourages a very large segment of the population as potential investors in small and medium scale commercial solar, wind and biomass projects. This is the result of the tax code which currently classifies and limits the tax benefit for individual tax payers due to the classification as "Passive Investors". This simple item results in deferring of the losses in the early years of project operation caused by depreciation and accelerated depreciation through the normal life of the project or until such time as the project is sold to a new investor. Given a significant opportunity to open a new and very large pool of funds to investments in these types of project, the industry would see a significant increase in

demand for green energy manufactured material as well as an increase in jobs associated with implementing and installing these projects. This fact alone has been the sole reason contributing to an inability to finance renewable energy projects by individual investors.

I strongly encourage you Committee to review methods for allowing individual investors the same tax opportunities these projects offer corporations. This alone, I believe, would spur significant investment in the Administration's vision of expanding small scale and distributed distribution of energy including electricity through for opportunities that develop solar, biomass and wind energy projects in the United States.

Thank you for this opportunity to provide comments for your Committee.

Respectfully Submitted,

James J Sebesta, PE



**Large Public Power Council, Statement**



The Large Public Power Council

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**Statement of the  
Large Public Power Council  
for the Record of the Hearing Titled  
“Energy Tax Incentives Driving the Green Job Economy”  
House Committee on Ways and Means**

**Submitted: April 28, 2010**

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Austin Energy (TX) • Cheilan County PUD (WA) • CPS Energy (TX) • Clark Public Utilities (WA) • Colorado Springs Utilities (CO)  
ID (CA) • JEA (FL) • Long Island Power Authority (NY) • Los Angeles Department of Water and Power (CA) • Lower Colorado River Authority (TX)  
MEAG Power (GA) • Nebraska Public Power District (NE) • New York Power Authority (NY) • Omaha Public Power District (NE) • OUC (FL)  
Plate River Power Authority (CO) • Puerto Rico Electric Power Authority (PR) • Sacramento Municipal Utility District (CA) • Salt River Project (AZ)  
Santee Cooper (SC) • Seattle City Light (WA) • Snohomish County PUD (WA) • Tacoma Public Utilities (WA)

The Large Public Power Council ("LPPC") is pleased to submit its testimony to the Ways and Means Committee in connection with its hearing titled "Energy Tax Incentives Driving the Green Job Economy" to provide the Committee with the LPPC's views concerning federal tax law incentives for the provision of electricity from renewable and other resources.

The Large Public Power Council is an organization representing 23 of the largest locally owned and operated not-for-profit electric systems in the nation. LPPC members are located in 10 states and Puerto Rico and provide electric service to most of the 45 million people served by public power. Over 75,000 megawatts of generation capacity is owned and operated by LPPC members.

LPPC and its members are committed to being in the forefront of the use of renewable resources and other technologies to address climate change concerns. In fact, LPPC's members have identified over 6600MW in renewable projects currently under consideration, including technologies ranging from wind and solar to hydropower, biomass and landfill gas. These renewable projects are estimated to create some 6800 direct jobs as well as related manufacturing and construction jobs over the lives of the projects. At the present time, renewable generation is often more expensive than conventional sources. Congress has recognized the importance of federal assistance to help deploy large-scale renewable projects in the most beneficial and affordable way to electric customers, and has utilized the tax code to incentivize construction of renewable projects.

However, despite facing many of the same financial challenges and renewable mandates as private utilities, public power and cooperatives are not eligible for the most beneficial federal incentives, such as the production tax credit and the Section 1603 Treasury grant program. Recognizing this disadvantage to public power and cooperative customers and to encourage the further development of renewable energy projects, the Congress created the Clean Energy Renewable Bonds ("CREBs") program. Unfortunately, the restrictive cap on CREBs and lack of available comparable incentives (such as the Section 1603 grant program) make the economics of these renewable projects too expensive for direct public power ownership and force these entities to obtain renewable resources by dealing with a third party owner who is able to take advantage of the federal incentive programs even though 100% of the benefits are not passed along to the public power system. In fact, data collected by the LPPC shows that over 90% of public power's projects are being done this way, even though the federal subsidy is not fully passed through to public power and the operational benefits of owning and operating the facilities are not gained. Using third party owners results in a large portion of the federal subsidies being lost and delays getting jobs on the ground. It takes months of administrative and legal time to review and negotiate the third party contracts. Cutting out this intermediary would significantly expedite the process of constructing renewable projects in the United States.

In short, it is critical that Congress provide all sectors of the utility industry with the tools needed so that it can help to solve the nation's energy problems while creating thousands of jobs. As described in detail below, the LPPC urges Congress to either (1) extend the Section 1603 grant program for renewable energy facilities created as part of the American Recovery and Reinvestment Act of 2009 ("ARRA") and make this program available to public power systems, or (2) remove the restrictive cap on the CREBs program.

**Tax credits and grants for electric generation**

Congress has enacted several tax credits for different types of electric generation facilities. First, as indicated above, the Internal Revenue Code provides a 1.5 cents per kilowatt production tax credit (indexed for inflation) for qualifying renewable energy facilities and a 1.8 cents per kilowatt production tax credit (indexed for inflation) for qualifying advanced nuclear facilities. As part of ARRA, Congress recognized that tax credit programs can have significant limitations, particularly during difficult economic periods. Under new the Section 1603 of ARRA, Congress provided owners of renewable energy projects with the ability to obtain a 30 percent grant from the Department of Energy in lieu of a tax credit. As both the Treasury and Energy Departments testified, this program has been enormously successful. Unfortunately, this grant program was made inapplicable to public power systems and electric cooperatives. The combination of the success of the Section 1603 grant program and, before that, the production tax credit, and the limitations of the CREBs program have resulted in public power systems overwhelmingly turning to structures in which a private entity owns the renewable energy project and sells the electricity to the public power system under a power purchase agreement ("PPA"). There are many difficulties with these PPA structures. As much as 1/3 of the federal subsidy dollars are retained by the private intermediary and, as a result, are not used for the renewable project receiving the grant. Thus, for every dollar of federal assistance provided, only 70 cents is used for that renewable energy facility. The remainder of the grant is not certain to be reinvested in renewable projects in the United States. The inefficiency of the PPA structure would be eliminated if public power and cooperatives had direct access to the Section 1603 grant program and US tax payer dollars and jobs would stay within the United States.

**Clean Renewable Energy Bonds**

For many years, the Internal Revenue Code has provided a production tax credit for renewable energy projects with no corresponding provision to assist public power systems and cooperatives in building renewable generation. Congress sought to provide public power and cooperatives with an incentive that is relatively comparable to the production tax credit. As part of the Energy Policy Act of 2005 (the "Energy Policy Act"), Congress provided for the issuance of clean renewable energy bonds which were intended to provide qualifying borrowers with low-rate loans to finance their renewable energy projects.

The Large Public Power Council is very appreciative of the incremental improvements to the program that have improved the marketability of the CREBs, however, there remain restrictions on CREBs that substantially reduce its effectiveness. Most significantly, the CREBs program has a volume cap that ensures that only a small fraction of the qualifying projects of public power systems benefit from CREBs. In contrast, there are no volume limitations on the projects that are eligible for the production tax credit or the Section 1603 grant program. Introduction of a cap to the program creates both financial and planning challenges. From a financial standpoint, the cap has restricted the ability for utilities to finance an entire project with CREBs. In fact, the volume cap is set at such a restrictive level that a single public power system could use the entire cap. To date, the CREBs volume cap provided by the Congress has been dramatically oversubscribed by public power, even with many systems requesting only a small fraction of their renewable project requirements and many systems not bothering to apply at all. The fact is

that an allocation of CREBs authority that is not large enough to finance an entire project does not compare financially to a privately owned PPA structure. Both publicly available data and LPPC's survey of its members plans bear this out: public power systems have almost always used PPA structures because, despite the inefficiencies and other problems, these structures are the lowest cost method of financing renewable energy projects.

The recently enacted changes to the CREBs program to provide direct payments to CREBs issuers similar to the Build America Bonds program (in lieu of tax credits to the investors) is a very beneficial change. With this change, the marketability challenges have been alleviated and the restrictive cap is the primary issue reducing the effectiveness of the program.

#### **LPPC's recommendations**

LPPC strongly believes that the electric industry needs to be provided with the appropriate tools to increase the use of renewable resources, to help solve the problems associated with climate change, and to create new, "green" jobs that are located in the United States. We believe that the following steps should be taken: extend the sunset date on the Section 1603 grant program and extend the grant program to apply to public power and cooperatives; or eliminate the volume cap on CREBs. If the CREBs program is expanded in this manner, we suggest that governmental entities other than public power systems be made ineligible for the program given that those entities have the ability to issue qualified energy conservation bonds. In contrast to other governmental entities, public power systems have a legal obligation to serve their customers and, as a result, must plan for the needs of their customers and invest in the new facilities to meet those needs. Direct access to the federal grant program and uncapping CREBs would enable LPPC's members to develop and own their own renewable energy projects, help combat global climate change, create more reliability of the system and reduce the costs to consumers by maximizing the value of the grants. This would create thousands of additional US jobs getting them on the ground quicker and in a more efficient manner.

#### **Other energy resources**

As important to the Nation's future as renewable energy is, it is also clear that other types of electric generation will be needed to meet the demand for electricity, while doing so in a more environmentally sensitive manner than has been used in the past. At least for the foreseeable future, these other technologies will be more costly than more traditional forms of electric generation. Congress recognized these factors in enacting tax credits for clean coal, IGCC, and advanced nuclear generation. As with the Section 1603 grants for renewable energy projects, these tax credits are not available to public power and cooperatives. Public power systems are involved in most of the nuclear projects currently moving forward and face the same increased financial risk as the private companies. Ensuring that all sectors of the industry are incented and aided equally is critical.



**Marathon Engine Systems, Statement**



FOR APPROVAL

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**MARATHON ENGINE SYSTEMS ADVOCATES FOR LEGISLATION  
TO STRENGTHEN US MANUFACTURING COMPETITIVENESS**

*Measures would cut costs for American manufacturers, create up to one million jobs  
and slash greenhouse gas emissions*

(WASHINGTON, DC) – April 12, 2010 – Marathon Engine Systems joined more than 80 business, labor, environmental, and government organizations today in urging Congress to adopt new tax policy to enhance industrial energy efficiency in order to simultaneously increase manufacturing competitiveness, create jobs, and reduce pollution.

Marathon Engine Systems and other supporters today sent letters to the Senate Finance Committee and the House Ways and Means Committee asking for tax credits to expand use of combined heat and power (CHP) and waste energy recovery, which would vastly improve energy efficiency. While often overlooked in the search for improved efficiency, manufacturers consume vast quantities of energy, usually finding it to be one of their largest production costs. Indeed, these technologies often double the efficiency of an industrial plant and other large energy users.

Marathon Engine Systems is in the unique position to be one of a handful of companies that manufacture a small scale cogeneration appliance (microcogen) in the United States. Our company in Wisconsin supplies engines to our European Partner for such a product as well as supports our efforts to market this exceptional technology in the US and Canada---- as well the rest of the world. Marathon Engine and our subcontracting sister company HyPro, employ over 600 jobs in Wisconsin. This technology is over 86% efficient and runs on clean burning natural gas or propane and has applications in residences, small commercial environments, as well as schools and municipal buildings. There are over 100,000 of these microcogeneration units in place all over the world. *It could be considered the energy of the future.*

Supporters of industrial energy efficiency are asking for passage of the bipartisan S. 1639 (sponsored by Senators Jeff Bingaman, D-NM, and Olympia Snowe, R-ME) as well as H.R. 4144 (Rep. Jay Inslee, D-WA) and H.R. 4751 (Rep. Paul Tonko, D-NY) to encourage near-term, shovel-ready projects that will create and maintain thousands of jobs within the industrial sector and in the manufacture, installation and operation of CHP and waste energy recovery equipment.

According to the Oak Ridge National Laboratory, a large-scale expansion of CHP could provide 20 percent of U.S. generating capacity by 2030, generate \$234 billion in new investment, and create nearly one million highly skilled, technical jobs throughout the U.S. Such an expansion would reduce CO<sub>2</sub> emissions by more than 800 million tons per year, the equivalent of taking more than half the current U.S. passenger vehicles off the road.

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"The industrial sector is a huge consumer of power, yet doesn't get sufficient attention in the quest for energy efficiency. Manufacturers that recycle their waste energy are typically able to cut their energy expenses by about 20 percent, reaping huge savings on a core operating cost while drastically reducing greenhouse gas emissions," explained Tom Casten, a founder of the U.S. Clean Heat and Power Association (USCHPA), and chairman of Recycled Energy Development, a longtime proponent of CHP and waste energy recovery.

Waste energy recovery, which captures waste energy from industrial facilities, now receives no tax benefits. CHP, a process by which manufacturers generate electricity and heat on site, obtains only a 10 percent investment tax credit for the first 15 megawatts of a project limited to 50 megawatts in size. The bills now in the House and Senate would remove the limitation to small projects and apply the tax credit to a project's first 25 megawatts (S. 1639 and H.R. 4144), as well provide a 30 percent credit for recycled energy and CHP with efficiencies above 70 percent (H.R. 4751).

Supporters of the legislation include:

**Business**

Capstone Turbines Corporation  
 Caterpillar  
 Cummins Power Generation  
 Dow Chemical  
 Fluor  
 GE Energy  
 Ingersoll Rand  
 Libbey Glass Inc.  
 LS Power  
 Mosaic Company  
 Ormat  
 PPG Industries  
 Primary Energy  
 Saint-Gobain Containers  
 Solar Turbines  
 United Technologies Corporation  
 Veolia Energy North America Holdings  
 ACCO Engineered Systems (California, Washington, Idaho, Nevada)  
 ACR Sheet Metal Company  
 Avalon Consulting, Inc. (Illinois)  
 BHP Energy (Ohio)  
 Calnetix Power Solution, Inc. (Florida)  
 Charles P. Blouin Inc. (New Hampshire)  
 Circle "R" Mechanical, Inc. (Indiana)

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Climate Energy (Massachusetts)  
DCO Energy (New Jersey)

Dresser-Rand/Aircogen (Massachusetts)  
Earthwise Energy Technologies (Rhode Island)  
E-Finity Distributed Generation (Pennsylvania)  
ECR International (New York)  
Endurant Energy LLC (Illinois)  
Energenic LLC (New Jersey)  
Energy Solutions Center (Washington, D.C.)  
Ernest D. Menold, Inc (Pennsylvania)  
Five Star Electric Motors (Texas)  
GEM Inc. (Ohio and Georgia)  
KGRA Energy Corporation (Illinois)  
Interstate Power Solutions (Missouri)  
Lewis and Lambert Industries, Inc. (Texas)  
Marathon Engine Systems (Wisconsin)  
National Heating & Ventilating (New Mexico)  
NV Energy (Nevada)  
New Loop Energy (Illinois)  
Melrose Metal Products (California)  
Midwest Fabricators, LLC

**Contractor and Industry Associations**

American Chemistry Council  
American Forest and Paper Association  
The Association of Union Constructors  
Electricity Consumers Resource Council  
Glass Manufacturing Industry Council  
International District Energy Association  
Mechanical Contractors Association of America  
National Council for Advanced Manufacturing  
National Electrical Contractors Association  
Sheet Metal and Air Conditioning Contractors' National Association  
Steel Founders' Society of America  
U.S. Clean Heat and Power Association

**Labor**

International Brotherhood of Boilermakers  
Sheet Metal Workers International Association

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**Environmental/Government/Non-Profit**

Alliance to Save Energy  
Association of State Energy Research & Technology Transfer Institutions  
Business Council for Sustainable Energy  
Center for American Progress Action Fund  
Energy Future Coalition

We at Marathon Engine Systems encourage to pass this important piece of legislation.

Regards,

Mike Cocking  
Marathon Engine Systems  
East Troy, Wisconsin

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**Michael R. Splinter, Statement**

**Statement for the Record of Michael R. Splinter  
Chairman of the Board of Directors, President and CEO, Applied Materials, Inc.  
House Committee on Ways and Means  
Hearing on Energy Tax Incentives Driving the Green Job Economy  
April 14, 2010**

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Chairman Levin, Ranking Member Camp and Members of the Committee, I am Mike Splinter, Chairman of the Board of Directors, President and Chief Executive Officer of Applied Materials. I want to thank you both for all the work you have done on this incredibly important topic and further thank you for the opportunity to share my perspective on the need for action.

I have spent the past 30 years working within the semiconductor industry, and since joining Applied Materials in 2003, our company has achieved record growth. We are currently the world's leading supplier of solar photovoltaic (PV) manufacturing equipment, offering systems for both thin film and crystalline silicon solar products. Our primary goal is to help solar manufacturers drive down cost per watt to rapidly grow the solar industry and make solar electric power increasingly affordable for everyone, everywhere. Applied employs more than 12,000 people worldwide, with more than 2,200 people dedicated to solar alone.

The simple reason why we have devoted tremendous resources to our solar product line is that renewable energy is going to be the biggest creator of jobs and economic development for this century. Solar energy creates more jobs per megawatt of energy produced than any other form of energy. The monumental question is which countries will invest the resources to benefit from this massive potential? In twenty years, who will be the Saudi Arabia of solar?

The answer to that question lies with two words: scale and demand. Which countries can get significant scale in their manufacturing of this technology and, in turn, drive down cost and open new market opportunities? And, which countries will generate the demand that will allow that scale to happen? Those countries that lead will create thousands of clean-energy producing jobs for generations to come. With our demand for electricity, highly skilled workforce and culture of innovation, there is no reason that the United States can't achieve both.

**Global Landscape**

It is clear that the United States' global competitors have fully grasped the potential that renewable energy holds in the forms of job creation, energy security, and global economic leadership. Many countries in Europe and Asia are racing to create domestic demand for solar cells and to attract solar manufacturing jobs through sizeable tax benefit programs and forward thinking policy initiatives.

These innovative policies throughout the globe have created significant market demand for renewable power and the manufacturing base to support the next generation of job growth. More than 90 percent of worldwide PV panel production occurs outside the United States. In 2007, Japan was the world's largest PV solar cell producer, manufacturing nearly 1 GW each

year. China was the second largest PV producer, followed by Germany, Taiwan, and the United States in fifth place producing 266 MW, nearly one-quarter the amount produced by Japan.

About three-fourths of global PV production is being deployed in Europe, where government renewable energy targets and feed-in tariffs (FiTs) have spurred PV system installations and industry growth. For example, Germany's policies have created jobs, technology advancements, and a solar industry unparalleled in the world. Other countries – such as Spain, France, Italy and Greece – have shown that, by stepping up their policy and market development efforts, they too can be successful at securing vast job growth and tapping into the sector's upward trajectory.

Yet while other countries are leveraging renewable energy policies to create growth, the United States is stagnating, and ultimately losing the global race for solar manufacturing jobs. Ten years ago the United States accounted for 40 percent of worldwide solar manufacturing. Today that figure is less than 10 percent. In California, one state with steady growth in the domestic market, the share of Chinese-made panels has grown from 2 percent to 46 percent in the past three years, with their market share doubling in 2009 alone. Over the same three-year period, the market share of U.S.-made panels fell from 43 percent to 16 percent.

#### **U.S. Growth: Where We Need to Go**

With the cost-per-watt of solar energy falling, the industry is at an inflection point on where to scale and create both manufacturing volume and corresponding job growth. U.S. leadership in renewable energy will succeed or fail based on our ability to create the demand, drive scale, and unleash American innovation that will strengthen our country's competitive position and put tens of thousands of Americans back to work building the clean energy solutions our society needs.

In order to ensure the United States locks in the benefits from job creation, technological leadership, economic growth, and enhanced energy security through the expansion of solar, Congress must put forward-thinking policies in place that demonstrate that America is ready to lead – and win – in the global race for clean and secure energy.

***First, to continue building on the short-term job creation enabled by the American Reinvestment and Recovery Act of 2009 (ARRA), I urge you to increase funding for the Advanced Energy Manufacturing Tax Credit (Section 48C).*** The ARRA authorized \$2.3 billion in tax credits for qualified investments in advanced energy projects, to support new, expanded, or re-equipped domestic manufacturing facilities. The program provided a 30-percent credit for investments in new, expanded, or re-equipped advanced energy manufacturing projects and combined with nearly \$5.4 billion in private capital, the 48C program will support 183 projects in 43 states. The program is expected to create more than 17,000 jobs through Recovery Act funds and up to 41,000 additional jobs via private investment.

Because the highly competitive 48C program generated far more interest than anticipated, both the Departments of Energy and Treasury have a substantial backlog of technically

acceptable applications and “a deep pipeline of high quality clean energy manufacturing opportunities in the U.S.,” according to senior Administration officials. More than 500 applications were received, with tax credit requests totaling over \$8 billion, representing a greater than 3-to-1 oversubscription.

The deep bench of high quality applications further demonstrates the need – both for U.S. leadership in clean energy verticals and for capital assistance in continually tight credit markets. Because of that, I urge you to support President Obama’s call for an additional \$5 billion to be added to this program for additional solicitation rounds. While the original intent to provide a short-term infusion of capital was extremely helpful to the industry, more needs to be done in order to guarantee that jobs stay in the United States.

***Second, to give solar manufacturers the investment certainty needed to keep growing jobs in the United States in the long term, I urge you to make solar manufacturing equipment eligible under the Section 48 Investment Tax Credit (ITC).***

As noted above, solar energy creates more jobs per megawatt of energy produced than any other form of energy. However, solar panel manufacturing is far more capital intensive than other renewable energy generating property, and the equipment is by far the largest single expense of locating a solar facility. An improved tax incentive for solar manufacturing will greatly help the United States compete and ensure a strong domestic solar manufacturing base and maximize renewable energy job growth.

I applaud recent efforts in the House and Senate to make solar manufacturing equipment eligible under Section 48 of the ITC. The Solar Manufacturing Jobs Creation Act, H.R. 4085 (Representatives Thompson, Camp, Doggett, Tiberi) and S. 2755 (Senators Menendez, Stabenow) would make equipment used to manufacture solar energy eligible under the ITC and allow a 30-percent credit for investments in equipment placed in service in U.S. manufacturing facilities before January 1, 2017.

Expanding this credit would mean thousands of good paying domestic jobs. The Solar Energy Industry Association (SEIA) estimates expansion of the credit would create 24,000 permanent manufacturing jobs by 2012 and 72,000 permanent jobs by 2016. As new factories come online, thousands more additional jobs could be expected indirectly through equipment purchases, material supplies and services.

The solar manufacturing equipment market has grown from about \$530 million in 2004 to \$4.7 billion in 2008, a compounded annual growth rate of 72.5 percent. This market could easily top \$15 billion by 2013 and has the potential to drive PV solar to grid parity. Congress needs to act this year to ensure solar manufacturing equipment is eligible for the ITC to ensure that the U.S. can benefit from the expanding market. If we don’t act, we risk further losing this critical market.

#### **A Brighter Future, A Solar Future**

As the solar industry decides where to scale and in which countries to create massive job growth, the U.S. is faced with a significant opportunity. If our nation hopes to benefit from the global shift toward clean energy, we must ensure that our policies work to support domestic solar manufacturing so that we can lock in hundreds of thousands of jobs and drive future sector growth and maturity. A combination of short-term funding for the Advanced Energy Manufacturing Tax Credit paired with expansion of the ITC to include solar manufacturing equipment, will build out the sector, create market demand and certainty, and signal that the U.S. is serious about leading the next era of manufacturing.

For Applied Materials, enacting innovative tax initiatives outlined above mean more demand, greater scale in manufacturing and therefore more investment by Applied and our customers in U.S. jobs and infrastructure.

Thank you for your consideration. If I can ever be of assistance please do not hesitate to contact me.



**National Commission on Energy Policy, Letter**



April 27, 2010

The Honorable Sander M. Levin  
Committee on Ways and Means  
US House of Representatives  
Washington, DC 20515

Ranking Member Dave Camp  
Committee on Ways and Means  
US House of Representatives  
Washington, DC 20515

As energy and budgetary policies continue to be debated, the National Commission on Energy Policy has been examining the most effective incentive mechanisms for renewable energy. This analysis is not yet complete, and we look forward to sharing our results with the Committee when they are ready. However, in the interim, we submit this recent analysis that we commissioned from Bloomberg's New Energy Finance analyzing the effectiveness of the tax credits currently in place. We look forward to working more with the Committee as our efforts develop and would be happy to answer any questions related to the materials of this report.

Sincerely,

Sasha Mackler  
Research Director  
National Commission on Energy Policy  
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NCEP is a project of the Bipartisan Policy Center

15 January 2009

## Research Note: US policy

### Cash is king: Shortcomings of US tax credits in subsidizing renewables

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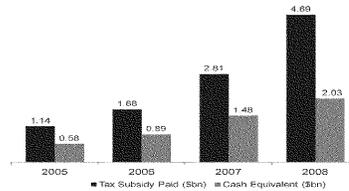
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#### Executive Summary

For over a decade, US clean energy sector growth has relied heavily on federal tax subsidies with the Production Tax Credit and its sister Investment Tax Credit critical to developing wind, solar, and other renewables projects. On occasions when these policies have lapsed, the US market has suffered dearly. But just how efficiently do these subsidies put taxpayer resources to work? Could cash deployed in place of the credits have greater impact? At the request of the bi-partisan National Commission on Energy Policy in Washington, Bloomberg New Energy Finance recently examined these questions. Key findings:

- Deploying cash offers the federal government a substantially higher return on its "investment" in the sector. From 2005-2008, the US installed nearly 19GW of new wind capacity, incurring a liability to the federal government of approximately \$10.3bn in tax credits (net present value).
- The government could have achieved approximately the same results in terms of new capacity additions by deploying \$5bn in cash grants directly at the time of a project's commissioning. One dollar in cash has, on average, gone twice as far as one dollar of tax credits in subsidizing wind. This is partly due to the relatively small number of "tax equity investors" to exploit the credits.
- Whether the gap between cash and tax credit will remain as large going forward remains an open question dictated by a variety of factors. However, under most plausible short-term future scenarios, cash offers US taxpayers a better bang for their buck in spurring new clean energy development compared to the PTC. The one notable exception would be if wholesale electricity prices decline dramatically and remain low for a sustained period.

Figure 1: Total federal government cost of subsidizing US wind with tax credits vs. assumed substitute cost of using cash grants, \$bn



Source: Bloomberg New Energy Finance. Note: Contains numerous assumptions about capacity factors, power prices, debt/equity ratios, tax equity yields, and debt yields. See explanation below.

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**1. A brief history of tax credit financing for US renewables**

**1.1. The old PTC boom-bust cycle**

Established by the 1992 Energy Policy Act, the Production Tax Credit offers owners of clean energy projects tax credits pegged directly to production. Today, for each MWh of electricity a wind project generates, the project's owner receives a \$21 tax credit, which can be applied directly to his tax bill. The incentive is production-based – i.e. the more hours a project produces power, the more dollars in tax credits it generates. The tax credits pay out for the first 10 years of a project's existence and the \$21/MWh benefit rises over time at the rate of inflation.

In the past, the credits could not easily be put to use by developers themselves due to the developers' small size, lack of profitability and, in turn, lack of tax exposure. Thus, third party "tax equity providers" invested in clean energy projects and took their pay outs in the form of the credits, rather than cash. Other investors, typically including the project developers themselves, received whatever cash flows were generated by the wind farm.

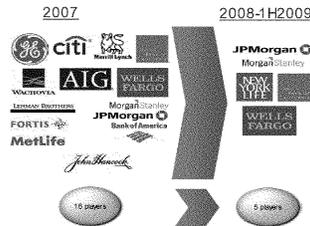
A small, specialized pool of tax equity investors developed, led by JP Morgan Chase and GE Capital. These institutions played a critical role in building the clean energy sector by taking advantage of the PTC's benefits and the benefit of a separate tax-related subsidy, the Modified Accelerated Cost Recovery System (MACRS), which allows developers to depreciate the value of their projects on a five-year timetable.

Since 1999, the PTC has been allowed to lapse by Congress on three separate occasions without being immediately extended. Each lapse resulted in a precipitous drop in wind installations. In 1999, 659MW of new wind went into the ground, according to American Wind Energy Association data. That fell to just 67MW in 2000. Similar drops occurred 2001/2002 and 2003/2004. The PTC is now on the books through 2012 (the ITC is in effect through 2016).

**1.2. The new PTC boom-bust cycle**

By summer 2008, a new and unprecedented PTC problem emerged, related not to Washington but to Wall Street. Financial institutions suddenly found themselves strapped for cash due to the dramatic downturn in the housing market. With most banks posting losses and future profitability in doubt, few were interested in an investment that would only pay out if they had significant tax liabilities for the next ten years. Tax equity capital became sparse and the so-called "tax equity yields" (returns on investment expected by providers and effectively the cost to the borrower) jumped from 6-6.5% to 9% or higher. The number of players providing capital shrank dramatically as well. As the financial crisis deepened in Fall 2008, tax equity capital dried up completely as financial institutions, in essence, lost confidence in their own profitability and, in turn, in their own use of tax credits to offset tax exposure.

Figure 2: Active players in US tax equity investing, 2008-1H2009



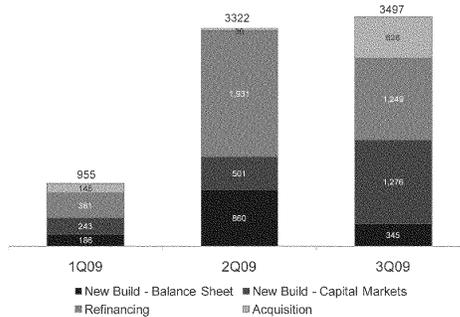
Source: Bloomberg New Energy Finance

The result of this sudden change was almost immediately apparent in the field, where new construction ground to a halt. Back in Washington, the same clean energy advocates that had pushed for extensions of the tax credits returned to Capitol Hill with a new goal of "fixing the PTC".

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Those efforts paid dividends and in February 2009, President Obama signed into law the American Recovery and Reinvestment Act establishing a new grant programme to be administered by the Department of Treasury with assistance from the Department of Energy. In essence, the programme allows developers to receive cash grants from the federal government equal to 30% of their project's CAPEX, if they agree to forgo the benefits of either the PTC or ITC. Rules regarding implementation were promulgated by Treasury in July and the first grants were issued in September. The new grant programme has breathed life into the US project finance market and helped revive asset finance activity, spurring over \$1bn in capital markets activity in the wind sector alone.

Figure 3: 2009 Project financing for US wind, \$m



Source: Bloomberg New Energy Finance Intelligence service

## 2. Cash or (tax) credit?

The sudden challenges confronting the tax credit subsidy system coupled with the new clean energy-friendly Obama administration has prompted some to ask if a new, superior federal policy can be crafted to support renewables in place of the PTC/ITC. Among those contemplating the alternatives is the National Commission on Energy Policy, a bipartisan group of 20 of the nation's leading energy experts, which regularly advises Congress and other key policymakers in Washington.

In November 2009, NCEP contacted Bloomberg New Energy Finance and asked that we examine a much narrower question: *how efficient is the PTC in leveraging private sector investment and spurring clean energy development? What would an equivalent subsidy cost the government if the aid was disbursed in cash, rather than via tax credits?*

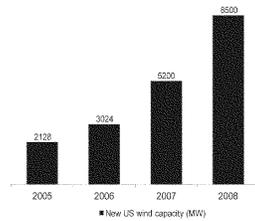
This latter question has become particularly relevant since the advent of the Treasury grant programme, which starts to sunset at the end 2010. Already, clean energy industry advocates are pushing for the grant's extension for a year or two longer. Bloomberg New Energy Finance offers no specific opinions here on that matter and the findings in this paper should not be construed as an endorsement or denouncement that policy.

### 2.1. The cost of the PTC

To determine the relative effectiveness of the PTC, Bloomberg New Energy Finance focused on wind project capacity additions from 2005-2008 when the tax credits and the tax-related MACRS played key roles in spurring development. Exploited completely, these two subsidies eliminate well over half of a typical developer's CAPEX.

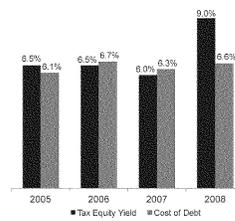
The wind sector enjoyed unprecedented growth over this period with installed capacity rising from 6.7GW at the end of 2004 to 26.4GW by end of 2008.

Figure 4: Wind capacity additions, 2004-08, MW



Source: Bloomberg New Energy Finance Intelligence service

Figure 5: Estimated tax and project finance yields



Source: Bloomberg New Energy Finance Wind Insight service. Note: Tax equity yields and cost of debt differ in that one represents a before-tax cost of capital while the other represents an after-tax cost.

To determine the cost to the federal government of the PTC in a given year, Bloomberg New Energy Finance took the total number of MW of new wind capacity installed then projected out total number of MWs would be generated over a 10-year period, assuming an overall 33% capacity factor. This total was then multiplied by the value of the PTC to determine the government's tax credits liability. The year-on-year growth in the cost of the PTC to the government rose in near direct proportion to the rate at which new capacity was added. In 2005, the government incurred an approximate tax credit liability of \$1.1bn as 2.1GW of new wind was added to the grid. In 2008, the liability rose to \$4.7bn on 8.5GW of new installs. In all, over the four year period, the government incurred a total liability of approximately \$10.3bn on 18.9GW of new wind capacity.

**2.2. "PTC Ridge" vs. "Debt Valley"**

Bloomberg New Energy Finance then sought to estimate how much it might have cost the federal government to subsidize the exact same number of new MW of wind with a simple cash grant subsidy that paid out at a project's commissioning, rather than over time.

This could not be a simplified calculation, for two reasons. First, the project finance structure for a typical wind farm changes dramatically when a cash subsidy is introduced and this has important implications for the project's overall cost of capital. Under a typical PTC finance structure, the tax credit equity investment effectively serves as a proxy for debt capital with the developer making fixed payments at certain yield rates each year to the tax equity provider through the first 10 years of the project's life. When a cash grant is part of the equation, the developer simply borrows from a lender and repays the debt in cash.

Second, the cost of capital for tax equity is different than the cost of capital for straight project debt. As shown in Figure 5, these costs can vary from year to year, sometimes substantially.

In an attempt to create the most relevant analysis, Bloomberg New Energy Finance created financial models for two typical but hypothetical 100MW nameplate capacity wind farms: "PTC Ridge" which exploits all available tax benefits (PTC and the MACRS five-year depreciation) and relies on a combination of tax equity and regular equity for funding; and "Debt Valley", which exploits no tax benefits whatsoever and relies on a combination of straight debt and regular equity.

Table 1: PTC Ridge and Debt Valley compared

	PTC Ridge	Debt Valley
Nameplate Capacity	100MW	100MW
Federal subsidy	Tax credits	Cash equivalent

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	PTC Ridge	Debt Valley
Assumed capacity factor	33%	33%
Electricity price	\$75/MWh	\$75/MWh
Tax Equity or Debt as % of overall CAPEX	60% tax equity	75% debt
Back-leveraged?	Yes	No
Cost of Tax Equity / Debt	Variable -- See Figure 5	

Source: Bloomberg New Energy Finance. Note: Back-leverage indicates that developer takes out debt secured only against his claim to the cashflows to finance his cash equity investment in the project.

In a typical PTC-structured project, tax equity capital represents 60% of CAPEX with regular cash equity making up the balance. By contrast, a project such as Debt Valley receiving an up-front cash grant can lever-up much further. For the sake of this analysis, New Energy Finance assumes a cash-funded project can cover 75% of its CAPEX with debt.

In addition, the cost of these two kinds of capital differs. As shown in Figure 5, tax equity yields demanded by providers ranged between 6-6.5% until 2008 when they spiked 9%, or even higher. It is important to note that the wind project finance market is quite opaque with actual terms of tax equity financings very rarely disclosed. Bloomberg New Energy Finance bases this estimate on its numerous conversations with players within the industry over the relevant years.

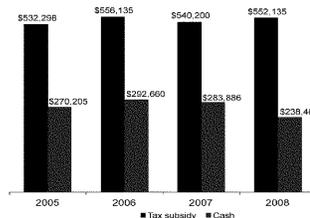
The cost of straight debt for wind projects also varied over those years, but somewhat less dramatically. Because there were few major wind projects financed with straight debt in the US during those years, Bloomberg New Energy Finance has used assumptions based on the cost of capital in the European Union where such financings are common.

**2.3. Matching NPVs**

We then examined the internal rate of return earned by a straight equity investor in PTC Ridge, given all of the assumptions outlined above. In real market conditions, that same investor would have to earn the same return on Debt Valley to consider backing that project. So we asked a simple question: How much government cash would have to be provided to Debt Valley in lieu of the tax credits to allow that investor to earn the same return?

While results varied from year to year somewhat, the basic finding remained the same: substantially less cash was needed than tax credits to provide the equivalent subsidy to the same 100MW wind farm. From those results, we were able to extrapolate the cost to the government of subsidizing 1MW of new capacity with tax credits vs. the theoretical cost of a cash subsidy in years 2004-2008.

**Figure 6: Projected cost to the federal government of adding 1MW new wind capacity**



Source: Bloomberg New Energy Finance PTC Ridge vs. Debt Valley financial model. Note: Tax subsidy includes both PTC and MACRS. Cash figures are estimates.

PTC Ridge and Debt Valley were both intentionally structured to be as typical as possible of US wind farms. Thus, the results from these two projects can be used to generate an overall cost comparison analysis. As shown in Figure 1, the federal government could, theoretically at least, have saved

between \$560m (in 2004) and \$2.66bn (in 2008) had a cash grant subsidy been in place rather than a tax subsidy.

One minor caveat: our PTC Ridge model assumes maximum efficiency in its use of tax credits. In reality, some percentage of the credits generated by projects over a 10-year span may not get put to use by the tax equity investor for various reasons. However, even assuming 20% of all tax credits are left unused, a substantial gap still remains between the efficiency of the PTC and cash grants.

### 3. Implications for future costs

As discussed above, the two financial models built by Bloomberg New Energy Finance to compare the efficiency of the PTC vs. straight cash support from the federal government contain numerous realistic inputs and assumptions based on real world conditions from 2004 to 2008. Looking ahead, virtually all of these are subject to change making predicting the future efficiency of credits a challenge. While cash would have been roughly twice as efficient as tax credits in subsidizing wind over the past four years, on average, there is no certainty that that gap will remain as large in coming years. That said, Bloomberg New Energy Finance believes there is only one somewhat realistically possible short-term future scenario under which the PTC becomes a better deal for taxpayers.

#### 3.1. Sensitivities

While any number of inputs are critical to determining the cost of capital of a given wind project, adjusting most in the Bloomberg New Energy Finance PTC Ridge vs. Debt Valley model have surprisingly little impact on our overall findings about the efficiency of the PTC vs. cash.

Inputs almost certain to change on a look-ahead basis include the costs of tax equity capital vs. debt. As discussed above, estimated tax equity yields demanded by project financiers ranged from 6% to 9% from 2004-2008 while the projected potential cost of debt ranged from 6.1% to 6.7%. The comparative efficiency of the PTC vs. cash widened and narrowed year to year (Figure 6). The gap was narrowest in 2006 and 2007 when cash would have been 1.9 times as efficient for the federal government as the PTC. It was widest in 2008 when cash would have been 2.3 as effective as tax credits.

It should be noted that 2008 was clearly an exceptional year in which capital did not merely become constrained but the very viability of the entire financial system came into question. This created an unusually large 9% to 6.6% gap between the cost of tax equity and the projected cost of debt for US wind projects. Even under these extreme conditions, however, the underlying difference in the efficiency of the PTC vs. cash was not dramatically larger than in more the more "normal" years of 2005-2007.

Similarly, adjusting projected demanded yields for tax credits and debt in future years makes only a relatively minor impact on the amount of federal cash that would be needed to replace the PTC effectively. Bloomberg New Energy Finance projects the US will install roughly 8-10GW of new wind capacity in 2010 resulting in an overall CAPEX of \$15-\$19bn (assuming roughly \$1.9bn/MW). Assuming tax equity and debt costs that are roughly equivalent and a power price of \$75/MWh, the federal government would assume a tax credit liability on these projects of \$4.3-\$5.4bn, on a net present value basis, if all were to be financed with the PTC and MACRS. The equivalent subsidy could be disbursed in cash for \$2.3-\$2.8bn in cash.

(It should be noted that in reality nearly all new wind projects installed in 2010 will not be financed with the PTC. Instead, they will benefit from the Treasury Department's grant-in-lieu-of-credits program, which for wind projects alone will cost the federal government \$4.5-\$5.6bn in 2010. The government will incur a further liability on these projects due to the MACRS accelerated depreciation which these projects will exploit as well.)

#### 3.2. Natural gas, power prices, and implications for federal subsidies

The one factor that could have a major impact on the cost of a properly priced PTC replacement relates to the price at which electricity can be sold from US wind projects. In our base case scenarios for both PTC Ridge and Debt Valley, we assumed all power from either project would be sold for a flat \$75/MWh over 10 years of either project's life. This was a relatively reasonable assumption, given long-term power purchase agreements wind projects have signed with utilities in recent years.

Looking ahead, there is considerable uncertainty about the price at which wind power can be sold, however. The recent economic downturn, coupled with a glut of domestic natural gas is putting downward pressure on wholesale electricity prices overall. The trend has the potential to depress wind power prices in particular and would mean the federal government would have to provide more generous cash supports to match the PTC.

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As illustrated in Figure 7 below, electricity sold from Debt Valley at \$90 requires a federal cash subsidy of \$240,000 per installed MW to match the benefit of the higher cost PTC. If the electricity price drops to \$75, the required cash subsidy rises to \$280,000 per MW. If the price falls to \$60, the projected cost rises to \$440,000.

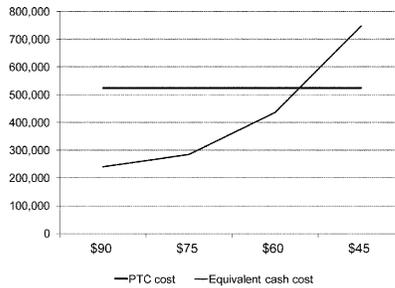
Still, under all three such scenarios, the price of the cash subsidy is less than the approximately \$0.55/MW cost of the PTC. It is not until electricity prices fall to \$54/MWh that the cash subsidy becomes equivalent to the cost of the PTC. In short, only if the US faces a period of substantially lower wholesale power prices does the PTC offer a better a return on investment for the federal government.

It is worth recalling here that the point of the PTC Ridge vs. Debt Valley model comparison discussed was solely to evaluate how much cash would be needed to replicate the value of the PTC under real world conditions where investors expect certain rates of return. It was not to assess the current grant programme which offers a pay-out equal to 30% of a project's CAPEX.

Given that, there is a relatively straightforward reason why more government cash would be needed to match the value of the PTC if natural gas and, in turn, electricity prices were to fall. The PTC (and the other tax benefit, MACRS) essentially represents the fixed part of a project's value since the tax credits are pegged at \$21/MWh and rise with inflation. Cash from electricity sales represents the variable part of a project's value. As a result, if those cash flows diminish, the tax benefits become a larger percentage of the project's overall value.

From the investor's perspective, a project has to offer a justifiable rate of return. Thus, if the cash flows from electricity sales are lower, the benefit offered by the government has to be higher to compensate and offer the same attractive return the project would have had in a higher priced environment.

**Figure 7: Federal cash subsidy required to match PTC impact at various wholesale electricity prices**  
\$/MW



Source: Bloomberg New Energy Finance. Note: The above reflects the amount of federal cash subsidy required to replicate the impact of the PTC for a typical wind project selling its power at \$90, \$75, \$60, or \$45 per MWh. Assumes power sales contracts are long-term with consistent pricing over a 10-year period. Assumes PTC costs, tax equity yield, and debt yields from 2007.

One last important caveat: The sensitivity analysis above does not take into account the potential impact state level renewable portfolio standards can have on the economics of specific wind projects. These RPS generally allow clean energy projects to sell not just the power they generate but also the associated clean energy attributes, typically monetized in the form of renewable energy credits (RECs). Bloomberg New Energy Finance believes that if electricity prices drop dramatically in coming

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15 January 2009

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months and years, operators of wind farms will be able to make up for some significant portion of that shortfall via higher priced REC sales agreements.

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**Nuclear Energy Institute, Statement**TESTIMONY FOR THE RECORD  
NUCLEAR ENERGY INSTITUTE*Before*  
Committee on Ways and Means  
U.S. House of Representatives

Energy Tax Incentives Driving the Green Jobs Economy

April 14, 2010

The Nuclear Energy Institute (NEI) is pleased to provide this statement for the record in support of the April 16, 2010, hearing on energy tax incentives. NEI is responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including regulatory, financial, technical and legislative issues. NEI members include all companies licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

Committee Chairman Levin has expressed his desire to “further drive job creation, economic growth, and reduce our dependence on foreign oil.” Expanding U.S. reliance on nuclear energy addresses all three objectives. Our statement will explain how nuclear energy meets these objectives, and propose some tax incentives that would accelerate nuclear energy expansion in the United States.

**The Need for Nuclear Energy in the “Green” Energy Portfolio**

As the President stated in February at the announcement of the conditional loan guarantee offered to the Vogtle nuclear project: “To meet our growing energy needs and prevent the worst consequences of climate change, we’ll need to increase our supply of nuclear power. It’s that simple ... [I]nvesting in nuclear energy remains a necessary step .... I hope that this announcement underscores both our seriousness in meeting the energy challenge – and our willingness to look at this challenge not as a partisan issue, but as a matter far more important than politics. Because the choices we make will affect not just the next generation, but generations to come.”

All mainstream analyses of climate change show that reducing carbon emissions will require a portfolio of technologies, that nuclear energy must be part of the portfolio, and that expansion of nuclear generating capacity over the next 30-50 years will be essential.

The Energy Information Administration’s analysis of the Waxman-Markey climate change legislation shows that the U.S. would need to build 96 gigawatts of new nuclear generation by 2030 (69 new nuclear plants). This would result in nuclear energy’s supplying 33 percent of U.S. electricity generation, more than any other source of electric power. To the extent the United States cannot deploy new nuclear power plants in these numbers, the cost of electricity, natural gas and carbon allowances will be higher.

We are confident that new nuclear generating capacity will be competitive – particularly in a carbon-constrained world – and we’re not aware of any credible analysis that shows otherwise. In last year’s National Academies’ report on *America’s Energy Future*, new nuclear capacity competes well against all other baseload options in the carbon-constrained world in which we are likely to be living in the future. We see similar results in analyses by the Energy Information Administration, the Brattle Group, the Congressional Budget Office, and the Massachusetts Institute of Technology.

#### **New Nuclear Power Plant Development in the United States**

The U.S. electric sector is preparing for construction of new nuclear power plants to meet growing demand for clean, carbon-free electricity. The U.S. Nuclear Regulatory Commission is currently reviewing license applications from 13 companies for 22 new nuclear reactors. The first of these new nuclear plants will start construction in 2011-2012 and be ready for commercial operation in 2016-2017. NEI estimates that 4-8 new reactors will be in this first wave of new nuclear plant construction, with others following.

Although other nations have continued to build new nuclear power plants (54 nuclear power plants are currently under construction around the world), most of America's 104 nuclear power plants were built in the 1970s and 1980s. Because of the extended hiatus in new nuclear plant construction, America's nuclear supply chain has contracted and U.S. nuclear plant operators must turn to overseas suppliers for major components that were once available in the United States.

#### **Growth in the Nuclear Supply Chain**

The prospect of new nuclear plant construction in the United States represents a major opportunity to expand the U.S. nuclear manufacturing base – to serve both domestic and international markets. American firms are planning to expand their capability to manufacture nuclear-grade components, and to build new manufacturing facilities – in the process, contributing substantially to job creation, economic development and reduction of greenhouse gases. A partial list of the expansion under way in the nuclear supply chain includes:

- Shaw Modular Solutions recently completed construction of a 410,000-square-foot nuclear modularization facility at the Port of Lake Charles, La., that assembles structural, piping, equipment and other modules for new nuclear plants using the Westinghouse AP1000 technology. (Between 700 and 1,400 workers at full capacity.)
- A joint venture of AREVA and Northrop Grumman Shipbuilding is building a new manufacturing and engineering facility in Newport News, Va. The 300,000-square-foot facility represents an investment of more than \$360 million, and will manufacture heavy components, such as reactor vessels, steam generators and pressurizers. (More than 500 skilled hourly and salaried jobs.)
- Alstom is building a new manufacturing facility in Chattanooga, Tenn., to manufacture steam turbines for fossil and nuclear plants, gas turbines, generators and related equipment. The project represents an investment of more than \$200 million. (Approximately 350 jobs.)
- Curtiss Wright Flow Control Company's Electro-Mechanical Division recently opened its 48,000-square-foot, multipurpose Large Manufacturing Complex in Cheswick, Pa. The new facility houses a reactor coolant pump test loop, which is complete and operational. (80 jobs from engineering positions to skilled machinists and assemblers; Curtiss Wright currently employs approximately 750 in Cheswick.)

The expansions at Alstom and Shaw Modular Solutions were both awarded §48C manufacturing tax credits provided by the American Recovery and Reinvestment Act of 2009, illustrating nuclear energy's ability to meet the criteria for advanced energy manufacturing.

New nuclear power plants and fuel cycle facilities both require a broad range of components, including:

- Primary containment system: containment structure, refueling equipment
- Reactor coolant system: reactor vessel, steam generator, pressurizer, reactor coolant pumps
- Electrical equipment: transformers, switch gear, power cable

- Mechanical equipment: piping, valves, valve operators, tanks, sumps and drains
- Instrumentation and control: simulator, process instrument detectors, isolation valves and fittings

As noted, NEI estimates that 4-8 new nuclear reactors will be in commercial operation by 2016-2017. Depending on the reactor design, construction of eight new reactors would require between 4,000 and 24,000 nuclear grade valves, 30-150 miles of nuclear grade piping, 1,000-2,000 pumps, 500-1,300 large and small heat exchangers, more than 1,800 miles of cable, more than 3 million cubic yards of concrete, more than 700,000 electrical components, and 500,000 tons of structural & reinforcing steel.

As these lists demonstrate, expansion in the nuclear manufacturing sector provides opportunities for many companies, large and small, manufacturing a broad range of equipment and commodities.

#### **Job Creation and Economic Growth Provided by Nuclear Energy**

Nuclear energy is one of the few bright spots in the U.S. economy – expanding rather than contracting, creating thousands of jobs over the past few years. Over the last several years, the nuclear industry has invested over \$4 billion in new nuclear plant development, and plans to invest approximately \$8 billion more to be in a position to start construction in 2011-2012.

The investment to date has already created 15,000 jobs over the last two to three years, some of which are described in the supply chain section. These jobs represent a range of opportunities – from skilled craft employment in component manufacturing and plant construction, to engineering and operation of new facilities. The number of new jobs will expand dramatically early in the next decade when the first wave of new nuclear power projects starts construction. If all 26 reactors currently in licensing by the NRC were built, this would result in over 100,000 new jobs to support plant construction and operations, not including additional jobs created downstream in the supply chain. This would be in addition to the 30,000 new hires in the next 10 years to support operation of the existing fleet of plants through the extended license period of 60 years.

For example, construction and operation of a single new nuclear plant creates:

- 1,400 – 1,800 jobs during construction on average (with peak employment as high as 2,400 jobs at certain times)
- Approximately 700 permanent jobs when the plant is operating: These jobs pay 36% more than average salaries in the local area.
- The 700 permanent jobs at the nuclear plant create an equivalent number of additional jobs in the local area to provide the goods and services necessary to support the nuclear plant workforce (e.g., car dealers, dry cleaners, food service).

The average nuclear plant generates approximately \$430 million a year in total output for the local community, and nearly \$40 million per year in total labor income. These figures include both direct and secondary effects. The direct effects include the plant's spending for goods, services and labor. The secondary effects include the subsequent spending attributable to the plant and its employees, as plant expenditures filter through the local economy. Analysis shows that every dollar spent by the average nuclear plant results in the creation of \$1.07 in the local community.

- The average nuclear plant generates approximately \$20 million per year in state and local taxes. These tax payments support schools, roads and other state and local infrastructure.
- The average nuclear plant generates approximately \$75 million per year in federal taxes.

#### **Reduced Dependence on Foreign Oil**

Nuclear generation is a baseload technology meaning that our units provide electricity around the clock up to 365 days per year. Our average capacity factor for the operating fleet is in the 90% range which is best in class for all electricity generating technologies. The U.S. currently has limited uranium mining

production with much of the world's uranium supplies originating in Canada and Australia. Additionally, through the Megatons to Megawatts program, down-blended weapons grade materials from Russia provide a significant portion of our current nuclear fuel supply, contributing to increased national security. By increasing the use of nuclear energy for electricity generation and for use in electric vehicles, the U.S. can significantly reduce consumption of foreign oil.

**Proposed Tax Incentives to Accelerate Deployment of Nuclear Energy Manufacturing and Generation**

Federal tax stimulus would serve two purposes – accelerating capital investment in new nuclear power plants and in the critical manpower and infrastructure necessary to build new nuclear power plants in the numbers required to reduce carbon emissions. Tax incentives could refill the pipeline of highly trained personnel needed to build, operate and maintain new nuclear power plants, and restore America's ability to manufacture the components and other equipment that go into nuclear power plants, thereby creating additional jobs.

NEI proposes the following tax incentives for nuclear energy manufacturing and deployment:

1. NEI supports the President's FY 2011 budget proposal for an additional \$5 billion in §48C tax credits for advanced energy projects under the American Reinvestment and Recovery Act. This additional funding will support at least \$15 billion in total capital investment, creating tens of thousands of new construction and manufacturing jobs. Because there is already an existing pipeline of worthy projects and substantial interest, the additional credit could be deployed quickly to create jobs and support economic activity.
2. Provide tax stimulus for investment in new nuclear power plants, new nuclear-related manufacturing and work force development, and expand the existing production tax credit provided by the 2005 Energy Policy Act.
  - Amend the production tax credit authorized by 2005 Energy Policy Act to:
    - a) remove the 6,000-megawatt national megawatt limitation and make the credit available to all reactors placed in service before January 1, 2025
    - b) allow public power entities to transfer credits allocated to them (by virtue of their ownership position in a nuclear power plant) to tax-paying partners in the project, and
    - c) index the credit for inflation.
  - If companies so choose, in lieu of the production tax credit authorized by the 2005 Energy Policy Act, provide a 30 percent investment tax credit for investment in new nuclear power plants on which construction begins on or before January 1, 2025, or upgrades to increase output from existing nuclear power plants, available on an annual basis during construction as investments are made (qualified progress expenditure credits). Allow credits to be used against the alternative minimum tax. Allow companies to elect a grant in lieu of the credit.
3. Provide a tax credit for the expenses of training workers for nuclear power plants and facilities producing components or fuel for such plants. The credit would be graduated and based on a percentage of wages – e.g., 40 percent of the qualified first-year wages of qualified workers, 30 percent of the qualified second-year wages, 20 percent of the qualified third-year wages of qualified workers. The credit would apply to participants in a U.S. Department of Labor Registered Apprenticeship program (or a participant in a State Apprenticeship Program recognized by the U.S. Department of Labor) and participants in an accredited program of the Institute of Nuclear Power Operations' National Academy for Nuclear Training.

4. Amend Section 468A of the Internal Revenue Code to allow non-rate-regulated licensees that may be required by the Nuclear Regulatory Commission (NRC), as part of their operating license requirements, to pre-fund decommissioning costs to obtain a current income tax deduction as such contributions are made. (For example, some taxpayers may be required to pre-fund decommissioning costs in one year and the tax deduction for such costs should correspond to that one-year period.)

In conclusion, tax incentives to support deployment of nuclear energy will benefit the economy with low cost, clean electricity and creation of thousands of jobs. Nuclear energy can play an important role in our economic recovery today and as the President stated, it must play an important role in our clean energy future.

**Natural Resources Defense Council, Letter**

April 14, 2010

The Honorable Sander M. Levin  
 Chairman  
 Committee on Ways and Means  
 United States House of Representatives  
 1102 Longworth House Office Building  
 Washington, DC 20515

The Honorable Dave Camp  
 Ranking Member  
 Committee on Ways and Means  
 United States House of Representatives  
 1102 Longworth House Office Building  
 Washington, DC 20515

Dear Chairman Levin, Ranking Member Camp, and Members of the Committee:

On behalf of our 1.3 million members and online activists, I submit this letter for the record of the "Hearing on Energy Tax Incentives Driving the Green Job Economy." Well designed energy tax policies are essential for scaling up clean energy resources, which create jobs, reduce global warming pollution, enhance our national security and save consumers and businesses money on their energy bills. We ask that as you examine how current and proposed energy tax credits can drive the green job economy, you consider the following recommendations:

- **Extend the New Energy Efficient Home Credit (IRC 45 L).** The new energy efficient home tax credit has been a huge success, exceeding even the most optimistic projections for the number of homes built to qualify. We urge you to extend the 45L credit and to add a higher tier credit to promote the construction of new homes that meet even greater levels of efficiency.
- **Modify the Energy Efficient Commercial Building Tax Deduction (IRC 179D).** The commercial building tax deduction would be more effective with the modifications outlined below.
- **Establish a Renewable Electricity Integration Tax Credit:** A new tax credit to encourage utility integration of variable renewable electricity generation such as solar and wind.
- **Do not extend the Liquid Coal Tax Credits (IRC Sections 6426(d), 6426(e), and 6427(e)).** We urge you not to extend the liquid coal tax credits, which waste taxpayer dollars on a fuel with unacceptable environmental risks.
- **Do not extend the Volumetric Ethanol Excise Tax Credit (VEETC, IRC Section 6426(b)).** The VEETC costs taxpayers over \$5 billion annually and goes towards mature, conventional biofuels which have many negative environmental impacts. We urge you to let the VEETC expire at the end of this year or replace it with a technology-neutral, performance based tax credit so that it achieves real benefits.
- **Maintain the stringency of the window efficiency standard of the Non-Business Energy Property Tax Credit (IRC 25C) and do not extend the credit in its current form.**

These changes are essential to make sure we spend taxpayer dollars wisely to promote investment in advanced biofuels, renewable energy, and building efficiency, while creating jobs, reducing consumers' energy bills, and lessening dependence on oil.

### **New Energy Efficient Home Tax Credit**

The New Energy Efficient Home Tax Credit (IRC Section 45L) has been a huge success, exceeding even the most optimistic projections for the number of homes built to qualify. According to a Residential Energy Services Network (RESNET) survey, the number of homes qualifying for the credit has grown by over 400 percent from the first year of the credit in 2006, when less than 1 percent of new home sales qualified. 37,506 homes qualified for the credit in 2009, representing 10 percent of new home sales. This growth has been sustained despite the fact that total new home sales decreased by 64 percent between 2006 and 2009.<sup>1</sup> According to NRDC's analysis, the credit has already saved 400,000 metric tons of CO<sub>2</sub>, equivalent to removing 70,000 cars from the road for a year. If extended, the credit will continue to grow in market share and save 13.6 million metric tons by 2020, equivalent to removing 2.4 million cars from the road for a year.

In order to qualify for the credit, new homes have to use 50 percent less energy for heating and cooling than a typical home constructed under the 2003 International Energy Conservation Code (IECC) – including supplements – and manufactured homes have to meet the Energy Star label criteria or use 30 percent less energy for heating and cooling than the 2003 IECC. Home energy use is responsible for approximately 25 percent of our country's global warming pollution. Because homes are long-term assets that are commonly in service for more than 100 years the most cost-effective time to make a home more energy efficient is when it is first built.

Congress needs to continue providing incentives that encourage the adoption of the most efficient technologies and building practices. These investments in energy efficiency are the most cost-effective way to achieve immediate and substantial reductions in global warming pollution, while also enhancing our economy. The New Energy Efficient Home Credit has begun to move the market in the right direction and we urge you to continue this success by extending the credit.

Adding a higher tier to the New Energy Efficient Home Credit would increase its success at transforming the market and increase pollution reduction and consumer savings benefits. We urge to you add two higher-tier credits to 45L: a \$5000 credit for homes that reduce *total* energy use by 50 percent and a \$2500 credit for manufactured homes that reduce energy use by 50 percent or meet new, more stringent Energy Star 2010 criteria.

### **Energy Efficient Commercial Buildings Deduction**

Several modifications to the Energy Efficient Commercial Buildings Deduction (IRC Section 179D) would make it more effective. The credit currently provides developers of new commercial buildings a deduction of \$1.80 per square foot of space for buildings that are 50 percent better than the ASHRAE 90.1-2001 energy code in terms of lighting, building envelope, and heating, ventilating and air-conditioning (HVAC) systems. The Commercial Buildings Deduction also provides a deduction of \$0.60 per square foot for partial compliance for any individual system that meets this requirement. The following modifications would make the Commercial Buildings Deduction more effective:

- Increase the full compliance deduction to \$3.00 per square foot.
- Increase the partial credit to \$1 per square foot for single systems that meet the energy savings requirement.
- Increase the partial credit to \$2.20 per square foot for the combination of heating, cooling, ventilation or hot water system improvements with envelope improvements that meet the energy savings requirement.

<sup>1</sup> US Census New Residential Sales, [http://www.census.gov/constr/quarterly\\_salcs.pdf](http://www.census.gov/constr/quarterly_salcs.pdf)

- Direct DOE to establish a prescriptive compliance pathway for combined envelope and mechanical system compliance.

These changes will rapidly boost the effectiveness of Commercial Buildings Deduction and result in more efficient workplaces.

#### **Renewable Electricity Integration Credit**

The enactment of the Renewable Electricity Integration Credit proposed in HR 4149 would play a key role in integrating variable renewable electricity technologies such as wind and solar at the lowest cost. Aggressive deployment of renewable energy resources is a critical component of a comprehensive strategy to reduce global warming pollution. The integration of large quantities variable renewable electricity resources such as solar and wind represents a significant challenge for transmission and distribution system operation.

As the share of electricity from variable renewables continues to grow, the electric power sector will need to invest in major infrastructure upgrades to maintain transmission and distribution system reliability. This investment can be accomplished much more cheaply, quickly and effectively if utilities are provided incentives such as the Renewable Electricity Integration Credit to engage as an active partner to ensure that the lowest cost integration solutions are proactively implemented.

#### **Liquid Coal Tax Credits**

HR 4213, as passed by the Senate, extends several expired fossil fuel tax credits, including the liquid coal tax credits (IRC Sections 6426(d), 6426(e) and 6427(c)). Liquid coal has significant environmental disadvantages, making it a bad choice for the nation's energy supply. On a lifecycle basis, liquid coal emits nearly twice the global warming pollution as conventional fuel. Even if some of the production emissions are captured and stored, liquid coal may still be no cleaner than conventional fuel. In addition, liquid coal poses numerous ecological risks linked to coal mining. These include habitat loss, ground water contamination and mountaintop removal. Restoring the liquid coal credits could force taxpayers to heavily subsidize carbon-intensive technologies that destroy the environment.

#### **Volumetric Ethanol Excise Tax Credit**

Despite good intentions, many of the income and excise tax incentives used to foster the development of biofuels have become outdated due to changes in the biofuels market, the policy landscape, and emerging environmental concerns. A recent Government Accountability Office report, for instance, suggests that the Volumetric Ethanol Excise Tax Credit (VEETC, IRC Section 6426(b)) provides little, if any, benefit at great cost to taxpayers. The VEETC, which pays oil company blenders \$.45 for each gallon of ethanol used, simply subsidizes conventional ethanol that is already mandated under the federal Renewable Fuel Standard (RFS). Worse yet, the VEETC subsidizes mature ethanol technologies that can have many negative environmental effects such as greater life cycle greenhouse gas emissions than conventional fuels, habitat destruction, and air and water pollution. The policy fails to contribute to energy security, technology development or environmental sustainability. Despite this, the VEETC cost taxpayers roughly \$4 billion in 2008 and will grow to \$5.3 billion this year, given new ethanol volumes required under the RFS. GAO predicts that the annual cost will balloon to \$6.7 billion by 2015. A five year extension of the VEETC would cost taxpayers over \$31 billion.

The VEETC and other tax incentives fail to consider environmental performance, providing no incentive to innovate beyond today's questionable ethanol technologies. The existing incentives do not even encourage achievable, incremental improvements to conventional biofuels. We urge you not to extend the VEETC in its current form. Taxpayer dollars should provide real benefits and not simply pay the oil companies to buy ethanol that they are legally required to buy under the RFS. We urge you to let the VEETC expire. Ultimately, in its place, we hope you will adopt a technology-neutral, performance based tax credit that only pays for real benefits and drives the transition to truly sustainable advanced biofuels.

#### **Non-Business Energy Property Tax Credit**

We urge that you maintain the current window efficiency standard for the Non-Business Energy Property Tax Credit (IRC Section 25C). Maintaining a strong window efficiency standard in the 25C tax credit has broad implications, since the Home Star legislation references this criteria. The Senate-passed tax extenders package (HR 4213) weakens the efficiency standard windows, doors and skylights have to meet to qualify for the credit. The bill lowers the standards to 2010 Energy Star standards, which are far too weak to be appropriate for a monetary incentive such as the Section 25C tax credit. While 28 percent of window models meet the current tax credit standard, up to 61 percent of models would meet the Energy Star 2010 standard (depending on the climate zone). Allowing such a large percentage of window models to qualify for the Section 25C tax credit would dramatically reduce the financial incentive the credit gives to manufacturers and retailers to sell high efficiency windows, as well as substantially increase the cost of the incentive to taxpayers. HR 4213 also provides that the Section 25C window efficiency standards would automatically update to conform to future versions of Energy Star. Such a process would greatly politicize the Energy Star program, making it much more difficult for the program to update its standards.

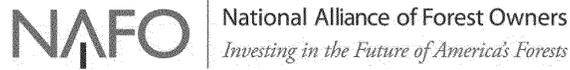
We also urge you not to extend or expand the Non-Business Energy Property Tax Credit in its current form. As currently constructed, the credit does not encourage implementation of the most cost-effective technologies and does not incentivize advanced performance. A technology-neutral performance-based credit that rewarded for energy savings would incentivize the market to achieve efficiency at the lowest cost.

Thank you for taking these points into account as you consider future energy tax policies. Well-designed energy tax policies are a critical tool to reducing global warming, enhancing our national security and saving consumers and businesses money on their energy bills.

Sincerely,

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**National Alliance of Forest Owners, Statement**

**Statement of the National Alliance of Forest Owners  
House Committee on Ways and Means  
Hearing on Energy Tax Incentives Driving the Green Job Economy  
April 14, 2010**

**I. Introduction**

The National Alliance of Forest Owners (NAFO) is pleased to submit comments to the House Committee on Ways and Means regarding the "Energy Tax Incentives Driving the Green Job Economy." NAFO is an organization of private forest owners committed to promoting federal policies that protect the economic and environmental values of privately-owned forests at the national level. NAFO membership encompasses more than 75 million acres of private forestland in 47 states. NAFO members are well positioned to help our nation meet its renewable energy and climate change objectives, and NAFO is prepared to work with the Committee and Congress toward that end.

Private working forests are a fundamental part of the strategic natural resources infrastructure of our nation, producing renewable, recyclable and reusable wood and paper products, sustaining plants and wildlife, producing clean water and air and providing recreation experiences. Working forests also play a substantial role in helping this country achieve energy independence while reducing greenhouse gas (GHG) emissions. Forest biomass is a renewable energy feedstock that can help meet our national renewable energy goals in all regions of the country, if placed on a level playing field with other renewable energy sources.

NAFO supports H.R. 2626, introduced by Representative Meek and Representative Hergert, which would equalize tax credit rates for all renewable technologies, including open loop biomass, under the Section 45 Production Tax Credit (PTC). NAFO asks this Committee to recognize biomass from private, working forests on an even playing field with other renewable energy sources and make open loop

biomass facilities eligible for the entire Section 45 PTC as it reviews energy tax incentives.

## **II. Working Forests Play A Critical Role In Achieving The Goal Of Low Carbon Energy.**

Working forests produce a renewable energy feedstock that can also play a substantial role in helping this country achieve energy independence and meet our national renewable energy goals while reducing GHG emissions, if allowed to compete with other renewable energy sources. Our nation's working forests can provide ample, sustainable, domestic supplies of biomass to produce low-carbon liquid transportation fuels, low-carbon sourced electricity, efficient low-carbon combined heat and power for manufacturing and other industrial uses, and ultra-low-carbon synthetic natural gas that can be substituted for higher carbon sources of electricity and fuels.

Biomass energy improves our nation's carbon footprint by replacing fossil fuels with biomass fuels that are part of the natural carbon cycle. Well-managed forests provide clean, renewable energy that recycles through the atmosphere. Each year our nation stores more carbon in its forests than it releases from them. According to the U.S. Department of Energy, replacing gasoline with cellulosic ethanol made from forest materials can reduce greenhouse gas emissions compared to gasoline by as much as 86 percent.<sup>1</sup>

### **A. The Combustion of Forest Biomass is Carbon Neutral**

Prevailing science acknowledges the significant carbon benefits of electrical and thermal energy produced using renewable biomass from managed forests, and there has long been a consensus that wood and wood residues used to produce such energy in the United States have a neutral effect on atmospheric carbon. The international greenhouse gas accounting methods developed by the Intergovernmental Panel on

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<sup>1</sup> U.S. Department of Energy. Ethanol Benefits. Retrieved from the Internet on February 8, 2010 at [www.afdc.energy.gov/afdc/ethanol/benefits.html](http://www.afdc.energy.gov/afdc/ethanol/benefits.html).

Climate Change (“IPCC”) and the domestic greenhouse gas reporting program administered by the Energy Information Administration, for example, recognize that “biogenic” carbon such as the carbon contained in wood and wood residues, is part of the natural carbon balance and will not add to atmospheric concentrations of carbon dioxide. The EPA has also concluded that there is “scientific consensus’... that the carbon dioxide emitted from burning biomass will not increase CO<sub>2</sub> in the air if it is done on a sustainable basis.”<sup>2</sup>

**B. Forest Biomass Can Be Produced In A Sustainable And Environmentally Responsible Manner.**

Private forest landowners demonstrate sustainable forest management through a variety of established methods, including reforestation of harvested sites to maintain the forest cycle and use of best management practices (“BMPs”) defined through voluntary and regulatory forestry programs and forest certification standards. See NAFO, *NAFO Advocacy Position on Sustainability*, available at [www.nafoalliance.org/sustainability-advocacy-position](http://www.nafoalliance.org/sustainability-advocacy-position). Sustainable forest management is also achieved through private forest landowner’s compliance with the existing laws governing forest practices and environmental quality. Private forestry operations are regulated by a fairly complex set of laws, regulations and non-regulatory policies at the federal, state and local level. See NAFO, *Environmental Regulation of Private Forests in the U.S.*, available at [www.nafoalliance.org/environmental-regulation-of-private-forests/](http://www.nafoalliance.org/environmental-regulation-of-private-forests/). There is considerable evidence that this complex framework of regulatory and non-regulatory requirements has substantially reduced adverse environmental impacts from forestry, and will continue to do so in the future. See *id.* Because working forests are an important potential source of renewable biomass, some have expressed concerns that increased demand for biomass might result in adverse environmental effects. However, while it is difficult to speculate beyond broad generalizations, the removal of additional biomass from working forests is not likely to have negative environmental impacts and, in many instances, will be beneficial. See *id.* A robust yet flexible array of tools, in the

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<sup>2</sup> U. S. Environmental Protection Agency Combined Heat and Power Partnership. *Biomass Combined Heat and Power Catalog of Technologies*, 96 (Sept. 2007) available at [www.epa.gov/chp/documents/biomass\\_chp\\_catalog.pdf](http://www.epa.gov/chp/documents/biomass_chp_catalog.pdf).

form of federal, state and local laws, regulations, programs and BMPs have measurably improved the environmental performance of forest operations in the United States, and can be expected to continue to do so going forward.

**II. Private Forests Can Only Make Their Full Contribution to a Low Carbon Energy Future When Parity is Established Among All Renewable Energy Sources, including Biomass, Wind and Geothermal Energy.**

Biomass from well managed forests is a critical source of renewable energy, along with other sources, such as wind and geothermal energy. Wind and other renewable energy resources, however, are not viable in all parts of the country. Many areas of our nation also presently rely heavily on fossil fuels despite the fact that wood biomass is their most viable renewable energy source. Wood will also account for as much as 1/3 of the energy needed to meet a federal renewable electricity standard. We cannot meet our renewable energy goals without biomass energy. Putting all similarly situated energy generation technologies on a level playing field will allow different regions across the country to use the resource that is best suited to, and most economic, for that area.

**III. Federal Renewable Energy Policies That Include Wood Biomass Create More Jobs And Help The Economy.**

A 2009 study of the economic impact of working forests in 29 states found that private forests currently support 2.8 million jobs, \$262 billion in annual sales, \$97 billion in payroll, \$4.4 billion in state income and severance taxes, and \$115 billion to the combined GDP of the 29 states.<sup>3</sup>

Federal renewable energy policies that include wood will create more jobs and help local economies. The National Renewable Energy Laboratory estimates that biomass energy plants create up to 4.9 jobs for each MW of installed capacity.<sup>4</sup> This translates

<sup>3</sup> Forest2Market. The Economic Impact of Privately-Owned Forests. September 2009. Available on the Internet at [http://nafoalliance.org/wp-content/uploads/f2m\\_economic\\_impact\\_study\\_2009.pdf](http://nafoalliance.org/wp-content/uploads/f2m_economic_impact_study_2009.pdf).

<sup>4</sup> Morris, Dr. Greg. U.S. Department of Energy National Renewable Energy Laboratory. *The Value of the Benefits of U.S. Biomass Power*. 1999.

into nearly 735 green jobs for a 150MW facility that is sufficient to power 150,000 homes.<sup>5</sup> In addition, one biomass plant of this size represents a roughly \$150 million upfront construction investment with an estimated \$20 million per year thereafter invested in the local economy in fuel purchase and operations.

#### **IV. H.R. 2626 Provides the Necessary Fix for Open Loop Biomass Energy to Make Its Full Contribution to Our Nation's Low Carbon Energy Goals**

NAFO appreciates the efforts of Representatives Meek and Herger to equalize tax credit rates for all renewable technologies under the Section 45 Production Tax Credit.

Currently, the Section 45 PTC for electricity from certain renewable resources creates "winners and losers" by enabling some facilities generating renewable electricity (such as wind and geothermal) to receive the full production tax credit, while others (such as open-loop biomass and incremental hydropower) are only eligible to receive one-half of the credit, and as such, are at a competitive disadvantage. In those 20 plus states having a renewable portfolio standard, which cover more than half the U.S. population, the need for additional renewable energy is typically filled by conducting an auction. The winners in these auctions, in the overwhelming majority of the cases to date, have been the types of facilities that receive the **full** Section 45 production tax credit rate, as the facility operators are usually able to bid lower than the half-credit technologies for renewable energy contracts. Further, technologies that are eligible to receive the full production tax credit are generally considered more attractive investments when developers require equity.

Upon review of the legislative history, Congress has not enunciated an energy policy, or tax policy argument for continuing these two "tiers" of PTC rates. In fact, with regard to energy and energy tax law, Congress has been consistently trending towards "technology neutrality." In the American Recovery and Reinvestment Act of 2009, for example, Congress placed development of all new renewable energy facilities on a level

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<sup>5</sup> "Electrical Energy," *The New Book of Popular Science*, 2000 edition, Grolier Incorporated, 1998. Text retrieved from the Internet at <http://hypertextbook.com/facts/2003/BoiLu.shtml> February 8, 2010.

playing field by allowing the Section 45 credit-eligible technologies (including new open-loop biomass facilities) to make the election into the Section 48 Investment Tax Credit (ITC) regime. Developers of new renewable energy facilities, including wind; geothermal; incremental hydropower and open-loop biomass, are all eligible to elect a one time investment tax credit set at 30 percent.

The enactment of H.R. 2626 will level the playing field for all renewable technologies and also send the appropriate message to investors and developers that our nation's tax policy values the benefit of all renewable technologies.

**V. CONCLUSION**

NAFO strongly supports our nation's efforts to establish new sources of renewable energy, and thereby reduce its dependence on fossil fuels and imported energy. America's working forests can play a fundamental role in meeting these new and growing energy needs. U.S. policies should encourage investment in forests as a source of renewable energy by making open loop biomass eligible for the entire Section 45 Production Tax Credit as called for in H.R. 2626. Such an approach will enable our country to meet its renewable energy objectives. At the same it, it will allow working forests to make their full contribution to our nation's renewable energy portfolio while still providing important additional environmental benefits, such as reduced GHG emissions, clean water, wildlife habitat quality recreation and other environmental benefits Americans need and enjoy.

NAFO appreciates the opportunity to comment on this important hearing and looks forward to working with the Committee and the Congress on this issue.

For more information, please contact:

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**National Association of Home Builders, Statement****Statement on Behalf of the National Association of Home Builders****“Energy Tax Incentives Driving the Green Job Economy”****House Committee on Ways and Means****April 14, 2010****Introduction**

The National Association of Home Builders (NAHB) appreciates the opportunity to submit testimony on the issue of “*Energy Tax Incentives Driving the Green Job Economy*.” NAHB represents 175,000 members who work in the residential construction industry and are overwhelmingly comprised of small businesses. For example, NAHB’s average single-family builder has 11 employees, constructs fewer than 20 homes per year, and has a dollar volume of business revenues of approximately \$1 million. The energy efficiency tax incentives established by Congress have had a positive impact on all segments of the housing market and ultimately provide a benefit in delivering housing that achieves energy efficiency benchmarks that exceed standard, code-built homes and buildings.

NAHB urges Congress to pass legislation to extend the Internal Revenue Code Section 45L New Energy Efficient Home credit (Section 45L), which expired at the end of 2009. The Section 45L program encourages the construction of homes that are 50% above code and it is the *only* federal tax incentive for energy efficiency in new home construction. NAHB also recommends extending and expanding other building efficiency tax incentives to further improve the nation’s housing stock and create jobs in the battered construction sector. Policies that promote energy-efficient housing provide a short-run benefit in terms of job creation and a long-term benefits in the form of reduced energy bills for American families and protection of our natural resources.

**State of the Residential Construction Sector**

The home building sector has been severely challenged as result of the Great Recession. Housing starts have fallen from their peak in 2005 of more than 2 million on an annual basis to approximately 575,000 housing starts as of February 2010. This dramatic decline in construction activity has resulted in lost economic activity and jobs. Since early 2006, the residential construction sector has lost 1.3 million jobs, a disproportionate share of the more than 8 million jobs that have been lost during the Recession.

While the longer term outlook for housing remains positive, it will take some time for the housing sector to return as a vehicle for job creation and opportunity for economic benefits. For example, NAHB forecasts that housing starts will not rise to the nearly 1.2 million mark until the end of 2011, although general demand for housing – based on population growth and the need to replace older stock – still remains at 1.5 to 1.8 million units per year.

As history foretells, the home building sector must recover for any economic recovery to truly take effect. In fact, for six recessions prior to the current one, residential fixed investment (RFI) – a broad measure of home building activity’s contribution to Gross Domestic Product (GDP) – led GDP growth out of the downturn. However, with the current levels of housing inventory and the ongoing foreclosure crisis, housing is not currently poised to lead the economy to a robust recovery in 2010.

A weakened housing sector means a weak economy. Historically, home building activity has accounted for about 5% of GDP growth, while services provided by existing homes account for about 13% of GDP. This makes housing’s share of the economy approximately 18%. As of the last quarter of 2009, however, home building represented only 2.8% of the economy. And the declines in home building and home improvement routinely subtracted a full percentage point from GDP in recent quarters. These declines mean lost jobs, taxes and income.

NAHB has estimated the positive impacts from home building. Using Bureau of Economic Analysis data, NAHB economists have found:

- Construction of an average single-family home generates:
  - 3.05 full time jobs
  - \$145,400 in wage income
  - \$40,600 in small business income
  - \$45,300 in corporate income
  - \$66,500 in federal tax receipts
  - \$22,800 in state and local tax revenue
- Construction of an average multifamily housing unit generates:
  - 1.16 full time jobs
  - \$54,900 in wage income
  - \$14,900 in small business income
  - \$16,800 in corporate income
  - \$24,900 in federal tax receipts
  - \$8,600 in state and local tax revenue
- \$100,000 in remodeling expenditure generates:
  - 1.11 full time jobs
  - \$52,700 in wage income
  - \$13,800 in small business income
  - \$16,100 in corporate income
  - \$23,700 in federal tax receipts
  - \$6,600 in state and local tax revenue

The current depressed level of home building activity means that these economic benefits are lost to all stakeholders in the housing sector. However, one efficient method of providing stimulus to this sector is through the use of energy efficiency-related tax credits.

Section 45L – New Energy Efficient Home Credit

NAHB members currently build about 80 percent of all new units in the United States. Thus, the nation's home builders can profoundly affect sustainability, conservation of natural resources and protection our environment. One important avenue for achieving these goals is through the nation's tax code. The 45L credit, enacted as part of the *Energy Policy Act of 2005*, is a key market incentive that shifts builders towards significant energy savings in new home construction. The program allows a \$2,000 tax credit to a home builder who constructs a qualified new energy-efficient home (for sale or for lease [in homes of three stories or less], certified to achieve at least a 50 percent reduction in energy usage relative to the 2004 Internal Energy Conservation Code, thereby adding to the nation's housing stock a highly efficient home for 60 years or more. Because energy-efficient homes hold a higher value on the market, adding Section 45L homes to a local community's housing stock is also beneficial for state and local governments, as these homes increase the value of the area's property tax base for decades to come.

Programs like Section 45L are effective at promoting energy efficiency because they combine a tax incentive with market-determined supply and demand for home construction. Other approaches, such as an artificially-imposed mandates, require officials to establish enforcement procedures and verify compliance, absorbing scarce resources and time for state and local governments that are already suffering budgetary constraints. Meanwhile, a tax incentive simply reduces the cost of construction above minimum code requirements, i.e building highly energy-efficient homes, thereby encouraging that behavior. Further, with a tax credit, important production decisions are still reserved for builders, buyers and home owners. Consequently, a tax credit program costs little to operate and does not require expensive or expansive administrative oversight that is usually required with a mandate.

NAHB members report that the Section 45L credit is particularly beneficial to small home builders, who in many cases have the flexibility to react to marketplace preferences, such as the demand for highly-efficient homes. The credit can help develop this maturing market, which would yield long term benefits with respect to our nation's energy consumption. Increasingly, large, production home builders are also incorporating higher levels of energy efficiency into the construction of their homes. This emerging trend is due in large part to the Section 45L credit. Indeed, from a slow start in 2006, for which only about 10,000 new homes qualified for the tax credit, if the credit is extended NAHB estimates that nearly 50,000 homes would be constructed to tax credit standards.

Despite the significant downturn, data from the Residential Energy Services Network (RESNET), the primary energy rating organization for certifying Section 45L homes, shows that the market penetration percentages have grown for Section 45L homes, even though fewer homes have been built over the last three years. In the absence of data from the IRS which may capture the entire universe of claims for Section 45L, the RESNET data shows market trends that are important and significant indicators of the incentives have performed as Congress intended upon passage.

Year	New Homes Sold (US Census)	45L Certified Homes (RESNET)	% of Homes Sold
2006	105,2000	7,110	0.6
2007	77,6000	23,702	3
2008	48,5000	21,939	4.5

**NOTE:** While RESNET certifications capture a large percentage of homes certified to 45L, it does not capture all Section 45L homes.

Unfortunately, the 45L credit expired at the end of 2009. Extending the credit is good public policy, and the longer the extension, the more effective the program will be at delivering highly-efficient new homes. Because home building is a lengthy process, builders are unlikely to participate in a tax program that may end before the construction process is completed. Fortunately, the credit is extended for one year by H.R. 4213, the *American Workers, State and Business Relief Act of 2010*, which is now before the House of Representatives. The loss of this credit would be not only a loss for builders striving to meet market demand while preserving housing affordability, but a loss for the Congressional effort to increase energy efficiency in new homes.

In addition to extension, NAHB also recommends several modifications that will improve the overall reach of the Section 45L program. Achieving the 50-percent threshold required for the 45L credit can be an expensive, especially for smaller builders. Home builders report that the increased construction costs required to meet the 45L thresholds can far exceed the \$2,000 tax credit. In conjunction with the required basis adjustment (which reduces the value of the credit to approximately \$1300), the credit value is often incompatible with the incremental costs necessary to achieve its requirements. In today's market, these costs cannot be transferred to homebuyers; therefore Congress should provide a way to help builders ameliorate the expenses associated with achieving higher levels of energy efficiency by increasing the credit amount.

The home building industry is dominated by small businesses, typically organized as pass-thru entities (approximately 80% of NAHB's membership – 47% were organized as S Corps alone). As such, the Alternative Minimum Tax (AMT) is a real problem for claiming some tax credits. Allowing the Section 45L credit to be claimed against AMT liability would be a significant help for the program.

Finally, providing parity for conventional housing with manufactured housing would increase the scale of the benefits of the tax incentive. Under prior law, a partial tax credit for homes achieving a 30 percent improvement exists, but only for manufactured homes. Expanding the 30 percent credit program to conventional housing would increase the nation's stock of energy efficient homes.

NAHB supports H.R. 4226, the *Enhanced Energy Efficiency Building Incentives Act of 2009*, which improves the operation and extends the life of these meaningful incentives. H.R. 4226 allows for a higher-tier (\$5,000) incentive for Section 45L based on improvements in the whole-house approach, instead of just focusing on the building envelope. Additionally, H.R. 4226 allows the credit to be claimed against AMT and extends the credit until 2015. The bill

also enhances the 179D program to allow for construction of energy-efficient condos (4 stories or more above grade), and increases the credit to \$3.00 per square foot for 50% improvement over the relevant ASHRAE energy code.

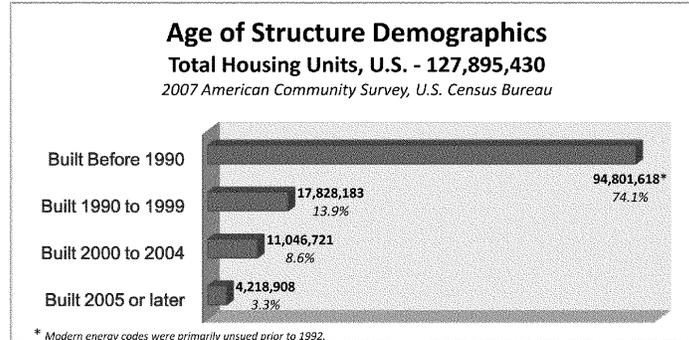
**Sections 25C and 25D – Residential Energy Property Credits**

Two other tax incentives programs are key players in the effort to improve the nation's housing stock are Section 25C and Section 25D. Section 25C of the tax code allows homeowners who make qualified improvements, such as windows and hot water heaters, a tax credit of 30% of the cost of the improvement, up to a total of \$1,500 for 2009 and 2010 combined. The credit only applies to improvements installed in principal residences and installation costs cannot be used to determine the credit amount for building envelope materials, e.g., windows, doors, roofing materials and installation.

Section 25D allows a 30% tax credit, which is uncapped, for installation of advanced renewable energy production property in a home, such as solar panels, geothermal heat pumps, fuel cells, and small (residential) wind turbines. The credit applies to the installation of qualified property through the end of 2016. The 25D credit can be used in new or existing housing.

Taken together, the two credits provide a significant tax incentive for the energy efficiency initiatives in homes. IRS Statistics of Income data for 2007, albeit a year in which different rules applied, reveal the benefits of the credit to be widespread. For that tax year, 4.3 million taxpayers claimed at least one of these credits (via Form 5695), for a tax savings of \$942 million. Of these homeowners, 94% had an income of less than \$200,000.

Given the impending expiration of the section 25C tax credit and its value to the remodeling market, NAHB recommends a multiple year extension. Given the higher level of energy efficiency of newly-constructed housing, incentivizing the improvement of the nation's existing housing stock represents a powerful way to improve energy use in the residential sector. According to the Census Bureau's American Housing Survey (AHS), there are 99 million housing units that are at least 10 years old, including 71 million that are at least 30 years old. Of the 130 million existing homes in the U.S., 74% were constructed before 1990 when energy codes largely did not exist. Addressing the inefficiency of this lion's share of the residential market – i.e., older, less-efficient homes – will produce substantially more energy and financial savings for American consumers.



Congress could also make several improvements to the 25C program to maximize its impact. First, Congress should increase the cap from \$1,500 to \$3,000. AHS data show that 97% of energy-related remodeling projects involve a total expenditure of \$10,000 or less. With a 30% credit, a cap of \$3,000 would allow the vast majority of these projects to qualify for a tax credit when using energy efficient products. Second, Congress should permit installation costs to be included for the installation of building envelope materials. Proper installation by a trained professional, such as a NAHB Certified Graduate Remodeler or Certified Green Professional, is important to ensuring the home is properly retrofitted, and such costs should count for the purposes of the credit.

#### **Sections 179D – Energy Efficient Commercial Buildings Deduction**

Section 179D of the tax code permits a deduction for a portion of the costs of installing energy-efficient systems into commercial buildings, including multifamily rental buildings that are four stories or more above grade. The maximum deduction is generally \$1.80 per square foot. The provision applies to improvements made before the end of 2013. Qualified improvements must achieve a 50% level of improvement above the ASHRAE Standard 90.1-2001, and partial deductions are available for more limited improvements.

The 179D deduction is targeted to commercial properties. For this reason, NAHB recommends moving multifamily rental properties from this application of this section and into the Section 45L program. Moreover, because the 179D deduction does not apply to for-sale condo units located in buildings of four stories or more above grade, NAHB suggests expanding the multifamily application of this incentive to such housing units within the 45L credit.

Similarly, a significant share of multifamily construction is completed under the section 42 Low-Income Housing Credit program (LIHTC). To make this program operate effectively with the Section 45L program, it would be necessary to provide a waiver of the basis adjustment.

Tax basis is used to determine the LIHTC credit amount, which establishes equity in affordable housing developments. Without this waiver, coordination of the energy efficiency tax incentives with the LIHTC program will be difficult to achieve.

**Sections 45M – Energy Efficient Appliance Credit**

Because nearly half of all the energy consumed in a home is from residents' behaviors – lighting, appliance usage, electronics, NAHB supports tax incentives that will support increased levels of efficiency for all of the components of a home, not only those related to the construction. For example, Section 45M of the tax code allows a credit to manufacturers of certain energy efficient appliances prior to 2011. The credit amount is determined by the type of appliance and the amount produced, with the program capped at \$75 million per manufacturer.

This program reduces the cost of energy efficient appliances, such as dishwashers, clothes washers, and refrigerators, for homeowners, renters, remodelers and builders. Because the delivery of these more efficient appliances to the market will help speed the introduction of those appliances for use in homes, NAHB recommends the program be extended for 2011 and beyond as a way to further promote energy savings from all components of a home, not just the building envelope/construction aspects.

**Conclusion**

Supporting energy efficiency enhancements to the nation's housing and building stock through a variety of tax incentives is sound public policy. Measures to support efficiency within the construction of new homes, renovation of old homes, and in components used in homes will ultimately deliver energy savings and environmental benefits that lead to greater economic benefits and recovery for the housing industry, to more job creation, and to increasing the value of the largest store of personal and individual wealth for most Americans: their home.

As many environmentalists and efficiency advocates will agree, the most effective way to save energy is to never use it in the first place. Congress cannot solely support incentivizing the production of green or renewable energy, but it must also actively support effective policies to incentivize building efficiency so that once a mature renewable and green energy production-based economy is established, the homes and buildings that support it will be using that energy in the most efficient and effective way possible.

Because of the efficacy and efficiency of using the tax code to implement energy policy and to quickly and effectively deliver results to consumers, the tax incentives outlined in this statement are the best tools to deliver meaningful savings – both in resources and administrative burdens and in utility bills for American consumers. NAHB urges Congress to continue to expand and extend a variety of important tax incentives for energy-efficient home construction – specifically Section 45L, which expired in 2009.



The National Association of Real Estate Investment Trusts<sup>®</sup> (NAREIT) respectfully submits these comments in connection with the hearing of the Committee on Ways and Means held on April 14, 2010, regarding Energy Tax Incentives Driving the Green Job Economy. NAREIT thanks the Chairman, the Ranking Member and the Committee for the opportunity to provide these comments. NAREIT supports Congressional efforts to enact comprehensive energy incentives to grow the economy, create jobs, and reduce dependence on foreign energy. As further described below, NAREIT encourages the adoption of future incentives and clarifying language to existing incentives to ensure that real estate investment trusts (REITs) are able to fully participate in the activities contemplated by such incentives in order to further Congressional policy.

NAREIT is the worldwide representative voice for REITs and publicly traded real estate companies with an interest in U.S. real estate and capital markets. NAREIT's members are REITs and other businesses throughout the world that own, operate and finance income-producing real estate, as well as those firms and individuals who advise, study and service those businesses.

#### EXECUTIVE SUMMARY

Historically, tax incentives to encourage energy efficiency and sustainability measures have been in the form of non-refundable tax credits (Tax Credits) and deductions in the Internal Revenue Code of 1986, as amended.<sup>1</sup> More recently, Congress authorized outright grants in lieu of tax credits for companies that invest in certain energy projects (Energy Grants) as part of the *American Recovery and Reinvestment Act of 2009* (ARRA). Furthermore, Congress also is considering, among other initiatives, grants to retrofit properties in order to achieve cost-effective energy efficiency savings as well as rebates to invest in energy efficient products and services related to buildings.

By way of background, REITs are widely-held companies that combine the capital of many shareholders to invest in a diversified portfolio of income-producing real estate, such as apartment communities, lodging facilities, shopping centers, office buildings, health care facilities, timberlands, and warehouses, or to provide real estate financing. If REITs meet a number of requirements designed to ensure that they are focused on long-term real estate investment, and if they distribute at least 90% of their taxable income annually, they are entitled to deduct dividend distributions when determining their corporate tax bill, resulting in one level of taxation to the shareholder. As of December 31, 2008, REITs owned an estimated 6 billion square feet of real estate.

Buildings account for 40% of all energy use and almost 70% of all electrical energy use in the United States. As the 111th Congress continues to consider energy tax incentives designed to grow the U.S. economy, create new jobs, reduce the reliance on foreign energy, and enhance the use of renewable energy in the U.S., NAREIT recommends that existing energy incentives be modified, and future energy tax incentives be designed, to ensure that REITs, as significant owners of U.S. real estate, are able to utilize such incentives consistent with, and in a manner that furthers, national policy.

<sup>1</sup> Unless otherwise provided, the Code, and any reference herein to a "Section," shall be to a section of the Code.

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Our members have a strong commitment to investing and operating in an energy efficient manner and are eager to invest in more energy efficiency measures, thereby both creating jobs and minimizing negative environmental impact. Unfortunately, existing energy tax incentives do not work for REITs. First, existing Tax Credits cannot be used by REITs on a practical basis because they have little to no federal income tax liability at the entity level. Neither may these tax credits be passed through to REIT shareholders, who are ultimately subject to tax on a REIT's income. Further, even to the extent a REIT may have creditable tax liability, the Tax Credits are reduced based on the amount of income not retained by the REIT. Similarly, even the recently enacted Energy Grants apparently are only available to REITs to the extent they retain taxable income. Third, existing deductions attributable to expenses for certain energy efficiency projects are either too difficult to certify or are structured so that REIT shareholders cannot appropriately benefit from the REIT's reduced taxable income. As a result, the congressional incentives to stimulate the economy in a sustainable manner are not available to a significant segment of the commercial real estate industry well suited to deploy these new technologies.

Specifically, and as further described below, NAREIT recommends that Congress:

1. In connection with investments in "specified energy property" as defined in Section 1603(d) of ARRA and "energy property" as defined in Section 48,
  - a) modify Section 1603 of ARRA so that REITs may benefit fully from Energy Grants without limitation based on their statutorily mandated distribution obligation, as reflected in H.R. 4256;
  - b) enact a refundable energy tax credit also available to REITs without limitation based on their statutorily mandated distribution obligation, as reflected in H.R. 4599; and,
  - c) in both cases, clarify that the right to receive the Energy Grants or Tax Credits is a "real estate asset" under the REIT asset tests and conform the recovery periods for taxable income and "earnings and profits" purposes to prevent over taxation and/or double taxation of REIT shareholders;
2. Increase the Section 179D deduction for energy efficient commercial building expenses and streamline the certification procedure as reflected in H.R. 4226 and S. 1637, and enact modifications to the earnings and profits calculation under Section 179D so that the benefit of the incentives would be reflected in the distributions received by REIT shareholders;
3. Extend and modify the Section 45L new energy efficient home credit to make this tax credit available to all owners of multifamily properties, as reflected in H.R. 4226 and S.1637, and allow REITs to claim this credit as an economically equivalent deduction;
4. If legislation is passed that requires buildings to meet higher energy efficiency standards, then enact programs that provide for retrofitting grants to retrofit existing buildings for energy efficiency, as well as clarify that the right to receive such grants is a qualifying "real estate asset" that generates qualifying gross income for REITs; and,

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5. Enact S. 3079, which would authorize a program entitled "Building STAR" to encourage retrofitting of commercial and multi-family buildings through a program of improvements to existing, and, in some cases, proposed, tax incentives and rebates.

#### DISCUSSION

##### I. REITs

###### A. Background

Congress created REITs in 1960 to make investments in large-scale, significant income-producing real estate accessible to small as well as large investors from all walks of life. In much the same ways as shareholders benefit by owning a portfolio of securities in a mutual fund, the shareholders of REITs can unite their capital into a single economic pursuit geared to the production of income through commercial real estate ownership. REITs offer distinct advantages for smaller investors: greater diversification through investing in a portfolio of properties rather than a single building and expert management by experienced real estate professionals. As of March 2010, there were approximately 140 publicly traded REITs with an equity market capitalization of approximately \$300 billion. Further, IRS tax return data indicates that in 2006 about 1,400 companies filed REIT tax returns.

###### B. REIT Distribution and Income and Asset Test Requirements

In exchange for distributing at least 90% of their annual taxable income to shareholders, and for satisfying a number of other requirements, federal law grants REITs a dividends paid deduction (DPD) so that a REIT's income is taxed only once, at the shareholder level.<sup>2</sup> As a result, in 2008 listed REITs distributed over \$17 billion to shareholders.

At least 75% of the value of a REIT's assets quarterly must consist of specifically delineated "real estate assets" such as interests in real property and mortgages secured by real property (the Asset Test). Furthermore, at least 75% of a REIT's annual gross income must be from specifically delineated income sources such as "rents from real property" (as such term has been defined) and interest on mortgages secured by real property (75% Income Test). At least 95% of a REIT's annual gross income must be from items that qualify for the 75% Income Test, as well as from passive types of income like non-real estate interest and dividends (the 95% Income Test, and together with the 75% Income Test, the Income Tests). Failure to satisfy these (and other) requirements can result in the draconian penalty of loss of REIT status.

###### C. Recent Congressional and IRS Clarification of Income and Asset Test Requirements

Since the authorization of REITs in 1960, Congress and the IRS have refined the definitions of qualifying "real estate assets" under the Asset Test and real estate-related income under the Income Test in order to conform to changes in the real estate marketplace. For example, in the

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<sup>2</sup> A REIT is subject to a corporate level tax to the extent that it distributes less than 100% of its taxable income and under certain other circumstances.

*Housing and Economic Recovery Act of 2008* (Pub. L. 110-289) (the 2008 Act), Congress amended the Income Tests so that foreign currency gains incurred as part of a REIT's real estate business overseas would not be taken into account under the Income Tests. Similarly, the 2008 Act treats a REIT's foreign currency owned in connection with its real estate business specifically as a good real estate asset.

Additionally, Congress provided the IRS with authority in the 2008 Act to determine whether specific types of income not specifically listed as qualifying REIT income in fact are qualifying types of income for the Income Tests. This legislation clarifies that a REIT may earn certain income and hold assets consistent with its core mission as a REIT without having such income and/or assets negatively affect its tax status as a REIT. Finally, while not REIT-specific, Congress provided that the Energy Grants specifically are excluded from the gross income of the recipients of such grants.

D. Taxation of REIT Shareholders: Calculation of Earnings and Profits (E&P)

As noted above, REITs are required to distribute at least 90% of their taxable income as a dividend. To do so, the REIT must make two sets of calculations: one for taxable income purposes, and one for "dividends paid." A REIT calculates how much dividends it has paid based on what is termed "earnings and profits" or "E&P." Because E&P is meant to represent the economic position of the distributing corporation, shareholders are taxed on distributions, first, to the extent of current and accumulated E&P, then as a return of capital (which reduces the shareholder's tax basis in his or her stock shares), and, thereafter (typically) as an amount realized from the sale or exchange of a capital asset.

Thus, a REIT must calculate both its taxable income and its E&P. In simple cases, these two items may be the same. For example, if a REIT earns mortgage interest of \$100 and has interest expense of \$40, the REIT has taxable income of \$60 (\$100-\$40), and E&P of \$60 as well. If the REIT distributes \$80, under this example, \$60 would be considered ordinary dividends and \$20 would be considered a return of capital that reduces a shareholder's tax basis in his or her shares in the REIT.

The potential for over-taxation or double taxation of shareholders arises when the calculations for taxable income and earnings and profits diverge. Because REITs often distribute in excess of 100% of taxable income, if E&P is not reduced at the same time a deduction is claimed for taxable income purposes, shareholders will be overtaxed. Depreciation used to calculate E&P often differs, sometimes materially, from the depreciation used to determine taxable income.<sup>3</sup> Assume a REIT has rent of \$100 and depreciation of expense of \$40. If only \$30 in depreciation were used to calculate E&P, and the REIT distributed \$80, then \$70 (\$100-\$30) of the \$80 would be considered ordinary dividends (even though there would be \$60 for taxable income purposes), and therefore the shareholders would be artificially overtaxed by \$10. Thus, the shareholders would not realize the full benefit of the \$40 depreciation deduction.

<sup>3</sup> For example, apartments are depreciated over 27.5 years for taxable income purposes but over 40 years for E&P purposes.

## II. RECOMMENDATIONS

### A. Amend Energy Grants Provision and/or Enact Refundable Tax Credits to Encourage REIT Investment in Renewable Energy Measures without Limitation Based on Retained Income

#### 1. *Amend the ARRA to Allow REITs to Participate Fully without Income Limitation in the Energy Grants Program*

Recognizing the need to encourage qualifying investments by taxpayers whose tax liability may not be sufficient to benefit from Tax Credits, Congress authorized the Energy Grants program last year. Under ARRA, a taxpayer can receive a cash grant from the Treasury Department equal to 30% of its investment in certain renewable energy property. The Energy Grants provisions have been interpreted to benefit a REIT only to the extent it retains taxable income.

As Congress considers energy tax incentives legislation, it should amend Section 1603 of ARRA to allow REITs to participate fully in the energy grants in lieu of tax credits program without a limitation based on their statutorily mandated payment of taxable income as dividends to shareholders. NAREIT fully endorses H.R. 4256, the *Sustainable Property Grants Act of 2009*, which would accomplish this goal.<sup>4</sup> NAREIT thanks Representative Linda Sánchez and the other co-sponsors of this legislation for their leadership in connection with this important provision.

#### 2. *Refundable Tax Credits*

An alternative approach to the Energy Grant in Lieu of Tax Credit provision would be the authorization of a refundable energy tax credit, fully administered by the IRS, as reflected in H.R. 4599, the *Renewable Energy Expansion Act of 2010*. NAREIT strongly urges enactment of the provisions in this bill and thanks Representative Earl Blumenauer and the other bill co-sponsors for promoting this legislation. As with H.R. 4256, REITs would be entitled to claim refundable tax credits regardless of their distribution of taxable income.

#### 3. *Clarify E&P Calculation to Prevent Over-Taxation and Double Taxation of REIT Shareholders*

As a general matter, with respect to REITs, we recommend that any deductions in the Code, including those for depreciation with respect to energy property that qualifies for Energy Grants (or Refundable Tax Credits) be the same for taxable income as for E&P purposes. For example, our understanding is that the recovery period for depreciation deductions with respect to taxable income for Energy Grant property such as solar roof panels is five years, while the recovery period for E&P is twelve years. This mismatch can result in a number of adverse consequences for REITs and their shareholders. First, because REITs often distribute in excess of 100% of their taxable income annually, their shareholders are likely to be overtaxed in the first five years

<sup>4</sup> Congress also may wish to consider a modification to the existing Tax Credit regime to allow REITs to treat their lessees as purchasers of qualified energy property, thereby allowing the lessees to claim the Tax Credit for the REIT's investment in such property. The result of such a structure also would be increased qualifying rent to the REIT, decreased energy costs for the lessee, and overall benefit to the environment through reduced energy usage.

of the Energy Grant property's life because E&P will be overstated (due to slower depreciation).<sup>5</sup> Second, once the Energy Grant property is fully depreciated for taxable income purposes, and depending on the extent of the mismatch between taxable income and E&P in this and other contexts, the REIT may have difficulty satisfying its requirement to distribute at least 90% of its taxable income as a dividend (that is, supported by E&P) because its E&P will continue to decline from depreciation deductions while its taxable income will not.<sup>6</sup>

Furthermore, the effect on REIT shareholders noted above could continue: REIT E&P could be "artificially" high, thereby resulting in the treatment of an "artificially" greater portion of shareholders' distributions as taxable dividends.<sup>7</sup> Thus, in a worst case scenario, the difference in recovery periods may cause a REIT to lose its REIT status and be subjected to tax at both the entity and shareholder levels.

Accordingly, NAREIT recommends that the recovery period for Energy Grant property for E&P be conformed to that for taxable income purposes.<sup>8</sup>

<sup>5</sup> Because of the extent of the mismatch, this result is the case even though Section 312(k)(5) (basis for calculating depreciation is tax basis without reduction by 50% of the amount of the Energy Tax Credits and presumably Energy Grants as well) may apply.

<sup>6</sup> Section 857(d)(2) provides that a REIT will always be treated as having adequate earnings and profits to make distributions as dividends sufficient to avoid the excise tax under Section 4981. The rules for determining the "required distribution" for purposes of avoiding the excise tax under Section 4981 are complicated, but they basically require a distribution as a dividend of 85% of the REIT's ordinary income and 95% of the REIT's capital gain net income. Because Section 857(d)(2) only ensures sufficient earnings and profits to avoid the excise tax and does not provide sufficient earnings and profits to meet the 90% distribution test under Section 857(a)(1), it is possible that the REIT could fail the distribution test due to the mismatch here and in other contexts.

<sup>7</sup> If the increased depreciation of Energy Grant property for earnings and profits purposes in years 6-12 (and in other contexts) require a REIT to invoke Section 857(d)(2) so that it would have enough earnings and profits to avoid the excise tax under Section 4981, this effective disallowance of depreciation for E&P purposes would cause the REIT shareholders to report artificially high dividend income in those years. In addition, there is an alternate view that no deductions for depreciation are permissible against E&P in years 6-12 due to the application of § 857(d)(1) (which prohibits reducing E&P for any taxable year by an "amount" not "allowable" in computing taxable income for such year). If this view were correct, the REIT should not fail to meet its 90% distribution requirement. On the other hand, a REIT shareholder would be placed in an even worse position with the 5-year depreciation period than it is in with a 12-year depreciation period. Under this view, E&P would be reduced in years 1-6 based on a 12-year depreciation recovery period, but E&P would not be reduced at all in years 6-12, thereby greatly increasing the taxable portion of the REIT's distribution in the latter years. Thus, the shareholder could end up paying tax on income that greatly exceeds the income that is earned by the REIT.

<sup>8</sup> The current mismatch in this context also creates the potential for double taxation of REIT shareholders. Specifically, it appears that E&P increases by the full amount of the Energy Grant in the year of receipt although it reduces tax basis by 50% of the amount of the Energy Grant. When the Energy Grant property is sold, part of that reduction in tax basis will be included in the tax gain and possibly the E&P once again, arguably resulting in double taxation of REIT shareholders on 50% of the Energy Grant amount. Section 562(e) properly includes such gain for purposes of the DPD. Section 857(d)(1) is unclear as to whether it mirrors this E&P result for shareholders. Although it also appears that Section 312(k)(5) might eliminate this problem over the life of the relevant property by increasing E&P basis and therefore allowing for greater depreciation deductions for E&P purposes, its effect is possibly limited by Section 857(d)(1), as described above. Conforming the recovery periods for taxable income and E&P purposes should minimize the extent of this potential double taxation. Further, the shorter taxable income recovery period should be the recovery period chosen to provide the greatest incentive for REITs to undertake these kinds of valuable projects.

4. *Clarify that the Right to Receive Energy Grants and Refundable Tax Credits is a "Real Estate Asset" Under the REIT Asset Tests*

As noted above, REITs must satisfy the Asset and Income Tests in order to maintain their qualification as REITs. To prevent Energy Grants and/or Refundable Tax Credits from jeopardizing a REIT's tax status, NAREIT recommends that Congress clarify that the right to receive both items would be considered a "real estate asset" for purposes of the REIT Asset Tests.

B. Enact S. 1637/H.R. 4226 with REIT-Related Modifications to Enhance the Deduction for Energy Efficient Commercial Buildings and Extend Energy Efficient Home Tax Credits to All Multifamily Residences

1. *S. 1637/H.R. 4226*

As part of energy legislation adopted in 2005, Congress created Code Section 179D, which allows a commercial building owner to receive a deduction equal to \$1.80 times the square footage of a building for property installed to meet very strict energy efficiency standards. The legislation also created a tax credit under Section 45L for home residence energy investments, which were later extended by regulation to owners of multi-family residences (including apartments and senior living communities) so long as they were three stories or less. Unfortunately, these deductions and credits have not been used very much because they are not sufficiently robust to make the targeted investments economically viable. S. 1637, the *Expanding Building Efficiency Incentives Act of 2009*, and its companion bill, H.R. 4226, would enhance the deduction for energy efficient commercial buildings in Section 179D and would extend energy efficient home credits. NAREIT supports the enactment of the provisions in these bills, with the modifications discussed below.

2. *Conform E&P to Taxable Income from Section 179D Deductions*

As noted above in the Energy Grant section, we recommend that the deductions in the Code, including those authorized under Section 179D, be coupled with a corresponding deduction for E&P purposes. Under current law, although Section 179D authorizes certain deductions from taxable income, these deductions do not immediately reduce E&P, but instead reduce it pro rata over a five-year period.

Unless the Section 179D deduction also reduces REIT E&P by a corresponding amount, a REIT's shareholders will not get the benefit of the increased deduction because their taxable dividends are keyed off E&P, not the REIT's taxable income. Under current law, REIT shareholders would receive only one-fifth of the benefit of the Section 179D deduction per year. Depending on the extent of this and other disparities between taxable income and E&P, this mismatch also could leave a REIT without sufficient E&P in later years to meet its distribution requirement (or, as described in the section on Energy Grants, could overtax REIT shareholders). As a result, deductions like those in Section 179D currently provide limited incentive to REITs.

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Accordingly, NAREIT recommends that if S. 1637/H.R. 4226 are enacted, Congress also provide that the Section 179D deduction for E&P purposes be conformed to that for taxable income purposes, and, thus, be allowed to reduce E&P immediately instead of over five years.

3. *New Energy Efficient Home Credit: Section 45L/Allow for Equivalent Deduction*

As noted above, Section 45L provides a tax credit for investment in energy efficient homes. We understand that listed REITs own approximately 7% of commercial grade apartment stock, yet this portion of the multifamily market cannot benefit from energy tax credits. Again, because REITs are required to distribute at least 90% of their taxable income (and most distribute 100% or more), REITs generally do not have any federal income tax liability at the entity level that could be offset by tax credits. To create any incentive for REITs to invest in energy reduction projects, we believe that REITs should be afforded the flexibility of claiming the incentive as a tax deduction, rather than a tax credit.

Furthermore, because a tax credit affords a dollar-for-dollar reduction in tax liability, while a tax deduction only reduces tax liability by the amount of the deduction multiplied by the tax rate applicable to the income, we recommend "grossing up" any deduction to achieve the same economic result as a tax credit.

In order to determine the amount of a deduction necessary so that a taxpayer receives the same economic benefit as a taxpayer who receives a credit, the following formula is appropriate:

$$\text{Credit} = [\text{"Grossed up" Deduction}] * [\text{tax rate}]$$

$$\text{Thus, "Grossed up" Deduction} = [\text{Credit}] / [\text{tax rate}]$$

In simple terms, the value of the deduction that will equal the economic benefit of a credit will be equal to the credit divided by the tax rate (with the tax rate expressed in decimal format, *e.g.*, 35% as .35). Thus, the lower the tax rate, the higher the deduction needed (since the higher the tax rate is, the greater the tax savings from a deduction).

Because a REIT would be subject to the highest marginal rate of 35% to the extent that it retained any taxable income, and, accordingly, had a federal income tax liability, we suggest using a 35% tax rate. As an illustration, a tax credit of \$100 could save a non-REIT taxpayer \$100 in federal income tax liability. Assuming a 35% tax rate, in order for that credit to provide the REIT with the same economic benefit as a deduction, it would need to be converted into a deduction of \$285 ( $\$100/.35=\$284.9$ ).

C. Enact Retrofitting Grants Programs/Clarify that the Right to Receive Such Grants is a Qualifying REIT Asset that Generates Qualifying REIT Income

As part of the comprehensive climate change legislation adopted by the House of Representatives in June 2009, a "National Energy Efficiency Building Code" would effectively create a minimum standard for local building codes. Under this proposal, buildings would be required to improve energy efficiency by 30% by 2010, and by 50% by 2016.

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In addition, the bill would provide federal grants over a four-year period for state and local agencies to distribute for retrofitting projects to achieve the ambitious energy efficiency standards in existing buildings that would be established by the bill. This provision, authored by Representative Peter Welch, would give building owners direct cash incentives for up to half of the total retrofit cost based on their efficiency improvements. Specifically, it would provide \$0.15 per square foot for energy reductions of 20-30%, \$0.75 per square foot for reductions of 30-40%, \$1.60 for reductions of 40-50%, and \$2.50 for reductions over 50%.

Without clarification that these grants should be considered qualifying REIT assets that generate qualifying REIT income, it is quite possible that REITs would not participate in the program out of fear of jeopardizing a REIT's tax status. Consequently, NAREIT pursued clarifying language during floor debate of the House Bill; unfortunately tax-related provisions were not considered prior to House passage. However, during debate of the bill, Representative Welch stated his support for providing the necessary clarification language once the bill moves further through the legislative process.<sup>9</sup> NAREIT recommends that if Congress enacts legislation authorizing these retrofitting grants, it should clarify that such grants are qualifying real estate assets that generate qualifying real estate income under the REIT tax rules.

D. Enact S. 3079, Authorizing the Building STAR Program to Provide Rebates for Energy Efficient Equipment, Materials and Services

The product of a wide consultation among members of *Rebuilding America*, a coalition of more than 80 business, real estate, financial, labor, consumer, environmental, and advocacy organizations, S. 3079 would authorize the Building STAR program, a rebate program for building owners and managers who install or implement nearly 20 different types of energy efficient equipment, materials, and services during 2010 and 2011. The Building STAR rebates would cover approximately 20-30% of the cost of installing energy efficient products and/or services (such as building performance audits) during 2010 and 2011. Rebates are capped at 50% of the total cost of the product or service for a given building. Moreover, they are largely based on proven, existing rebate programs offered by some states and utilities.

The Building STAR program would provide significant incentives to modernize extensive commercial real estate stock in the United States, with high efficiency equipment, materials, and services. Building STAR would stimulate the economy, create jobs, save energy and money, and reduce greenhouse gas emissions. NAREIT recommends that Congress adopt this program to encourage the creation of jobs in a sustainable economy.

NAREIT again thanks the Chairman, the Ranking Member and the Committee for the opportunity to submit these comments on these important issues.

<sup>9</sup> 155 Cong. Rec. H7634 (June 26, 2009).

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NATIONAL ASSOCIATION OF REAL ESTATE INVESTMENT TRUSTS®

**Statement of Manning Feraci, National Biodiesel Board,  
Vice President of Federal Affairs**

**Executive Summary:** Biodiesel is a renewable, low carbon diesel replacement fuel that is widely accepted in the marketplace. It is the only commercial scale Advanced Biofuel produced in the U.S. The biodiesel tax incentive has allowed the U.S. to achieve the significant economic, environmental and energy security benefits associated with expanded domestic production and use of biodiesel.

Due to volatile commodity prices, unfavorable market conditions, difficulty accessing operating capital, and uncertainty regarding federal policy, the U.S. biodiesel industry is facing severe economic challenges. In particular, the lapse of the biodiesel tax incentive on December 31, 2009 has had a detrimental impact on the industry, and the domestic production and consumption of biodiesel has been significantly curtailed. Plants nationwide have already ceased production, trimmed payrolls and laid off employees, and the 23,000 jobs nationwide supported by the industry will be in increasing jeopardy the longer the tax incentive is allowed to lapse. Accord-

ingly, the U.S. biodiesel industry asks Congress to address this immediate issue and act in a timely manner to retroactively extend the biodiesel tax incentive.

In addition, it is difficult for entrepreneurs and investors to make long-term business decisions based on year to year extensions of the biodiesel tax incentive. Thus, a multiple year extension of the incentive is needed to provide certainty and stability in the marketplace. In addition, the U.S. biodiesel industry supports reforming the biodiesel tax incentive by changing the current blenders excise tax credit to a production excise tax credit. This will improve Administration of the incentive, eliminate potential abuses and enhance tax compliance.

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Chairman Levin, Ranking Member Camp and Members of the Committee, I thank you for the opportunity to submit written testimony on behalf of the National Biodiesel Board (NBB) regarding the need to retroactively extend and reform the biodiesel tax incentive.

**About NBB:** NBB is the national trade association representing the biodiesel industry as the coordinating body for research and development in the U.S. It was founded in 1992 by state soybean commodity groups who were funding biodiesel research and development programs. Since that time, the NBB has developed into a comprehensive industry association, which coordinates and interacts with a broad range of cooperators including industry, government and academia. NBB's membership is comprised of biodiesel producers; state, national and international feedstock and feedstock processor organizations; fuel marketers and distributors; and technology providers.

**Background and Industry Overview:** Biodiesel is a diesel replacement fuel that is an Advanced Biofuel under the Renewable Fuels Standard (RFS2) program. The fuel is made from agricultural oils, fats and waste greases and is refined to meet a specific commercial fuel definition and specification. The fuel is produced by reacting feedstock with an alcohol to remove the glycerin and meet the D6751 fuel specification set forth by the American Society for Testing and Materials (ASTM International). Biodiesel is one of the best-tested alternative fuels in the country and the only alternative fuel to meet all of the testing requirements of the 1990 amendments to the Clean Air Act. There are currently 173 biodiesel plants in the U.S. with a combined production capacity of 2.69 billion gallons.

Biodiesel is primarily marketed as a 5 percent (B5) blending component with conventional diesel fuel, but can be used in concentrations up to 20 percent (B20). It is distributed utilizing the existing fuel distribution infrastructure with blending occurring both at fuel terminals and "below the rack" by fuel jobbers. Biodiesel is beginning to be distributed through the petroleum terminal system. To date, biodiesel is available in over 72 fuel distribution terminals. Last year, two major pipeline companies successfully tested B5 blends in pipelines, and the biodiesel industry has committed funds to continue to study the technical needs required for moving biodiesel through U.S. pipelines. Already, biodiesel is moved through pipelines in Europe, and expanding that capability in the U.S. would significantly increase biodiesel penetration in the U.S. diesel fuel market.

**Status and Background on the Biodiesel Tax Incentive:** The biodiesel tax incentive was enacted in 2004 as part of the American Jobs Creation Act (P.L. 108-357). The incentive was subsequently extended through December 31, 2008 as part of the Energy Policy Act of 2005 (P.L. 109-190). H.R. 1424, the Emergency Economic Stabilization Act of 2008 (P.L. 110-343), again extended the incentive for 1 year through December 31, 2009. The biodiesel tax incentive has expired, and the current lapse in the biodiesel tax incentive has had a detrimental impact on the domestic biodiesel industry.

On December 9, 2009, the U.S. House of Representatives approved H.R. 4213, *The Tax Extenders Act of 2009*, by a 241-181 margin. This legislation, among its provisions, provides a 1-year extension of the biodiesel tax incentive. The U.S. Senate voted to approve its version of H.R. 4213, *The American Workers, State, and Business Relief Act of 2010*, on March 10, 2010 by a 62-36 margin. H.R. 4213 as approved by the U.S. Senate provides a 1-year retroactive extension of the biodiesel tax incentive.

The biodiesel tax incentive is designed to encourage the production and use of biodiesel by making the fuel's price competitive with conventional diesel fuel. In general, current law allows taxpayers to claim the biodiesel tax incentive as either a \$1.00 per gallon general business income tax credit or as a \$1.00 per gallon blenders excise tax credit. To qualify for the biodiesel tax incentive, the fuel must by statute meet both the ASTM D6751 fuel specification and the Environmental Protection Agency's (EPA) registration requirements under Section 211 of the Clean Air Act.

The income tax credit can be claimed either as a biodiesel mixture credit, which provides the incentive for each gallon of biodiesel that is blended with conventional diesel fuel, or as a B100 biodiesel credit for each gallon of pure biodiesel that is used as a fuel.

The biodiesel tax incentive also provides a biodiesel blenders excise tax credit. The credit is \$1.00 for each gallon of biodiesel that is blended with conventional diesel fuel. The blenders excise tax credit differs from the biodiesel mixture income tax credit and the B100 biodiesel income tax credit in that the blenders credit can be used to offset excise tax liability, and is refundable to the degree that the credit exceeds excise tax owed by a taxpayer. The B100 biodiesel credit and biodiesel mixture income tax credit are coordinated to take into account amounts claimed via the blenders credit. The vast majority of biodiesel tax incentives are claimed as a blenders excise tax credit.

Lastly, current law provides for a small agri-biodiesel producer income tax credit. The credit is 10 cents per gallon and can be claimed by taxpayers with less than 60 million gallons of cumulative annual production capacity. The credit is limited to the first 15 million gallons of annual production. To qualify for the small producer credit, fuel must be produced from either virgin vegetable oils or animal fats.

**Biodiesel Public Policy Benefits:** The biodiesel tax incentive has helped achieve the worthwhile policy goal of increasing the production and use of biodiesel in the U.S. In 2004, when the incentive was initially enacted, the U.S. produced 25 million gallons. In 2009, that number rose to 545 million gallons. There are compelling public policy benefits associated with the enhanced production and use of biodiesel in the U.S.

*The Biodiesel Industry is Creating Green Jobs and Making a Positive Contribution to the Economy:* In 2009, the U.S. biodiesel industry supported 23,000 jobs in all sectors of the economy. This added \$4.1 billion to the Nation's Gross Domestic Product (GDP) and generated \$828 million in tax revenue for federal, state and local governments.

By conservative estimates, there is domestic feedstock available to support 1.77 billion gallons of annual biodiesel production in the U.S. The domestic industry has the capacity to support this level of production. The production of 1.77 billion gallons of fuel would support 78,619 jobs; add \$6.660 billion to the GDP; generate \$1.345 billion in revenue for federal, state and local governments; and reduce greenhouse gas emissions by 27.4 billion pounds—the equivalent of removing 2.38 million passenger vehicles from U.S. roads.

*Biodiesel Reduces our Dependence on Foreign Oil:* Biodiesel plays a constructive role in expanding domestic refining capacity and reducing our reliance on foreign oil. The 1.9 billion gallons of biodiesel produced in the U.S. since 2005 has displaced an equivalent amount of diesel fuel with a clean-burning, efficient fuel that reduces lifecycle carbon dioxide emissions by as much as 86 percent compared to petroleum diesel fuel and creates 4.56 units of energy for every unit of energy that is required to produce the fuel.

*Biodiesel is Good for the Environment:* Biodiesel is an environmentally safe Advanced Biofuel, and is the most viable transportation fuel when measuring its carbon footprint, life cycle and energy balance. The U.S. Department of Agriculture (USDA)/Department of Energy (DoE) life cycle study shows that biodiesel yields a 78 percent reduction in direct lifecycle CO<sup>2</sup> emissions compared to petroleum diesel fuel. The EPA's RFS2 life cycle analysis shows that biodiesel reduces greenhouse gas emissions by as much as 86 percent. One billion gallons of biodiesel will reduce current life cycle greenhouse gas emissions by 16.12 billion pounds, the equivalent of removing 1.4 million passenger vehicles from U.S. roads. In 2009 alone, biodiesel's contribution to reducing greenhouse gas emissions was equal to removing over 774,000 passenger vehicles from America's roadways.

Biodiesel's emissions significantly outperform petroleum diesel. Biodiesel emissions have decreased levels of all target polycyclic aromatic hydrocarbons (PAH) and nitrated PAH compounds, as compared to petroleum diesel exhaust. These compounds have been identified as potential cancer causing agents.

Biodiesel is the only alternative fuel to voluntarily perform Environmental Protection Agency (EPA) Tier I and Tier II testing to quantify emission characteristics and health effects. That study found that B20 (20 percent biodiesel blended with 80 percent conventional diesel fuel) provided significant reductions in total hydrocarbons, carbon monoxide, and total particulate matter. Research also documents the fact that the ozone forming potential of the hydrocarbon emissions of pure biodiesel is nearly 50 percent less than that of petroleum fuel. Pure biodiesel typically does not contain sulfur and therefore reduces sulfur dioxide exhaust from diesel engines to virtually zero.

*The Biodiesel Industry Stimulates Development of New Low-Carbon Feedstocks:* The feedstock used to produce U.S. biodiesel has increasingly diversified, with waste products such as animal fat and used restaurant grease (yellow grease) making up a larger portion of the feedstock used to produce fuel. Biodiesel production is currently the most efficient way to convert lipids into low-carbon diesel replacement fuel, and as a result, industry demand for less expensive, reliable sources of fats and oils is stimulating promising public, private and non-profit sector research on second generation feedstocks such as algae.

Algae's potential as a source of low carbon fuel has been well documented, and a stable, growing biodiesel industry is necessary if the U.S. is to eventually benefit from the commercial scale production of algal-based biofuels. The NBB estimates that for every 100 million gallons of biodiesel that is produced from algae, 16,455 jobs will be created and \$1.461 billion will be added to the GDP.

**U.S. Biodiesel Industry is Facing Severe Economic Hardship:** Despite recent growth, the industry is in the midst of an economic crisis. Plants are having difficulty accessing operating capital. Volatility in commodity markets and reduced demand for biodiesel in both domestic and global markets are making it difficult for producers to sell fuel. Lastly, uncertainty relating to federal policy that is vital to the industry's survival—in particular the current lapse of the biodiesel tax incentive—is sending inconsistent signals to the marketplace and undermining investor confidence in the industry.

If prolonged, this downturn will lead to a severe retraction in U.S. biodiesel production capacity. Because of the lapse in the biodiesel tax incentive, the price of biodiesel is significantly higher than petroleum diesel. This has made it nearly impossible for biodiesel plants to produce fuel at a profit, and as a result, U.S. production and consumption of biodiesel has been severely curtailed. If this situation is allowed to persist, the energy security, environmental, and job creation benefits that the Nation realizes from biodiesel production will be lost.

**Multiple Year Extension of a Reformed Biodiesel Tax Incentive is Consistent with Sound Tax and Energy Policy:** The biodiesel tax incentive has helped the nascent U.S. biodiesel industry reach commercial scale production of renewable, low carbon diesel replacement fuel. This in turn has allowed the Nation to realize the energy security, economic and environmental benefits associated with the domestic production and use of biodiesel. It is, however, difficult for entrepreneurs and investors to make long-term business decisions based on year to year extensions of the biodiesel incentive. Thus, a multiple year extension of the biodiesel tax incentive is needed to provide certainty and stability in the marketplace.

NBB also supports a structural reform of the tax incentive. Specifically, the U.S. biodiesel industry supports changing the current blenders excise tax credit to a production excise tax credit of equal value. This change will streamline Administration of the credit and promote tax compliance while preserving the elements of the existing incentive that have effectively incentivized the production and use of biodiesel. This reform proposal is encompassed in H.R. 4070, legislation introduced by U.S. Representative Earl Pomeroy (D-ND) and U.S. Representative John Shimkus (R-IL) and S. 1589, *The Biodiesel Reform and Extension Act of 2009*, introduced in the U.S. Senate by Senator Maria Cantwell (D-WA) and Senator Charles Grassley (R-IA).

There are several shortcomings associated with the current structure of the biodiesel blenders excise tax credit that would be remedied by restructuring the incentive as a production excise tax credit. Specifically:

*Current Blenders Excise Tax Credit Structure Presents Administrative Difficulties:* Blending biodiesel with diesel fuel, the event that triggers the blenders credit, can occur at multiple stages in the fuel distribution chain. This significantly increases the number of registrants eligible to claim the credit and makes it difficult to ensure that only fuel that qualifies for the benefit claims the incentive. Changing the blenders excise tax credit to a production excise tax credit would allow the incentive to be claimed at either a biodiesel plant or at an Internal Revenue Service (IRS) registered terminal, making it easier to ensure that only fuel meeting the ASTM D6751 fuel specification receives the tax incentive while preserving the incentive's underlying economic benefits.

*Existing Blenders Excise Tax Credit Does Not Work Well with the U.S. Department of Treasury's Excluded Liquids Rule:* Under existing regulations, for purposes of the 24.3 cents per gallon diesel fuel excise tax, diesel fuel does not include "excluded liquids." Among other things, liquids with less than 4 percent paraffin content are considered an excluded liquid. Existing IRS regulations allow B99.9 biodiesel blends and other blends to qualify for the biodiesel blenders excise tax credit, even if the blend is an excluded liquid not subject to the federal diesel fuel excise tax. B99.9 blends do not have 4 percent paraffin content, and thus, are not currently subject

to the diesel fuel excise tax. Because biodiesel is typically used as a lower level blend component in the marketplace that is eventually subject to the federal diesel fuel excise tax, this leads to a situation where excise tax liability is triggered at varying points “below the rack.” This makes collection of the 24.3 cents per gallon diesel fuel excise tax burdensome for both taxpayers and the IRS.

In an attempt to address this issue, the IRS issued a proposed rule on July 29, 2008 that would modify the Excluded Liquids rule in a manner that would subject B99.9 biodiesel blends to the federal diesel fuel excise tax. This change, however, would further complicate the taxation and distribution of biodiesel in fuel terminals. For example, under the proposed rule, a B99.9 blend sold by a biodiesel producer to a position holder in an IRS registered terminal would be subject to the 24.3 cents per gallon diesel fuel excise tax. When the B99.9 fuel is further blended to a B5 through B20 level and is sold at the terminal in a taxable sale, the biodiesel component of the blend would again be subject to the diesel fuel excise tax. Though there is an existing regime that would allow for the refunds, this system is not timely and is difficult for taxpayers to navigate. As a result, this change would again have the unintended consequence of artificially inflating the price of biodiesel in the marketplace on account of the fuel being subject to double taxation and could cause cash flow issues for fuel marketers and terminal operators who sell and promote biodiesel in the marketplace. Further, terminal operators who handle both B100 and B99.9 biodiesel blends would be forced to expend capital to purchase additional storage tanks and other infrastructure to handle biodiesel, again serving as a deterrent to the expanded use and sale of biodiesel through the Nation’s fuel terminals.

The IRS is also in the midst of a process that would incorporate biofuels, including biodiesel, in the existing ExStars fuel reporting system. ExStars is a fuel excise tax compliance reporting system that tracks the flow of fuel through IRS registered terminals. In an effort to collect the 24.3 cents per gallon diesel fuel excise tax owed on biodiesel blends “below the rack,” the IRS envisions significantly expanding the number of taxpayers that must file reports under the ExStars system to include small “below the rack” fuel marketers. This would impose an onerous regulatory burden on small businesses.

To remedy this issue, H.R. 4070 and S. 1589 would treat pure biodiesel as diesel fuel for tax purposes. In general, the reform proposal would provide that the biodiesel tax incentive would be claimed and the diesel fuel excise tax would be paid when biodiesel was sold by the plant. The proposal would also allow for the sale of tax-exempt, non-credit claimed fuel to an IRS registered terminal, and the credit would be claimed and excise tax paid at the terminal. This structure would avoid the complexities associated with subjecting B99.9 blends to the diesel fuel excise tax under the current structure of the biodiesel tax incentive. In addition, this would significantly improve tax compliance and remove the need for the IRS to impose onerous below the rack ExStars reporting requirements on fuel distributors and marketers.

*Change to Production Excise Tax Credit Would Stop Potential Transshipment Schemes:* P.L. 110-343 contained a provision designed to give the IRS the statutory authority to stop so-called “splash and dash” transactions. A “splash and dash” transaction occurs when biodiesel produced in a foreign country is sent to the U.S., splash blended with diesel fuel to claim the U.S. biodiesel blenders excise tax credit, and then sent to a third country for final use as biodiesel or diesel fuel at any blend level. P.L. 110-343 clarified that effective May 15, 2008, fuel produced outside the U.S. for use outside the U.S. does not qualify for the biodiesel tax incentive. There is clearly no energy or tax policy justification for this sort of transaction, and the NBB was fully supportive of efforts to close this unjustified and unforeseen tax loophole.

Though Congress closed the “splash and dash” loophole, the current law blenders credit could inadvertently allow for other potential abuses associated with the transshipment of foreign fuel through the U.S. to claim the blenders credit. In addition, further refinements to the blenders excise credit to address these issues are likely to run contrary to U.S. WTO commitments. A change to a production excise tax credit would thwart any potential transshipment abuses in a WTO-consistent manner.

*Transition to Production Excise Tax Credit Could be Accomplished with Minimal Marketplace Disruption:* Under current law, a blend of 99.9 percent biodiesel and .1 percent diesel qualifies for the biodiesel blenders excise tax credit. Biodiesel plants are currently permitted to claim the incentive. Thus, for practical purposes, the current incentive in these instances functions as a production credit. A change to a production excise tax credit would preserve the incentive’s liquidity and could be easily administered by both taxpayers and the IRS.

**Conclusion:** The biodiesel tax incentive has helped achieve the desired goal of increasing the domestic production and use of biodiesel, and in turn has helped the U.S. realize the energy security, economic and environmental benefits associated with displacing petroleum with domestically produced renewable fuels. These benefits, however, will be lost if Congress does not act in a timely manner to address the immediate issue facing the industry and retroactively extend the biodiesel tax incentive. In addition, to provide certainty and improve the incentive, the U.S. biodiesel industry urges Congress to reform the biodiesel tax incentive as a production excise tax incentive and provide a multiple year extension of the reformed incentive.

Chairman Levin, Ranking Member Camp and Members of the Committee, I again appreciate having the opportunity to submit written testimony on this issue of significant importance to the U.S. biodiesel industry.

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### National Hydropower Association, Letter

April 16, 2010

The Honorable Sander Levin  
Chairman  
Committee on Ways and Means  
1102 Longworth House Office Building  
Washington, DC 20515

The Honorable David Camp  
Ranking Minority Member  
Committee on Ways and Means  
1139E Longworth House Office Building  
Washington, DC 20515

Dear Chairman Levin and Ranking Member Camp:

The National Hydropower Association<sup>1</sup> (NHA) appreciates this opportunity to comment on the need for continued federal investment in the Nation's hydropower system to support the ambitious renewable energy goals set by Congress, the Administration, as well as the states.

Significantly increased renewable energy generation has many short- and long-term benefits, such as reduced emission of greenhouse gases and other pollutants. However, to meet these aggressive goals and reap the benefits, aggressive federal policy support, particularly in the form of expanded tax incentives, is needed.

NHA believes the U.S. hydropower industry is primed for responsible growth and can play a significant role in the effort to increase renewable energy generation. Numerous opportunities are available to expand this country's hydropower base while at the same time providing responsible environmental stewardship of the Nation's rivers.

These opportunities have grown dramatically with Congress' enactment of the Energy Policy Act of 2005 (EPAAct 2005), and more recently, the American Recovery and Reinvestment Act of 2009 (ARRA). However, policies remain unfinished or not addressed by these statutes that would provide the long-term certainty needed by utilities and project developers to attract investment in the hydropower sector and to finance new development.

NHA commends to the Committee the following items for inclusion in any tax package as part of a jobs stimulus or energy and climate bill:

- **Section 45 Production Tax Credit Parity for Hydropower and Hydrokinetic Resources** Internal Revenue Code (IRC) Section 45 provides for a production tax credit (PTC) for electricity produced from certain renewable resources. Under current law, the PTC discriminates between technologies, picking winners and losers. Certain facilities, such as wind and geothermal power, are eligible to receive the full PTC, while other qualified facilities, including qualified hydropower, small irrigation power and marine and hydrokinetic power receive only 50 percent of the full PTC rate.

All of the technologies that qualify for the PTC play an important role in expanding the Nation's use of renewable electricity and reducing the effects of climate change. The disparity in the PTC distorts market dynamics and makes it difficult for facilities that receive only a 50 percent credit to compete with those that receive the full amount of the credit. It is critical for Congress to provide technology-neutral tax incentives to promote the growth of all

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<sup>1</sup> NHA is a non-profit national association dedicated exclusively to advancing the interests of the U.S. hydropower industry, including conventional, pumped storage and new ocean and other hydrokinetic technologies. NHA's membership consists of more than 170 organizations including public utilities, investor owned utilities, independent power producers, project developers, equipment manufacturers, environmental and engineering consultants and attorneys.

clean electricity resources. (See introduced bipartisan parity legislation—H.R. 2626, the Renewable Energy Parity Act.)

In ARRA, Congress recognized the need for equal tax treatment for renewables by allowing all renewable energy project developers to elect the 30 percent ITC. NHA recommends Congress extend the same treatment to the PTC, which would harmonize the policies and ensure there is no slanting of investment in favor of any one technology over another.

- **Extension of Section 1603 Grants** Section 1603 of ARRA created a Department of Treasury grant program that provides for a 30 percent cash grant in lieu of the IRC section 48 ITC for specified energy property (a) placed in service in 2009 or 2010 (regardless of when construction began), or (b) placed in service after 2010 but before January 1, 2017, but only if the construction of such property began during 2009 or 2010.

Although the grant program has been very helpful in providing access to financing for qualified energy facilities during the Nation's economic downturn, a 2-year extension of the grant program would ensure the creation of additional facilities to expand production of renewable energy and create thousands of new green technology jobs. NHA also recommends adoption of a mechanism that allows public power to utilize the Section 1603 program.

- **Increase Funding of CREBs.** Clean Renewable Energy Bonds (CREBs) are tax credit bonds that provide the equivalent of interest-free loans to provide financing for capital expenditures for qualified public power projects. Additional funding of the CREBs program is critical to ensuring that qualified projects have access to capital to construct new facilities.
- **Expansion/Extension of the IRC Section 48C Advanced Manufacturing Credit.** ARRA created a new IRC Section 48C 30 percent ITC for qualified investment in projects that re-equip, expand or build manufacturing facilities used to produce certain specified advanced energy property. ARRA provided for \$2.3 billion in credits to be awarded through a competitive application process. President Obama has proposed increasing funding for the program to \$5 billion in order to expand the Nation's green energy manufacturing capacity and create high-paying new green technology jobs in the U.S.
- **Pumped Storage Investment Tax Credit and CREBs Eligibility.** Pumped storage of electricity is a proven, viable, large-scale method of storing energy and is an ideal option for firming the variability of other renewable energy resources, such as wind and solar. Pumped storage provides several grid reliability benefits, including energy storage, load balancing, frequency control, and incremental and decremental reserves. There are approximately three dozen new projects under consideration—almost entirely in the western half of the country. These proposed facilities are situated in key areas where new development of variable resources is occurring at a rate that will challenge the capabilities of the transmission system and existing flexible generation resources to manage.

Pumped storage is also the largest-capacity form of grid energy storage currently available. Projects generally range in size from 500–1500 MWs, an important factor considering the tremendous increase in variable renewable generation, particularly wind, which is growing at a rate of thousands of MWs per year.

Legislation has been introduced that would provide a 20 percent investment tax credit and CREBs eligibility for energy storage property, including pumped storage. Enactment of this bipartisan legislation, H.R. 4210, the Storage Technology of Renewable and Green Energy Act, would help to significantly expand the Nation's capacity to provide the reliability and grid stability benefits pumped storage provides.

- **Long-Term Extension of PTC and ITC.** With ARRA, the Congress extended the production and incentive tax credits through 2013. This multi-year extension has been critical for the hydropower industry to utilize the credits as the development and deployment timeline of larger, more capital-intensive hydropower projects is longer than that of other renewables. To date, over 4 dozen projects have been certified for PTCs and several other projects are looking to utilize the ITC or were resurrected after being put on the shelf because of the ITC availability.

All of these projects though, involve adding new capacity at existing hydropower facilities. Also eligible under the PTC and ITC are new hydropower facilities at existing non-powered dams. Currently, only 3 percent of the country's 80,000 dams have power facilities. However, these projects are required to complete a licensing process that takes 5 to 5.5 years, on average, with additional time needed for construction and equipment manufacturing. A further extension of the credits for hydropower facilities is needed to ensure that these larger projects with longer lead times have the certainty of the incentives. Otherwise, investment will continue to flow, by default, to those technologies that can deploy in less time.

NHA appreciates the opportunity to submit this statement for the record. We believe there are tremendous opportunities to accelerate deployment of hydropower resources to realize our national clean energy, jobs, and environmental goals by utilizing the benefits hydropower provides. However, policy matters, and we strongly encourage the Committee to adopt the recommendations outlined above.

Sincerely,

Linda Church Ciocci  
*Executive Director*



**National Roofing Contractors Association, Statement**

National Roofing Contractors Association  
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**National Roofing Contractors Association****Statement for the Record****House Committee on Ways and Means****“Energy Tax Incentives Driving the Green Job Economy”****April 14, 2010**

Mr. Chairman and distinguished members of the committee, the National Roofing Contractors Association (NRCA) commends you for holding this hearing entitled “Energy Tax Incentives Driving the Green Job Economy.” NRCA greatly appreciates the opportunity to submit a statement for the hearing record on this important issue.

Established in 1886, NRCA is one of the nation’s oldest trade associations and the voice of professional roofing contractors worldwide. It is an association of roofing, roof deck, and waterproofing contractors; industry-related associate members, including manufacturers, distributors, architects, consultants, engineers, and government agencies; and international members. NRCA has approximately 4,000 members from all 50 states and 54 countries. NRCA contractors typically are small businesses, and the average member employs 45 people in peak season with sales of \$4.5 million per year.

**NRCA in the Forefront of Promoting Energy Efficient Roofing Technologies**

NRCA members believe that current trends toward the adoption of “green” buildings are key drivers of economic growth in our industry, and are working to maximize the economic and environmental benefits of upgrading the energy efficiency of the nation’s building stock. NRCA contractor, manufacturer and distributor members are in the forefront of developing and installing a wide variety of green technologies, such as vegetative roofs that reduce urban “heat island” effects and storm-water runoff, “cool” roofs that reduce energy consumption by reflecting sunlight, and photovoltaic roof systems that generate electricity from solar power. Further development of green roofing technologies will provide more opportunities to stimulate economic growth and job creation while reducing energy consumption and protecting our environment.

The Green Roofing Energy Efficiency Tax Act Will Create Jobs

The roofing industry is uniquely positioned to play an important role in quickly creating high quality jobs by enhancing the energy efficiency of our nation's buildings. With unemployment in the construction industry at an alarming 24.9 percent, according to the most recent Bureau of Labor Statistics data, NRCA urges Congress to take immediate action on targeted policy measures that will spur job creation in the construction sector.

The "Green" Roofing Energy Efficiency Tax Act (GREETA, H.R. 426) will immediately create new jobs among U.S. manufacturers and contractors while also helping to conserve energy and reduce carbon emissions. This common sense investment in the emerging "green" building sector will result in more "boots on the roof" within days of enactment. According to a study conducted by Ducker Worldwide, a leading industrial research firm, GREETA will produce the following economic benefits by accelerating the adoption of energy-efficient roofs in the commercial building sector:

- Create 40,000 new contracting and manufacturing jobs;
- Add \$1 billion of taxable annual revenue to the economy;
- Provide savings to small businesses through a simpler and more equitable system of taxation and lower energy costs.

H.R. 426 was introduced by Reps. Bill Pascrell (D-NJ) and Wally Herger (R-Calif.) and has over 30 bipartisan cosponsors. This legislation will facilitate greater levels of investment in green technologies and spur economic growth within the construction and manufacturing industries. It will do so by amending section 168 of the Internal Revenue Code to provide a 20-year tax depreciation schedule for commercial roof systems that meet a specific energy-efficiency standard.

Passage of GREETA is necessary because between 1981 and 1993 the depreciation schedule for nonresidential property was increased from 15 years to 39 years. However, the current 39-year depreciation schedule is not a realistic measure of the average life span of a commercial roof. The Ducker Worldwide study determined the average life expectancy of a commercial roof to be only about 17 years.

The large disparity between the current 39-year depreciation schedule and the average life span of a commercial roof serves as a major incentive for building owners to delay the replacement of failing roofs. This disincentive is slowing the adoption of more advanced energy-efficient and environmentally-beneficial roofs, because an owner who replaces a roof before 39 years have elapsed must continue to depreciate that roof for tax purposes even though it no longer exists. A Treasury Department Report to Congress on Depreciation Recovery Periods and Methods (July, 2000) corroborated this quandary by

finding "...a 'cascading' effect, where several roofs are being depreciated at the same time, even though only one is physically present." Given this situation, many building owners choose to do only piecemeal repairs, most often with older technology, rather than replace a failing roof in its entirety with new, more energy-efficient materials.

GREETA will rectify this situation by reducing the tax depreciation schedule for commercial roofs from 39 to 20 years for roofs that meet the energy efficiency requirements of the benchmark Standard 90.1 of the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE). Enactment of this legislation will accelerate the adoption of energy-efficient commercial roof systems by eliminating the disincentive in the tax code for building owners to install energy-efficient commercial roofs. As noted, this will have a positive impact on the economy and job creation by spurring greater demand for energy efficient roofs. Enactment of GREETA will also benefit small businesses by eliminating or mitigating the "cascading effect" of having to depreciate more than one roof in instances where a roof must be replaced before the 39-year depreciation schedule has been completed.

Given GREETA's unique combination of job creation and environmental benefits, this legislation enjoys strong support among both business groups and organized labor, including the United Union of Roofers, Waterproofers and Allied Workers, the Joint Roofing Industry Labor and Management Committee, the Asphalt Roofing Manufacturers Association, the American Society of Heating, Refrigeration, and Air Conditioning Engineers, the Building Owners and Managers Association, the Center for Environmental Innovation in Roofing, the International Council of Shopping Centers and the Polyisocyanurate Insulation Manufacturers Association. GREETA also enjoys the strong support of numerous U.S. building material manufacturers.

#### Targeted GREETA Proposal

NRCA is also working with union and industry partners on a targeted version of GREETA that is designed to maximize job creation in the short term in order to help reduce the high rate of unemployment in the construction industry. This targeted proposal adopts key components of the Energy-Efficient Commercial Roofs Act of 2009 (H.R. 2615), legislation by Reps. John Larson (D-Conn.) and Dean Heller (R-Nev.), which NRCA strongly supports. H.R. 2615 would provide a 30 percent tax credit for energy efficient commercial roofs which meet a specified energy efficiency standard.

Recognizing the need to focus on immediate job creation, as well as current federal budgetary constraints, the targeted proposal is designed to maximize both job creation and enhanced energy efficiency in the short-term. The proposal applies only to upgrades of existing roofs and does not apply to new construction, and applies only to roofs upgraded in 2010 and 2011. To maximize the energy savings provided by qualifying roofs, the targeted proposal would utilize the more stringent energy-efficiency standards

contained in H.R. 2615. Thus, in order to obtain 20-year depreciation as specified in GREETA, the newly installed roof must meet minimum R-values (thermal resistance) that are significantly higher than those required under existing state and local building codes. The R-values are set to achieve maximum energy efficiency without being so costly that building owners would ignore the more attractive 20-year depreciation. Additionally, the provision would apply only to low-slope roofs where the insulation is installed entirely above deck (a category that covers approximately 62% of existing commercial building floor space).

By accelerating demand for energy-efficient roofs in the commercial building sector, the targeted proposal will:

- Create 40,000 new “green” jobs among roofing manufacturers and contractors;
- Add \$1 billion of taxable annual revenue from the roofing industry;
- Reduce U.S. energy consumption by 11.4 trillion Btu and save small businesses and consumers \$86 million in energy costs.
- Reduce U.S. carbon emissions by approximately 800,000 million metric tons (equal to emissions from 153,000 cars);

The energy saving and carbon emission reduction estimates for this targeted version of the legislation have been calculated using the U.S. Department of Energy’s EnergyPlus simulation software.

NRCA believes that this targeted proposal combining key components of H.R. 426 and H.R. 2615 is a highly credible short-term proposal for creating badly needed jobs in the commercial construction sector while also significantly improving the energy efficiency of the nation’s building stock. NRCA urges Congress to address the alarming 25 percent unemployment rate in the construction industry by moving forward now with “green jobs” tax legislation that contains this targeted proposal or similar language. NRCA looks forward to working with the members of the Ways and Means Committee towards this objective.

Thank you for your consideration of NRCA’s views on this issue of vital importance to the roofing industry.

**National Rural Electric Cooperative Association, Statement****Testimony of the Honorable Glenn English, submitted for the record to  
the Committee on Ways and Means for  
a Hearing on Energy Tax Incentives  
Driving the Green Job Economy  
Wednesday, April 14, 2010**

I am pleased to provide testimony about a renewable energy incentive that is important to the members of the National Rural Electric Cooperative Association as it is for its job creation -- the Clean Renewable Energy Bond (CREB). I would like to thank the Committee for making a critical improvement to the program in H.R. 2847, the "Hiring Incentives to Restore Employment Act." This new law establishes a "direct payment" option that allows CREB issuers to receive a direct payment from Treasury that is designed to reimburse the issuer for 70% of the projected interest cost on these bonds. This option has rescued the program from the negative impact of the recession on the market for tax credits, and assures that renewable projects -- and their associated jobs -- can move forward.

This improvement has made the CREB a much more efficient and effective means of financing renewable electricity projects for not-for-profit utilities. Now that it is attractive for issuers and buyers alike, I am urging Congress to provide for a significant new authorization of volume cap for electric cooperative and public power utilities.

**Background on Electric Cooperatives**

The National Rural Electric Cooperative Association (NRECA) is the national service organization representing the interests of cooperative electric utilities and their consumers. Electric cooperatives are not-for-profit, private businesses governed by their consumers (known as "member-owners"). Today, 930 electric cooperatives serve 42 million consumers in 47 states. Cooperatives are a unique sector of the electric utility industry, serving an average of only 7 consumers per mile compared with the 35 customers per mile served by investor-owned utilities (IOUs) and 47 customers per mile served by municipal utilities. To put this in perspective, electric cooperatives serve only 12% of the population -- but maintain 42% of the nation's electricity distribution lines. Cooperative revenue per mile averages only \$10,565, while it is more than six times higher for investor-owned utilities, at \$62,665 and higher still for municipal utilities, at \$86,302 per mile. In summary, cooperatives have far less revenue than the other electricity sectors to support a greater share of the distribution infrastructure. In addition, electric cooperative households generally have less income than the rest of the nation, with nearly half of the cooperative service territories suffering poverty rates that are higher than the national average.

These numbers illustrate why bringing power to rural areas is a costly endeavor, resulting in electricity prices that are sometimes higher in cooperative service territories than those served by the neighboring IOU. The key to success in bringing the most reliable and affordable power possible to these low density areas lies in the cooperative business model. The term "cooperative" has been described by Federal court decisions and IRS

rulings and pronouncements. The IRS requires that businesses adhere to the following guidelines to qualify for cooperative status:

- 1) Subordination of capital. Most benefits of the cooperative must remain with members. The cooperative is not to be operated for the primary purpose of paying a return on investment.
- 2) Democratic control by the members of the cooperative. Each cooperative is run by a board of directors elected by the entire cooperative membership. Votes are on a one member, one-vote basis.
- 3) Operation at cost. Costs must be fairly allocated to all members. Any revenue that is collected from members above what it is needed for the co-op is returned to all members on an equitable basis. In the case of electric cooperatives, net margins returned to members are referred to as "capital credits."

To sum up these requirements, the cooperative's benefits must flow to its member-owners. Any benefits received from the federal government, therefore, also flow to the cooperative's consumers. Although most electric cooperatives are exempt from federal income tax, all electric cooperatives pay state and local property taxes, sales tax and payroll and excise taxes.

#### **Electric Cooperatives and Alternative Energy**

The need for electric utilities to develop all available renewable energy projects is urgent, both to reduce greenhouse gas emissions and because renewable portfolio standard mandates have been adopted by many states. Currently, renewable energy makes up almost 11 percent of the electricity provided by electric cooperatives. Almost all of this power is currently purchased from federal hydropower facilities, the market or through contracts with developers. Yet, electric cooperatives are ideally situated to develop and own renewable projects in their back yards. Those projects have not yet been fully realized because historically, electric cooperatives have not been able to directly utilize traditional tax incentives like the Production Tax Credit. Such incentives are essential to bring renewable generation - which remains two to ten times more expensive in capital cost per kWh than conventional resources - on line at a cost that is affordable for consumers.

The CREB incentive has created the conditions needed for electric coops to close the gap in developing renewable resources. Meanwhile, electric cooperatives are doing their part to bring large-scale renewable projects on line. Last year, 20 "generation & transmission" coops and four distribution coops serving consumers in 24 states formed the "National Renewable Cooperative" ("NRCO"), itself a not-for-profit cooperative. NRCO's mission is to pool expertise so that the knowledge base of coops with experience in developing renewable energy will be available to all. Its goals are to serve as a clearinghouse for renewable resource development opportunities for coops, package development opportunities for evaluation by its members and aggregate renewable

energy request for proposals for members. With tools like the CREB, the NRCO will be able to help plan large-scale renewable generation projects for electric cooperatives across the country.

#### **Experience with the CREB Program**

I will now focus on our experience with the Clean Renewable Energy Bond program. The CREB was enacted in the 2005 Energy Policy Act. A volume cap of \$800 million was provided with \$300 million set aside for electric cooperatives. Electric cooperatives alone flooded Treasury with more than \$550 million in applications for 83 projects in 22 states. The program funded 78 electric cooperative projects and was well balanced across many technologies, including wind, biomass, landfill gas, hydropower and solar. The award size of cooperative projects ranged from \$120,548 to \$31 million. The electric cooperative set-aside worked well to ensure that cooperatives could build utility scale projects and the program would be balanced between electric cooperatives and government applications.

The volume cap posed a problem for the program. \$800 million was provided, yet Treasury received \$2.5 billion in applications in the first year. Electric cooperatives submitted more than \$550 million of those applications, but received only \$300 million in bond allocations due to a program size that was too small overall. An additional \$400 million, with \$150 million set aside for electric cooperatives, was provided under the Tax Relief and Health Care Act of 2006, but this still did not keep pace with applications for the program.

By contrast, there is no volume cap for the Production Tax Credit, or the Investment Tax Credit or tax grant provided under the American Recovery and Reinvestment Act of 2009 ("stimulus bill"). Attempting to address this disparity through meaningful program funding, the stimulus bill, combined with the Emergency Economic Stabilization Act of 2008 ("economic rescue bill"), added \$2.4 billion to the program, divided equally between electric cooperative, municipal utilities and non-utility government bodies. These bills also made a series of improvements to the program to make the bonds more marketable, such as the ability to strip the bond from the tax credit.

It is noteworthy that non-utility governmental bodies were also made eligible for significant allocations of "qualified energy conservation bonds" ("QECCBs") under the two bills. QECCBs can also be used for renewable generation, as well as other green projects. Given the creation of the QECCB program, the CREB program can best deliver on the potential for large-scale renewable projects if it is set aside for not-for-profit coop and public power utilities, while non-utility governments appropriately focus on smaller, distributed projects through the QECCB program.

In 2009, electric cooperatives received nearly \$460 million in allocations of CREBs for projects in 13 states through the two bills. Moreover, Treasury is expected to issue a solicitation for co-op applications for an additional \$200 million in CREBs that remain unawarded. The attached map shows the distribution of CREBs in the aggregate across

the country, since program inception (attachment A). The attached pie chart shows the volume cap awards to coops for various renewable technologies, in the aggregate since program inception (attachment B).

Despite the promise of significant new funding, the program hit a major snag -- the economic downturn. Treasury currently sets a tax credit rate based upon an index of BBB to A rated bonds; that rate is published daily on the Treasury's Bureau of Public Debt website. Yet a "one size fits all" tax credit rate cannot fit the circumstance of individual issuers with various financial ratings and market appeal. Moreover, the market for tax credits nearly collapsed, and potential CREBs buyers were demanding significant additional interest from issuers on top of the face value of the bond -- an effective interest rate of 8.5%! So, CREBs had already been allocated to "shovel-ready" projects and Treasury had verified the legitimacy of project applicants based upon an independent engineer's certification of the project feasibility. But the bonds could not be issued and the projects -- and related jobs -- were at a standstill. The attached map (attachment C) illustrates awards made to electric cooperative projects and jobs that were poised to be created.

The newly enacted direct pay option rescues these projects and makes the program a solid success because there is a robust market for the bonds as there are many potential purchasers of taxable, interest-bearing bonds. Moreover, even in better economic times, "direct pay" will remain the preferred option from an issuer's standpoint because of its efficiency. Under the new option, a subsidy comes directly to the Issuer in the form of a check or deposit (generally provided by Treasury twice yearly when interest is paid) designed to cover approximately 70 percent of interest cost based upon Treasury's published rate.

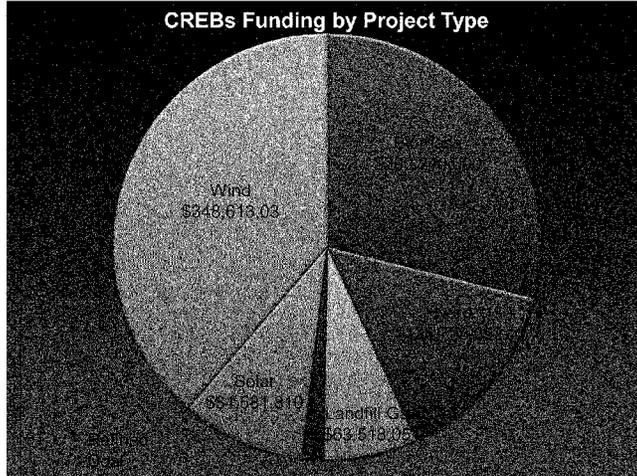
#### **Conclusion**

I commend this Committee for its past and current bipartisan support of the Clean Renewable Energy Bond program, and urge the Committee to provide additional bond authority for the program of at least an additional \$3.2 billion dedicated solely to not-for-profit utilities, with \$1.2 billion set aside for electric cooperatives. The CREB incentive is the key to cooperatives realizing their goal of developing all available renewable generation resources affordably for their member-owners. We are pleased that the Committee has recognized the important role that not-for-profit electric cooperatives and their consumers will play in the nation's energy future with the CREB program, and look forward to working with you on future proposals that will shape energy policy.

Attachment A

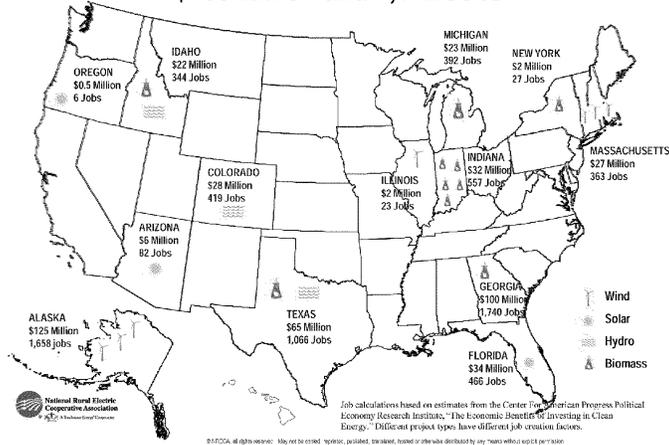


ATTACHMENT B



ATTACHMENT C

### Electric Cooperative 2009 CREB Awards \$466 Million and 7,142 Jobs



CONTACT INFORMATION:

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**Nature's Fuel, Letter**

April 27, 2010

Ways and Means Committee  
U.S. House of Representatives  
Washington, DC 20515

Honorable Members of the Ways and Means Committee:

My name is Glenn Johnson. I am the Chief Operating Officer and President of Nature's Fuel located in Fort Wayne, Indiana. I am writing in response to the House Ways and Means Committee hearing entitled, "Tax Incentives Driving the Green Job Economy," to offer my perspective on current Federal tax incentives and express my concern over certain inequities related to recently-expired renewable fuel incentives.

Nature's Fuel currently has a plant operating in Atwood, IN that produces bio-oil and bio-char made from pyrolyzed wood waste from the recreational vehicle in-

dustry. We have just permitted a plant at the landfill in Huntington, IN that will process and pyrolyze municipal solid waste, tires, wood and construction and demolition waste and other non-hazardous wastes to make low-sulfur renewable oil, bio-char, and eventually an ultra-low sulfur renewable diesel. At this facility, 100 percent of its intake will be made into renewable energy, renewable building products or recycled and sold to remake into other commercial products using an environmentally-friendly process. Nature's Fuel bio-oil can be used as a clean feedstock for biodiesel, as clean heating oil or as renewable diesel using the Fischer-Tropsch process.

While incentives are a powerful tool in shaping our country's energy future, they can also skew private sector outcomes. It is my understanding that the House Ways & Means Committee has serious concerns with the Alternative Fuel Tax Credit (AFTC) because coal-to-liquid fuels would be incentivized by the \$.50 per gallon AFTC. My company simply has a different feedstock and business plan. Before the expiration of the AFTC in 2009, Nature's Fuel was eligible to receive a \$.50 per gallon credit for the bio-oil produced from discarded wood waste. Please be assured that the AFTC was critical to our investment in our first and second plants.

Nature's Fuel is advancing its technical capability to produce Renewable Diesel and/or Biodiesel. Therefore, my company strongly supports the conversion of the blender tax credits to producer tax credits. Production is simply a harder part of the business and requires a much higher degree of capital investment. Finally, it is much closer aligned with the public policy goal of incentivizing more domestically produced transportation fuels to displace our foreign oil imports from the Middle East.

Moving to a producer tax credit will directly result in new construction that will help create jobs in our country and helps to further develop the renewable and biodiesel industries. Finally, this proposed change in federal law will also help eliminate "splash and dash" activity.

Thank you for your consideration of this timely and crucial matter. Please do not hesitate to contact me if you have any questions.

Sincerely,

Glenn W Johnson  
COO-President, Nature's Fuel

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### Northeast Combined Heat and Power Initiative, Letter

April 27, 2010

The Honorable Sander Levin  
Ways and Means Committee  
1102 Longworth House Office Building  
Washington, DC 20525

The Honorable David Camp  
Ways and Means Committee  
1139E Longworth House Office Building  
Washington, DC 20515

Dear Chairman Levin and Ranking Member Camp:

On behalf of the members of the **Northeast Combined Heat and Power Initiative**, we are writing to urge your consideration of an important bill to support residential combined heat and power in the United States.

**The Northeast Combined Heat and Power Initiative (NECHPI)** is a volunteer organization dedicated to accelerating the deployment of clean, efficient combined heat and power in the Northeastern United States. NECHPI leads the Northeast Region in encouraging the implementation of CHP technologies and drives CHP roadmap action items in support of the U.S. Department of Energy's (DOE) programs. NECHPI is an alliance which includes the DOE, the North East Clean Energy Application Center, The U.S. Environmental Protection Agency CHP Partnership, CHP developers and equipment manufacturers, State and local governmental organizations and others involved with energy and the environment. NECHPI provides for coordination and communications among the various stakeholders in the region, including but not limited to federal agencies, state agencies, utilities, project developers, equipment manufacturers, CHP users, universities, research institutions, and public interest groups.

Congress has an opportunity to make American homes more energy efficient, save homeowners thousands of dollars on rising energy bills, reduce emissions associated with the residential sector, and create jobs by creating incentives to promote the in-

stallation of residential CHP systems. The residential sector represents 22 percent of energy usage in the United States, and now homeowners can reduce energy usage by installing cogeneration systems that have been developed for the home. Micro-combined heat and power (micro-CHP) technologies, which are increasingly used in Europe and Japan, can greatly improve energy efficiency in a majority of U.S. homes while creating thousands of new green energy jobs across America.

Based upon EIA 2010 Annual Energy Outlook data, if one-half of the electricity delivered for residential consumption could be replaced by electricity produced on-site by micro-CHP, total U.S. energy consumption can be reduced by approximately 5 percent or five quadrillion Btus due to electricity related losses that are avoided. This represents both an enormous efficiency opportunity and cost savings.

We ask you to support a bill that will enhance America's residential energy efficiency and help establish further micro-CHP manufacturing in the U.S. Micro-CHP, which recaptures heat created in the electrical generation process and uses it to heat the home, currently, receives no tax benefits. We urge Congress to pass Rep. Higgins' bi-partisan **H.R. 2328** which would establish a 30-percent tax credit for the installation of highly efficient micro-CHP systems in homes in the U.S.

In today's economy, having the opportunity for homeowners to save on their utility bills while utilizing less energy and producing fewer emissions is part of a bold and necessary energy action plan. Micro-CHP systems will strengthen our electric utility infrastructure through increasing the amount of distributed generation, and will promote energy independence by utilizing our domestic sourced natural gas.

- A tax credit for homeowners who install residential CHP systems would encourage energy efficiency and create investments by utilities, financing authorities, heating and cooling manufacturers, and many other residential home industries.
- The tax credit would result in the immediate and long-term creation of thousands of jobs across many industries, including the manufacturing, sales, installation, maintenance, and service of micro-CHP systems in the U.S.
- The tax credit would encourage owners of the 3-4 million central heating systems installed each year in the U.S. to consider adding cogeneration to their homes, vastly decreasing fuel use and harmful air pollutants.

Thank you for your consideration of this tax credit that will create jobs, encourage homeowners to save money, reduce fuel use and emissions, and help to establish a micro-CHP industry in the United States.

Sincerely,

John Rathbun  
Chairperson  
Northeast CHP Initiative

Thomas Kelly  
Vice Chairperson  
Northeast CHP Initiative

Submitted by:  
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Chairperson  
Northeast CHP Initiative  
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**Northwest Pipe Company for Northwest PowerPipe, Letter**



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Organization (if applicable): Northwest Pipe Company for Northwest PowerPipe™  
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Phone Number: (360) 397 6250  
Contact E-mail Address: ygreen@nwpipe.com

Title of Hearing: Energy Tax Incentives Driving the Green Job Economy  
14 April 2010



April 14, 2010

The Honorable Sander Levin  
1236 Longworth House Office Building  
Washington DC, 20515

RE: Energy tax incentives and the green job economy

**Submitted via email:** [wmsubmissions@mail.house.gov](mailto:wmsubmissions@mail.house.gov)

Dear Representative Levin:

Northwest Pipe Company would like to express our continued support for energy tax incentives and the green job economy and ask that your committee consider extending the cash grant program for renewable energy projects as conceived in ARRA of 2009 (P.L. 111-5).

Northwest Pipe Company is a domestic manufacturer of welded steel pipe products used primarily for the transmission of water. Northwest Pipe has co-designed and patented a unique domestically manufactured turbine system, Northwest PowerPipe™, for use in water transmission pipelines for the purpose of generating electricity from the kinetic energy available in moving water.

The first system of its kind was recently installed in Riverside, California. As our unique technology is deployed, Northwest PowerPipe may assist in the water-energy nexus. Water for power production and alternative energy are both important public policy objectives in the United States. The small-hydropower opportunity that may be available from Northwest PowerPipe could have major positive benefits for our domestic green economy.

Because Northwest PowerPipe is in the early phase of development, being able to leverage various government provided financial incentives for renewable energy and energy efficiency is critical for some of our first adopters. The incentives that could be available to Northwest PowerPipe's potential domestic customer base as provided for in ARRA of 2009, (P.L. 111-5) may assist to offset funding challenges municipalities and other renewable energy users are facing in today's economic climate.

By extending the cash grant program for renewable energy projects as conceived in ARRA of 2009 (P.L. 111-5) you will assist users to specify and install renewable energy projects, which will in turn provide new jobs at domestic manufacturing companies like Northwest Pipe Company while enhancing America's ability to generate renewable, domestic energy.

Sincerely,  
Northwest Pipe Company

Yvonne Green

cc: National Hydropower Association (NHA)

Northwest Pipe Company | 5721 SE Columbia Way, Suite 200 | Vancouver, Washington 98661 | 360 397 6250



**Orion Advocates on behalf of Domtar Corporation, Statement**

Domtar  
100 Kingsley Park Drive  
Fort Mill, South Carolina 29715  
Tel: (803) 602-7500



**Committee on Ways and Means  
U.S. House of Representatives  
Hearing on Energy Tax Incentives Driving the Green Job Economy  
April 14, 2010**

Domtar Corporation appreciates the opportunity to provide input to the committee on efforts Congress may take to promote green energy, job creation and investment in America.

Domtar Corporation (NYSE/TSX:UFS) is the largest integrated manufacturer and marketer of uncoated freesheet paper in North America and the second largest in the world based on production capacity, and is also a manufacturer of papergrade, fluff and specialty pulp. The Company designs, manufactures, markets and distributes a wide range of business, commercial printing and publication as well as converting and specialty papers including recognized brands such as Cougar®, Lynx® Opaque, Husky® Offset, First Choice® and Domtar EarthChoice® Office Paper, part of a family of environmentally and socially responsible papers. Domtar owns and operates Domtar Distribution Group, an extensive network of strategically located paper distribution facilities. Domtar also produces lumber and other specialty and industrial wood products. We operate 13 pulp and paper mills (nine in the United States and four in Canada) and employ more than 10,000 people.

Domtar is a leader in the generation and consumption of renewable energy. As a company, we fulfill over 70 percent of our power needs from burning carbon neutral wood pulping residuals and other forms of biomass. This is power that would otherwise have to be sourced from the electrical grid. Our company's manufacturing processes are also extremely efficient. The combined heat and power systems deployed at our mills allow us to operate at levels exceeding 65 percent efficiency. We do so by capturing the heat from our industrial processes and utilizing that thermal energy in other applications—space heating and drying or steam generation. Thermal efficiency has huge potential for helping address our nation's energy needs. A little known fact is that heat is captured and utilized in only 9 percent of power generation applications worldwide. If that percentage were to increase only 3 points, it would equal the total annual worldwide production of wind energy.

That is why Domtar strongly supports the Green Energy Paper Manufacturing Act of 2009 (H.R. 4389) sponsored by Representatives Scott Murphy, Michael Michaud, Steve Kagen and Phil Roe. The bill would provide a tax credit based on thermal energy output and cap the total per facility benefit to \$25 million annually. Importantly, the bill pairs the tax credit with a reinvestment component requiring half the proceeds from the refundable credit to be reinvested in the facility. Domtar believes that policy recognition of thermal energy benefits and this bill's reinvestment requirement will help us to continue to improve our processes, continue to innovate and protect the excellent paying jobs that our company supports.

The company and our 10,000 employees stand ready to work with the committee as it begins to craft new energy tax policy that delivers on the twin benefits of reducing foreign energy dependence through the use of green, renewable fuels, while shoring up manufacturing jobs that are the backbone rural communities and small towns across the country.

*For more information about the Green Energy Paper Manufacturing Act of 2009, please contact Tom Howard, Vice President, Government Relations for Domtar*

Phone: 803/802-8041  
Email: Thomas.howard@domtar.com




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### **Paper Industry Coalition to Save Energy and Main Street Jobs, Statement**

**Submitted by: The Paper Industry Coalition to  
Save Energy and Main Street Jobs**

**Appleton Papers**  
**Boise Incorporated**  
**Buckeye Technologies**  
**Domtar**  
**Finch Paper LLC**  
**Glatfelter**  
**Lincoln Paper & Tissue LLC**

**Old Town Fuel & Fiber**  
**Port Townsend Paper Corp.**  
**Sappi Fine Paper North America**  
**Stratex Energy**  
**Thilmany Papers**  
**Verso Paper Corp.**

The use of renewable energy resources to reduce reliance on foreign fossil fuel sources and secure American jobs is a laudable and worthwhile goal, and one that our forest products industry coalition wholeheartedly encourages.

Forest products firms—in particular pulp and papermaking companies—have been leaders in the use of renewable, green energy for decades. We use every part of the tree. What is not made into paper is recycled into a major source of clean, renewable, and essentially carbon-neutral energy used to help power the mills. As a result, U.S. pulp and paper mills are, on average, 65% energy self-sufficient. The environmental benefits of this commitment are significant. We've eliminated the need for approximately 6.5 billion gallons of fossil fuels annually that would otherwise have been burned to power the mills. Waste streams have been reduced and air quality improved.

Customers have had continued access to environmentally friendly, sustainable products because U.S. mills have continued to produce products from responsibly harvested trees grown in well-managed forests. The alternative is buying lower-cost pulp imported from countries with less stringent forestry restrictions and practices, such as Indonesia, Brazil and China, involving the harvesting of rainforests and requiring millions of gallons of fossil fuel to be burned to ship the products to the U.S.

To expand production of green energy in the United States, protect valuable American manufacturing jobs in rural communities, and encourage investment in environmental protection and efficient manufacturing, the Paper Industry Coalition to Save Energy and Main Street Jobs—in partnership with the United Steelworkers—strongly supports the Green Energy Paper Manufacturing Act of 2009 (H.R. 4389) sponsored by Representatives Scott Murphy, Michael Michaud, Steve Kagen and David Roe. The bill would provide a tax credit to help level the playing field among producers of wood-based bioenergy, and require reinvestment in domestic mills to help protect American manufacturing jobs.

The paper industry leads the world in the production and use of renewable energy, and H.R. 4389 would allow paper companies to continue to invest in green energy processes—advancing improved environmental efficiencies in paper manufacturing and renewable fuels use.

As Congress looks to further encourage the use of renewable energy resources, it must be mindful of the impact of government incentives that choose winners and losers in the use of renewable energy. While the government can play an important role in helping to promote the use of green technologies, to incentivize one industry at the expense of another undercuts the goal of job stability and creation.

Technology-neutral incentives, such as H.R. 4389, provide an equitable benefit to users of biomass-based renewable energy, while retaining and expanding manufacturing jobs that are critical to meet the dual goals of reducing dependence on foreign energy and improving the stability of domestic manufacturing.

Current incentive programs treat the same tree in vastly different ways, depending on who is using this renewable resource. Significant tax advantages are provided to certain producers that burn the wood only as a biofuel. Companies that make value-added products, like paper, from the same kind of fiber—and use the waste fiber to fuel a large part of the manufacturing process—are not eligible for these tax incentives. In addition, those incentives are raising the cost of raw materials for pulp and papermakers.

Wood fiber prices are highest in the Northeast, where regional incentive programs played a key role in pushing up wood fiber prices in 2008 three times higher than the price for similar wood in the South, where there are far fewer incentive programs. Comparable wood is still typically 30 percent to 40 percent more expensive in the Northeast today.

Inequitable incentive programs mean the same wood fuel used by paper mills and the same technology to burn it (biomass and biomass boilers) are treated differently than at stand-alone biomass plants, effectively undercutting pulp and paper energy production. Generating both electricity and heat through cogeneration—the most efficient means of wood energy recovery—at paper mills is given less encouragement than simple cycle plants. Stand-alone biomass plants selling electricity to third parties are eligible to receive more than 1¢ per kilowatt hour of production as an incentive, whereas pulp and paper producers receive no such benefit for use of the same biomass-based power in creating steam and electricity to make paper.

The Green Energy Paper Manufacturing Act of 2009 (H.R. 4389) is a technology-neutral tax incentive program that provides a level playing field for the industry, and should be part of the government's final package of green energy tax incentives.

The coalition strongly supports this bill because it would provide a modest production tax credit of \$4 per million BTU of energy derived from biomass fuels, on par with the open loop biomass production tax credit of \$2.94, and lower than the cur-

rent equivalent tax credits of \$5.92 per million BTUs for ethanol; \$6.15 for wind and \$13.29 (\$1.01 per gallon) for cellulosic ethanol.

The bill calls for:

- A production tax credit of \$4 per MMBTU of energy derived from biomass fuels;
- A cap of \$25 million annually per facility, to limit costs to Treasury;
- A requirement that mills reinvest 50% of the refundable credit in energy efficiency and environmental improvement projects.

Providing this limited tax credit will assist a critical industry that provides high wages and good benefits. Pulp and papermaking employees earned an estimated \$36 billion in wages in 2008, or an average of about \$70,000 a year in wage and benefit packages for jobs in mostly rural areas where similar employment is not readily available and the jobs are not easily replaceable. The industry is a major economic driver in the country, accounting for 6 percent of the U.S. manufacturing GDP, or approximately \$200 billion in annual sales.

While on par with the auto industry in terms of the sheer number of jobs and related benefits, the economic benefits of the pulp and paper industry are not concentrated in a single region but widely distributed geographically. The industry is a top-10 manufacturing employer in 48 states, and paper mills are among the largest school and municipal taxpayers and charitable contributors in the small communities where they operate.

With nearly 1 million direct employees and up to 6 million additional indirect jobs, the forest products industry is a key American manufacturing sector, but it is facing increasing competition for its most essential raw material with power producers who can afford to pay more for biomass as a result of government tax credits and other subsidies.

The Paper Industry Coalition to Save Energy and Main Street Jobs represents approximately 25,000 people in rural areas in more than 20 states from Maine to Florida to Washington state. With the industry's job multiplier effect, that's an additional 88,000 to 132,000 jobs that rely on the health of these paper companies in communities where sustainable and stable employment is elusive. This is why the United Steelworkers are standing with us to secure passage of this essential support for rural manufacturing jobs in the new Green Economy.

We appreciate the opportunity to present these comments to the Committee, and look forward to working in partnership with the government to reduce foreign energy dependence through the use of green, renewable fuels, while solidifying an American manufacturing icon that supports rural communities and small towns across the country.

Members and staff with an interest in learning more about this topic are encouraged to contact Mark L. Behan of Behan Communications Incorporated at mark.behan@behancom.com or at (518) 792-3856, or any of the following members of our coalition:

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**Buckeye Technologies**  
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Dennis\_Livingston@bkitech.com

**Domtar**  
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kvanscotter@lpandt.com

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## **Plug Power Inc., Latham, New York, Statement**

### **Statement of Plug Power Inc., Latham, New York**

My name is Dr. Roger Saillant, President and CEO of Plug Power Inc., a Latham, NY-based company that is a leader in the development of on-site energy systems utilizing proton exchange membrane ("PEM") fuel cells for stationary power, emergency backup power and material handling applications. Plug Power espouses the values of sustainability and is developing and commercializing fuel cell systems that contribute to the United States' energy independence.

Plug Power would like to thank the Members of the Committee for the opportunity to submit testimony in favor of including commercial and residential fuel cell credit extensions in the energy legislation being advocated by Congressional Leadership. Also, let me thank you for your initiation of these credits in the Energy Policy Act of 2005 and for providing a one-year extension of the credits last year.

We have been advocating tax credits for fuel cells in both residential and commercial use since 1999 and have been working closely with our Congressman, Michael McNulty, who has introduced legislation in each Congress since that time. Thanks in large part to Rep. McNulty's steadfast leadership, and to the support in this Committee, today we have the credit in existing tax code.

Fuel cell tax credits currently in existence are critical for our fledgling industry. This credit targets stationary and portable fuel cell technologies and it has been our intention that the credits apply to all non-mobile applications that meet the credit criteria of efficiency and size. These applications are the precursors to the fuel cell vehicle and a low or no-carbon transportation and energy generation future. In fact, at Plug Power, our vision is one of a sustainable and renewable future, and we believe that such a future cannot occur without fuel cell conversion devices. Renewable energy sources are, unfortunately, not readily adaptable to the transportation market, but through fuel cells, can supply that motive power. In addition, some renewable energy sources are intermittent, and fuel cells allow for the storage and use of that energy power at all times.

Plug Power support H.R. 550 and its companion bill S. 590, the Securing America's Future Act. This bill extends both the fuel cell and solar tax credits and provides those credits through 2016. The long term nature of the fuel cell credit is critical. First, it recognizes the evolution of the range of fuel cell technologies and products. This is not akin to providing a credit for a "highly efficient motor". It is more like a credit for highly efficient motors, power generators, battery replacements, forklifts, back up power units, critical load providers, loaders, and so on. You get the idea: fuel cells need a long term credit because we are talking about a VERY wide variety of products.

The long term nature of the credit is also important because it allows us to: reduce our manufacturing costs, invest in our manufacturing facilities with confidence, give security to our manufacturing base, build confidence in our supply base, and importantly, provide time for the long term planning that is often involved in building and siting fuel cell technologies. Like solar, we have some large scale systems and/or some aggregations of systems that takes a long time to gain approvals and otherwise be ready for installation.

H.R. 550 also calls for relief from the Alternative Minimum Tax, which some of our commercial credit customers have requested. Ours is a fledgling industry but one in which there are at least 30 products now available. We must find ways to get our fuel cell systems into customer hands, and the tax credit is proving to be a very valuable tool. We believe that, once customers have enough experience with fuel cell systems, they will want to use them to replace existing, and in many cases, inferior technologies. We cannot rely on the credit as a tool for gaining experience with fuel cells if our customers cannot even take advantage of that credit.

For the fuel cell portion of H.R. 550, it continues to allow telecommunications customers to take advantage of the credit. We support the continuation of this provision.

We are very encouraged by the support of H.R. 550 to date and urge its passage as part of any comprehensive energy legislation. The credit of 30% capped at \$500 per half kilowatt is just enough to encourage cost reductions and leverage early sales, yet not so much that we are installing technologies that are not yet ready for commercial introduction.

Again, Plug Power thanks you for the opportunity to provide testimony and for your support to date of fuel cell tax credits.

#### **FUEL CELL DESCRIPTION**

A fuel cell is an on-site power generation system that electrochemically combines hydrogen with oxygen in the air to form electricity. Hydrogen fuel can be generated by electrolyzing water with low-cost off-peak electricity, or with electricity obtained from renewable sources such as solar, wind, or biomass. This makes such fuel cell systems highly efficient as well as environmentally friendly. The heart of stationary or portable PEM fuel cell system is the stack, which is comprised of the same technology as is used in most fuel cell vehicle applications.

#### **STATIONARY, BACKUP AND PORTABLE FUEL CELL BENEFITS**

- In backup applications, fuel cells can provide power for critical infrastructure such as communication systems and water utilities.
- Fuel cells used in materials handling applications offer a clean and highly efficient alternative to the current battery solutions.
- Fuel cell systems are designed to stringent standards developed by the telecommunications industry that qualify equipment under extreme environmental conditions and requires specific levels of technological resiliency including temperature extremes, wind-driven rain, altitude, earthquake and ballistics tolerance.
- Fuel cell technology operates with very low audible noise, 60dba@1m, in stark contrast to traditional combustion systems, which typically operate at 70db@7m.
- Our traditional central generation model for supply of power in the U.S. is failing to meet the needs of a growing economy with increasing demand for high-quality power. There are weaknesses in both power generation and transmission and distribution infrastructure that can best be met with the new paradigm of distributed generation: placing the generating assets on site, where the energy is needed. Fuel cells will be an important

technology component of our nation's distributed generation portfolio as issues of energy security become more critical.

- When fueled by hydrogen from a renewable energy source such as solar, wind, or hydropower, or if the fuel source is bio-fuel like ethanol from plant wastes, CO2 emissions are net zero.
- Fuel cells can provide highly reliable electricity. Some studies estimate that power quality and reliability issues cost our economy alone as much as \$150 billion per year in lost materials and productivity, while others have reported estimates as high as \$400 billion per year.
- Unlike traditional combustion technologies, fuel cell systems are designed to require only one preventive maintenance call per year to ensure full capability and performance.
- Because fuel cells provide electricity at the site of consumption, they reduce the load on the existing transmission and distribution system. Siting the fuel cells at the point of consumption also avoids the line losses (up to 15%) inherent in moving electricity and provides an alternative to costly and unattractive traditional power lines. Provides critical backup when grid power is unavailable due to weather related outages and can carry the load at the site of consumption until grid power is restored.

#### **A HYDROGEN ECONOMY**

Both stationary and mobile fuel cell systems are the ideal technologies to transition to a fully sustainable energy future based on hydrogen. Vehicular and stationary fuel cells, taken together, provide the impetus for development of a hydrogen infrastructure in the United States and move us to natural capitalism. This technology, like other innovative transportation options, is cursed with the "chicken or the egg" question. That is: what comes first, the infrastructure or the fuel cells? By developing both stationary and transportation applications with the ability to refuel on a small scale, demand can be generated by multiple product applications and provide a stronger incentive to develop a full-scale hydrogen infrastructure. By way of example, our company is exploring a home refueling station that would fuel, via hydrogen, the family automobile as well as provide the electricity and heat for the home. One can imagine the early adopters buying a fuel cell car and a home refueling station at the same time.

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**Plumbers and Pipefitters Local Union #589, Statement**



**UNITED ASSOCIATION**  
of Journeymen and Apprentices of the  
Plumbing and Pipe Fitting Industry of  
the United States and Canada

Founded 1889

Letters should  
be confined to  
one subject

UA Local Union:

**Plumbers & Pipefitters Local Union #589**  
107 South 15<sup>th</sup> Avenue West  
Virginia, Minnesota 55792-3496

Subject: **Hearing**

William P. Hite  
*General President*  
Patrick R. Perno  
*General Secretary-Treasurer*  
Stephen F. Kelly  
*Assistant General President*

April 20, 2010

The Honorable Sander M. Levin, Chairman  
The Honorable Dave Camp, Ranking Republican  
Committee on Ways and Means  
U.S. House of Representatives  
1102 Longworth House Office Building  
Washington, DC 20515

RE: April 14, 2010 Hearing on Energy Tax Incentives

Dear Chairman Levin and Congressman Camp:

Thank you for holding the 14 April 2010 hearing on "Energy Tax Incentives Driving the Green Economy." We are writing to urge your Committee's support in ensuring that a critical emerging part of the green economy in Minnesota, the Mesaba Energy Project, retains its current federal tax credits and secures an appropriate loan guarantee.

You may recall that the Project was selected to receive investment tax credits through a competitive solicitation under the Energy Policy Act of 2005 in recognition of the contribution it will make to national energy security and environmental goals.

The Mesaba Energy Project is one of the leading advanced coal projects in the nation. The Project's overall control of criteria pollutant emissions would be unrivaled by the nation's cleanest, existing utility-scale conventional coal-fueled power plants. Mercury emissions would be controlled via a state-of-the-art control system, unrivaled by systems that are proposed for use in conventional coal-fueled power plant systems. The Mesaba Project would remove greater than 90% of the mercury entering the gasification process in the coal, allowing the facility to meet stringent mercury emission reduction requirements.

In addition, up to 30% of the carbon contained in the Project's subbituminous coal feedstock can be economically captured through precombustion, pollution-prevention treatment processes. Capturing this portion of carbon dioxide has been proposed for future operations to the Minnesota Public Utilities Commission for use and permanent sequestration by enhanced oil recovery projects.

Unfortunately, the Project's tax credits award will expire at the end of April and can only be extended by Congress, and under current market conditions, the loan guarantee requirements should be modified. The Project's delay in meeting the Department of Treasury's requirements for retaining the credits has been

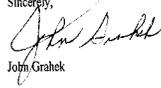
caused by the length of time it took to complete the Project's federal Final Environmental Impact Statement (EIS)—over 4 years with a Record of Decision still remaining to be published. Preserving the Project's federal investment tax credits award is a priority that is vital to ensuring that the cost of the Project's energy output remains competitive for Minnesota's consumers.

Additionally, modifying statutory language promoting the Project's federal loan guarantee to accommodate the potential "staging" of the Project (i.e., allowing for the construction of natural gas combined-cycle facilities followed later by the installation of the gasification island that produces syngas from coal) would help to maintain a competitive cost of electricity from the Project while ensuring construction will begin at the earliest possible date. Last year, the Minnesota Legislature approved and expanded Excelsior's current personal property tax exemption to allow for this staged development approach, and we fully support amending the federal loan guarantee language to follow our direction here in Minnesota.

Extending and modifying these two federal awards requires no additional funding, but will create a large number of jobs on the Iron Range, an area that as you may know is in desperate need of economic diversification and development. The capital costs for the staged project alone will be approximately \$1 billion and will create about 600 construction jobs—in addition to the direct and indirect permanent jobs such a huge building project creates.

Attached is additional information on these two very important requests. We urge your help and support to ensure that these vital federal incentives remain in place to benefit not only the Iron Range but all of Minnesota.

Sincerely,



John Grahek

Attachments: Proposed Energy Tax Incentive Amendments

CC: Congressman Jim Oberstar, Senator Amy Klobuchar, Senator Al Franken

## PROPOSED ENERGY TAX INCENTIVE AMENDMENTS

### 1. EXTEND EXCELSIOR'S EXISTING FEDERAL TAX CREDIT AWARD.

Excelsior's Mesaba Energy Project (the "Project") was awarded \$133.5 million of investment tax credits by the Internal Revenue Service in April 2008 under Section 48A of the Energy Policy Act of 2005 (EPAAct). In order to qualify for these tax credits, the DOE had to confirm that the Project met all of the required criteria, primarily related to reduced emissions compared to conventional coal technologies. This award established that federal agencies charged with ensuring domestic energy security and environmental stewardship confirmed Excelsior's early judgment that IGCC, and in particular the Mesaba Energy Project, would play a key role in helping the Nation meet the significant energy challenges of the future. However, the award of tax credits required that the Project order major equipment or commence construction by the spring of 2010. Due to delays associated with the federal government completing the Project's EIS, uncertainties regarding carbon requirements, adverse economic conditions, and other similar matters, the Project will not likely be able to meet the deadline imposed under EPAAct. Excelsior requests that the deadline be extended by statute.

The following amendment to Title XIII—ENERGY POLICY TAX INCENTIVES, Section 1307(b) of EPAAct would address this issue:

(a) In General—Section 1307(b) of the Energy Policy Act of 2005 (26 U.S.C. 48A(d)(2)(D)) is amended to read as follows:

'(D) TIME TO MEET CRITERIA FOR CERTIFICATION—Each applicant for certification shall have 2 years from the date of acceptance by the Secretary of the application during which to provide to the Secretary evidence that the criteria set forth in subsection (e)(2) have been met. The Secretary shall extend the deadline established under this paragraph until December 31, 2014, if the Secretary determines, in the sole discretion of the Secretary, that the criteria set forth in subsection (e)(2) have not been met within the time period due to circumstances beyond the control of the applicant.' (new language underlined)

### 2. PROVIDE FLEXIBILITY TO EXISTING FEDERAL LOAN GUARANTEE PROGRAM

DOE deemed Mesaba's full Application for a loan guarantee complete in December 2008, and Excelsior Energy continues to negotiate the federal loan guarantee for the Mesaba IGCC project. The Minnesota Legislature recently enacted tax law changes to facilitate "staged" development at state-designated innovative energy project sites, allowing for construction of natural gas combined-cycle facilities first, followed, when warranted, by subsequent

installation of integrated gasification facilities at these sites. Given the continuing credit crunch, adapting the loan guarantee program to support this approach will further national energy goals and provide much-needed stimulus in northeastern Minnesota.

The following addition to Title XVII—INCENTIVES FOR INNOVATIVE TECHNOLOGIES, Section 1703(c)(1) of EPCA would address this issue:

“(x) Staged Natural Gas Combined Cycle/IGCC Facilities.—

“The Secretary shall provide loan guarantees for projects that initially produce electricity using natural gas combined-cycle technology, on a site designated by a state development agency as an innovative energy project site under state law enacted prior to 2005. The Secretary shall issue subsequent loan guarantees for the integrated gasification and all related facilities when such facilities are constructed at or for the innovative energy project site.”

**Polyisocyanurate Insulation Manufacturers Association, Statement**

**Testimony on Energy Tax Incentives and the Green Job Economy**

Jared O. Blum  
President

**Polyisocyanurate Insulation Manufacturers Association**

(7315 Wisconsin Ave, Suite 400, Bethesda, Maryland 20814  
Phone: 301.654.0000, E-mail: pima@pima.org)

Submitted to:  
U.S. House of Representatives  
Committee on Ways & Means

April 28, 2010

The Polyisocyanurate Insulation Manufacturers Association (PIMA) is pleased to submit these comments on the topic of energy tax incentives and employment within the “green economy.”

PIMA is the trade association for manufacturers of rigid polyiso foam insulation, a product that is used in over 60 percent of new commercial roof construction, in 30 percent of new residential construction that uses insulated sheathing, and in most re-insulation of existing commercial building roofs. PIMA members have a nationwide presence with 25 polyiso manufacturing facilities in 16 states. PIMA and its members are strong supporters of federal programs and policies that promote cost-effective improvements in the energy efficiency of buildings, both residential and commercial.

Commercial buildings may provide Congress with the best opportunity to implement policies that address both energy efficiency and job growth. Commercial buildings are large energy users — representing about 18% of the total energy used in this country — but there are significant opportunities for reducing this energy use with policies that encourage building energy-efficiency retrofits. In addition, unemployment in the construction industry now exceeds 27% (not seasonally adjusted) and many observers believe economic activity in this sector will decline even further, particularly for commercial building construction and renovations. As a result, policies that encourage energy efficiency retrofits in commercial buildings would impact job growth in a sector of our economy that has been hardest hit by the current recession.

The significant energy waste caused by under-insulated roofs on older buildings is an area that is largely ignored by current federal energy incentives, which have focused primarily on new building construction. However, in the case of roofs, the greatest potential for rapid improvement in energy efficiency is through retrofits, not new construction. For every low-slope roof that is placed on a new

building there are three old, low-slope roofs where the waterproof membrane is being replaced and where it would be economical to increase the insulation levels at the same time. Most existing roofs were built either before building energy codes were in place or were built under requirements of an outdated standard for roof insulation that had been in place for almost 20 years (*i.e.*, ASHRAE 90.1-1989). Currently, when a building owner is required to replace the membrane that is covering and protecting the roof's insulation and building from the weather, the owner typically does not increase the insulation or adds only a small amount when the new membrane is installed.

In addition to the lack of federal incentives, the current tax code actually discourages timely roof replacement by requiring commercial roofs to be depreciated over 39 years, instead of a time period that better reflects the actual average life span of roofs (*i.e.*, 17 years). Because of this depreciation schedule, building owners routinely try to extend the life of their roofs for as long as possible through patching and temporary repairs (which are deductible business expenses) until those repairs become too expensive compared to the cost of a full roof replacement. This situation has been compounded by the current economic downturn.

The simple and cost-effective measure of increasing roof insulation when roof membranes are replaced on low-slope roofs would, on average, reduce building energy use by 6.5% in one story buildings (excluding warehouses) and one and two story school buildings. One and two story buildings represent 65% of the commercial floor space in this country. Within this building category, replacing about 5% of the roof space each year (*i.e.*, 1.5 billion ft<sup>2</sup>) with high energy-efficient roof systems insulated at levels that are more stringent than current building code requirements would result in an amount of CO<sub>2</sub> savings after 10 years that is equivalent to the annual emissions of roughly 27 coal fired power plants or 105 million metric tons of CO<sub>2</sub>. Over ten years, the energy savings would be 648 trillion Btu (0.65 quads) for site energy or 1,464 trillion Btu (1.46 quads) for source energy and the energy cost savings would be \$12.2 billion. <sup>1/</sup>

PIMA has been a strong supporter of two proposed tax incentives that would improve the energy efficiency of our commercial buildings and put people back to work:

- **H.R. 426, the Green Roofing Energy Efficiency Tax Act**, introduced by Congressmen Bill Pascrell and Wally Herger. This legislation would shorten the depreciation period for commercial roofs from 39 years to 20 years to

<sup>1/</sup> Energy and Environmental Impact Reduction Opportunities for Existing Buildings with Low-Slope Roofs, Bayer MaterialScience (Jerry Phelan, George Pavlovich, & Eric Ma), April 2009, pg 59.

better reflect the average life span of a commercial, low-slope roof, which is 17 years.

- **H.R. 2615, the Energy-Efficient Commercial Roofs Act of 2009**, introduced by Congressmen John Larson and Dean Heller. This legislation would provide a 30% tax credit for installation of energy efficient roofs on commercial buildings.

One or both bills have the support of the following organizations: the American Rental Association (ARA); American Chemistry Council (ACC); the Alliance to Save Energy (ASE); the Asphalt Roofing Manufacturers Association (ARMA); American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE); the Building Owners and Managers Association International (BOMA); the Center for Environmental Innovation in Roofing (CEIR); the International Council of Shopping Centers (ICSC); the Joint Roofing Industry Labor and Management Committee, the National Association of Convenience Stores (NACS); the National Roofing Contractors Association (NRCA); the Polyisocyanurate Insulation Manufacturers Association (PIMA); the Spray Polyurethane Foam Alliance; and the United Union of Roofers, Waterproofers and Allied Workers

**Joint H.R. 426/H.R 2615 Proposal**

It is PIMA’s understanding that the sponsors of these two bills are working together to take the best features of both bills and develop a new proposal that would apply the shorter depreciation period (20 years) to commercial roofs retrofitted to meet the stringent energy efficiency standard required under H.R. 2615. The result of this collaboration will be a focused incentive that retains most of the energy and job benefits of H.R. 426 and H.R. 2615, but will have a much smaller effect on Treasury revenues.

The new proposal would provide a 20 year depreciation period (instead of 39 years) for commercial roofs that meet prescriptive R-value (thermal resistance) standards that are significantly more stringent than what is currently required under most state and local building energy codes. Most state and local building codes currently require low-slope roofs to have R-15. Under this proposal, the required R-values would range from R-20 in the far south to R-35 in the far north. Buildings in Baltimore (climate zone 4), for instance, would be required to have R-25.

**Energy-Efficient Commercial Roof Retrofit R-Values for Insulation Installed Entirely Above Deck (continues insulation)**

Climate Zones	1	2	3	4	5	6	7	8
ASHRAE or IECC climate zones								
<b>R-Values</b>	20	25	25	25	25	30	35	35

This incentive would apply to low-slope roofs where the insulation is installed entirely above deck, a category that covers approximately 62% of the existing commercial building floor space. For purposes of a jobs bill, these are the types of roofs that are most able to increase their insulation levels and respond quickly to this type of incentive. Also, the bill would only apply to roof upgrades made during 2010 and 2011.

By accelerating demand for energy-efficient roof systems, this legislation will in one year:

- Create 40,000 new “green” jobs among roofing manufacturers and contractors; <sup>2/</sup>
- Add \$1 billion of taxable annual revenue from the roofing industry; <sup>3/</sup>
- Reduce U.S. energy consumption by 11.4 trillion Btu and save small businesses and consumers \$86 million in energy costs; <sup>4/</sup>
- Reduce U.S. carbon emissions by approximately 800,000 million metric tons (equal to emissions from 153,000 cars). <sup>5/</sup>

We hope the committee will support this important proposal, which would significantly enhance incentives for building owners to retrofit old commercial roofs with energy efficient roofing systems.

We appreciate the opportunity to submit this testimony for the record.

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<sup>2/</sup> Comprehensive Nonresidential Building Analysis to Estimate the Current Reality of Roofing Longevity. Ducker Worldwide, September 2003, pg. 3.

<sup>3/</sup> Ducker Worldwide, pg. 3.

<sup>4/</sup> Bayer MaterialScience, pg. 59.

<sup>5/</sup> Bayer MaterialScience, pg. 59.

**Puget Sound Energy, Letter**

April 9, 2010

The Honorable Sander M. Levin  
Chairman, House Ways and Means Committee  
1236 Longworth House Office Building  
Washington, DC 20510

Dear Chairman Levin:

As the House Ways and Means Committee develops new energy tax legislation with a focus on job creation, I am writing on behalf of Puget Sound Energy (PSE) to urge you to include an important revenue-neutral technical adjustment to the renewable energy grant program created in the American Recovery and Reinvestment Act (ARRA) and to incorporate H.R. 4599, the Renewable Energy Expansion Act of 2010. Both of these additions to your legislation will significantly boost the development of green jobs and renewable energy in the Pacific Northwest and nationwide.

PSE appreciates that in adopting ARRA, Congress created a new grant program ("1603 Grants") to encourage the more rapid development of renewable electricity in an era when financing new projects has been a serious challenge. These grants provide developers of renewable electricity facilities with a grant of up to 30% of the qualifying cost of a new facility. This grant is taken in lieu of receipt of the production tax credit (IRC Section 45).

Before ARRA, the wind industry expected up to a 50% drop in wind development. Thanks in large part to the Section 1603 grant program, such a collapse was avoided and 9,922 MW of new wind power was installed last year, expanding the American wind fleet by 39%. The American Wind Energy Association (AWEA) has generally estimated that for every 1 MW of wind power installed, \$1 million in economic development follows in the form of planning, construction jobs, and other impacts.

As one example of the jobs and renewable energy benefits of the ARRA grant program, PSE was pleased to receive a \$28.6 million grant to offset the \$100 million investment of a recent 22 wind turbine and 44 MW expansion to our Wild Horse Wind and Solar Facility in Central Washington. This expansion project required more than 150 construction workers and provided indirect employment for vendors, contractors, transportation workers, and others. Overall, the Wild Horse facility supports 30 permanent maintenance and operations positions, boosts local tax revenues, and provides strong, stable income to the leaseholders we work with.

Unfortunately, for the customers of regulated utilities, a significant issue has arisen subsequent to the passage of ARRA. Unfortunately, the Treasury Department has interpreted Section 1603 in a way that would result in regulated utilities having to "normalize" the value of the grant over the long period. Unfortunately, because of this, regulated utilities are prevented from quickly

returning the benefits of the federal incentives for wind development to their customers. As a result, many regulated utilities and their customers will be unable to fully benefit from this provision. For example, if normalization was not at issue, PSE's more than 1 million electric customers would have received approximately 50% more of the benefits of the recent Wild Horse Expansion grant.

Looking forward, the normalization issue poses significant challenges for Puget Sound Energy's planned Lower Snake River (LSR) project in Southeastern Washington State. PSE is preparing an overall project of more than 1,000 MW of wind power in Garfield and Columbia Counties in Washington State, to be built in phases, with the first phase beginning in 2010 and requiring up to 187 construction workers. As a utility, PSE is optimistic that many components for LSR may be assembled domestically (for example, it is likely that the blades will be assembled in Iowa) and we are encouraging our suppliers to do so in order to further boost domestic job impacts. As previously noted, normalization reduces the benefits of the grant that flow to our customers and if normalization is removed by Congress, PSE's customers would receive approximately 50% more of the benefits of a grant awarded for this project. Simply put, the normalization provision is a serious hindrance to PSE's finance plan for LSR, could impact the ultimate size and scope of this project, and would have resulting jobs impacts if not removed. Removal of the normalization provision would make renewable energy projects more affordable for customers of regulated utilities, thereby helping keep energy costs lower for residential and commercial customers during tough economic times.

Due to these significant adverse impacts, I strongly urge the Ways and Means Committee to include a revenue-neutral normalization correction to this existing grant program in upcoming energy tax legislation.

On a separate but related subject, the leadership of Congressman Earl Blumenauer and the many original co-sponsors from the Ways and Means Committee, including Washington State Congressman Jim McDermott, is a strong testament to the importance of, and broad support for, H.R. 4599. Congressman Blumenauer's H.R. 4599 is an important extension to the ARRA 1603 grant program, which has been tremendously successful in boosting America's wind industry and creating green jobs.

Unfortunately, ARRA 1603 grant program is soon to expire – projects must be placed in service or begin construction in 2009 and 2010. We strongly support Congressman Blumenauer's legislation as a sound vehicle for an extension of this much needed program and encourage you to include it in any energy tax legislation reported out of your Committee. We are particularly pleased that H.R. 4599 would correct the normalization issue for the new tax-based program going forward and we ask the Committee to retain that provision if this legislation is incorporated into your energy tax bill.

Building a sustainable, long term renewable energy industry in America is of urgent and long term importance. Uncertainty in federal incentives has historically been a barrier to the development of renewable resources and to attracting capital for this purpose to our country – allowing ARRA Section 1603 to sunset will lead to the enormous loss of wind industry jobs and hinder an even more robust domestic industry. Consequently, PSE strongly supports passage of

an extension of this important incentive – not only will it extend a vital program, but placing the incentive under exclusive Ways and Means jurisdiction in the House makes its future stability more likely. This is a much needed step to continue the substantial recent growth of America's wind industry. H.R. 4599 is a win-win for job creation and the development of clean wind energy generated here in America. You or your staff should feel welcome to contact Nina Odell at (425) 462-3990 to discuss these issues further.

Thank you for your continued leadership on energy issues and for your consideration of our views and requests.

Sincerely,



Stephen P. Reynolds  
President and Chief Executive Officer  
Puget Sound Energy

cc: The Honorable Jim McDermott  
The Honorable Earl Blumenauer  
John Buckley  
Kase Jubboori

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### Real Estate Roundtable, Statement

Chairman Levin, Ranking Member Camp and Members of the Committee, The Real Estate Roundtable is pleased to provide this written statement for the record of the April 14, 2010 hearing on energy tax incentives driving the green jobs economy.

The Real Estate Roundtable brings together leaders of the Nation's top publicly-held and privately-owned real estate ownership, development, lending and management firms with the leaders of major national real estate trade associations to jointly address key national policy issues relating to real estate and the overall economy. Collectively, Roundtable members' portfolios contain over 5 billion square feet of office, retail and industrial properties valued at more than \$1 trillion; over 1.5 million apartment units; and in excess of 1.3 million hotel rooms. Participating trade associations represent more than 1.5 million people involved in virtually every aspect of the real estate business. By identifying, analyzing and coordinating policy positions, The Roundtable's business and trade association leaders seek to ensure a cohesive industry voice is heard by government officials and the public about real estate and its important role in the global economy.

The Roundtable recognizes that commercial and multifamily building owners and managers, and their tenants and occupants, can play a significant role to reduce power costs and curb greenhouse gas emissions. The Energy Information Administration estimates that the commercial "end-use" sector accounts for 46 percent of building energy use (compared to 54 percent from the residential sector). See Table 2.1a at <http://www.eia.doe.gov/emeu/aer/consump.html>. While commercial property owners can install high efficiency building components and managers can ensure that systems operate for maximum effectiveness, The Roundtable must emphasize that occupant behavior in a building largely drives energy consumption. The majority of a building's electricity use is associated with systems and equipment under the sole control of tenants and occupants, outside of the owners' ability to manage, and not covered by building codes (*e.g.*, tenant plug loads and usage of appliances, computers, tvs, etc.). Not all commercial and multifamily buildings have the same mixes of tenants; families use more electricity than households without children, and law firms and financial services companies generate greater demands for power than businesses operating on a more regular 9–5 schedule. To the same point, unique leasing arrangements between owners and tenants address issues such as payment of utility bills, sub-metering, individual unit thermostat controls, window opening, and a variety of other items affecting a building's energy use. The Roundtable thus cautions against a "one size fits all" approach to regulate energy efficiency and power consumption in commercial and multifamily structures. We likewise emphasize that any program of federal financial incentives must be flexible enough to en-

courage retrofits that make sense for varied building types, occupant behaviors, local and state regulations, and regional climatic conditions.

### I. Summary

- **Consider Short-Term and Fast Acting Rebates for Commercial Building Energy Retrofits.** To immediately create green jobs in the energy efficiency arena, shorter-term non-tax incentives can provide a bridge to longer-term tax incentives. The Committee should consider the positive interactions between the rebate program for commercial building retrofits as proposed by S. 3079 (companion legislation is expected to be introduced in the House shortly), and the performance-based tax deduction for energy efficient commercial buildings in section 179D of the Internal Revenue Code.
- **Improve the Existing Energy Efficient Commercial Building Tax Deduction.** To date, the 179D commercial building tax deduction has not been widely used by the real estate sector (except for the partial allowance for lighting upgrades). This is because the whole-building performance standard is too expensive to meet given current costs, technologies and computer modeling. Also, the deduction has not been effectively administered to date by the Internal Revenue Service and the Department of Energy. The Roundtable thus supports H.R. 4226, which would increase the allowable amounts of the available deduction, and re-open processes that can make it easier for building owners and managers to use this incentive.
- **Allow Real Estate Investment Trusts (REITs) to Fully Use Green Incentives.** Statutory requirements that REITs must pay dividends to shareholders largely eliminate any taxable income that REITs may hold. Thus, Congress should enact measures like H.R. 4256 and H.R. 4599, so that REITs may seek grants in lieu of energy efficiency tax credits and fully utilize green incentives for energy efficiency and renewable energy.
- **Enact Component-Specific Tax Incentives.** Meaningful tax incentives to replace aging roofs and chillers can go a long way to make commercial buildings more energy efficient. The Committee should therefore combine the accelerated depreciation and efficiency standards of H.R. 426 and H.R. 2615 with regard to above-deck insulation for low-slope roofs, and section 4 of H.R. 4455 to encourage change-out of older and environmentally damaging chillers.

### II. Synergies between Building STAR rebates and green tax incentives.

The Roundtable supports financial incentives designed to spur energy efficiency retrofits in commercial and multifamily buildings. The Pew Center on Climate Change released a recent report confirming that leading companies are more committed than ever to achieve energy savings. However, corporate officers cite lack of funds and financing—especially due to the recession and frozen lending markets—as the single greatest impediment for capital investments in energy efficiency. See <http://www.pewclimate.org/press-release/corporate-energy-efficiency/03-31-10>. Accordingly, The Roundtable recommends that a full suite of incentive measures must be explored so building owners have the financial means to deploy code-stretching energy efficiency technologies. Encouraging building retrofit projects will have myriad positive effects in creating manufacturing, construction, and installation jobs; reducing electricity bills; lowering greenhouse gas emissions; and ensuring that the United States is at the fore of technology and innovation.

The Roundtable thus encourages the Committee to address the broader relationship of both tax and non-tax green incentives. Specifically, the Committee should consider the interaction between the energy efficient commercial building tax deduction at 26 U.S.C. § 179D of the Internal Revenue Code, and the rebate incentives offered by “The Building Star Energy Efficiency Incentives Act.”<sup>1</sup> Building STAR’s jobs creation, energy savings, and environmental benefits, and its diverse endorser list, are available at <http://www.energyfuturecoalition.org/content/Building-STAR>. The Roundtable submits that the 179D tax deduction cannot be fully realized without Building STAR’s complementary energy efficiency rebates.

Section 179D currently allows a tax deduction of \$1.80 per square foot of commercial building area upon the installation of certain energy efficient systems. Building STAR is not a tax incentive, but proposes a federal rebate program that leverages private capital to cover about ¼ to ⅓ of the cost for an energy efficiency retrofit project in commercial buildings. Both the 179D tax and Building STAR incentives cover interior lighting, HVAC and envelope systems. Building STAR is broader inso-

<sup>1</sup> Building STAR legislation has been introduced in the Senate as S. 3079, and was discussed at a hearing of the Senate Energy and Natural Resources Committee on March 11, 2010. The Roundtable understands that introduction of companion legislation in the House is imminent.

far as it offers rebates for more types of energy efficient equipment, materials, and services beyond the scope of the 179D tax deduction.

Building STAR rebates are intended to be a short-term stimulus and jobs creation measure to expire at the end of 2011. It will create more than 150,000 jobs and put laborers in the hard-hit construction industry—where 25 percent of the workforce is unemployed—back to work. In contrast, the existing 179D tax deduction is longer lasting and has been extended through the end of 2013. This distinction is reflected in the fact that the maximum 179D tax deduction depends on a building's energy performance, while Building STAR is a fast-acting prescriptive-based program. Building STAR's prescriptive approach would offer rebates for a pre-qualified list of high efficiency components and services for a building upgrade project. On the other hand, section 179D's maximum allowable deduction of \$1.80 per square foot of building area depends on a showing that the building has attained and sustains major improvements to its energy efficiency performance. The full \$1.80 tax deduction is available for both new and existing commercial buildings in which the installation of interior lighting, HVAC, and envelope systems reduce the building's total annual energy and power costs by 50 percent or more, compared to minimum requirements of the ASHRAE 90.1 (2001) standard as in effect on April 1, 2003. In short, only a property with a 50 percent increase in its energy performance can use the maximum \$1.80 per square foot deduction. To prove this performance level has been met, a building owner must hire accountants and efficiency experts to conduct complex computations that require computer modeling. Such calculations of energy and power usage and costs are expensive and time consuming.

In the experience of The Roundtable's members, and given current technologies, the 50 percent performance level is too costly to achieve. As a result, the 179D maximum tax deduction has been rarely (if ever) utilized by commercial building owners. Indeed, the team that spearheaded the energy efficiency upgrade of the Empire State Building (ESB)—considered by many to be the gold standard of building retrofits—took a whole-building approach to modernize lighting, windows, chillers, and other components. The team determined that at current costs the ESB could effectively reduce energy use by 38%. See <http://www.esbsustainability.com/SocMe/?Id=0>. The ESB case study helps explain why section 179D has not proved to be a meaningful tax incentive to date. Simply put, the 179D deduction's 50 percent performance requirement relative to ASHRAE 90.1 (2001) is beyond reach.

This brings us back to Building STAR. The Roundtable submits that the maximum 179D deduction will remain unutilized unless incentives are also provided to assist building owners underwrite the steep up-front costs to install new lighting, envelope, and HVAC systems that are prerequisites to greater energy efficiency. Moreover, Building STAR rebates for web-based energy management controls and proper personnel training will go a long way to encourage integrated operation of building systems, to achieve higher levels of energy efficiency performance as contemplated by section 179D.

The Roundtable does not believe that the existing 179D tax deduction alone will incent building owners to recoup the returns on investments they need to make the business justification for energy efficiency upgrades. We thus encourage the Committee to endorse Building STAR, in light of the synergies that rebates would create with the 179D tax incentive.

### III. Improvements to the existing 179D tax deduction.

Aside from the jobs, energy, and environmental gains that can be had through the interaction of Building STAR rebates and tax incentives, The Roundtable encourages the Committee to support improvements to the existing section 179D tax deduction.

A. We recommend enlarging the existing amounts for the deduction as proposed by H.R. 4226, the "Expanding Building Efficiency Incentives Act." H.R. 4226 would increase the maximum deduction for building performance (tied to the 50 percent efficiency improvement relative to ASHRAE 90.1 (2001)) from \$1.80 per square foot to \$3.00 per square foot. Moreover, H.R. 4226 would change amounts for partial allowances regarding specific building systems that meet section 179D's energy-savings targets. It would increase the partial allowance for the upgrade of an individual system (that is, interior lighting, HVAC, or envelope) from \$.60 per square foot up to \$1.00 per square foot; and create a new partial allowance of \$2.20 per square foot for more expensive upgrades of HVAC and envelope systems.

The Roundtable supports these increases. While our members have found the 50%-building performance standard too high to claim the maximum deduction, the partial deduction (particularly for interior lighting upgrades) has been more successful. If a building owner cannot satisfy the overall 50 percent energy reduction standard but can retrofit one of the three building systems to lower energy and power

costs by 16 $\frac{2}{3}$ %, then the cost of that particular subsystem improvement qualifies for the partial allowance. Increasing the amounts for the whole and partial deductions will encourage building owners to undertake energy efficiency retrofit projects and can help them achieve quicker returns on their capital investments.

B. The Roundtable also recommends certain administrative changes to make the energy efficient commercial building deduction more useable. Congress should direct the IRS to change the existing guidance on section 179D to provide needed detail and simplify needlessly burdensome requirements. Specific areas for improvement include:

- As the IRS has done with the similar new homes tax credit, it should provide technical guidance for computing projected energy savings based on the California Alternative Calculation Method (ACM) manual, which is widely understood and also mentioned as a reference for calculation procedures in the text of section 179D itself.
- To eliminate confusion and potential abuse of the tax deduction, the IRS should provide uniform regional energy cost assumptions for use in estimating building energy savings.
- As required by the ACM manual, the IRS should require that modeling software automatically generate the “reference” building against which energy savings are measured. Such software would save considerable time and effort for potential applicants claiming the deduction.
- Congress should direct the IRS to produce a form to provide taxpayers with greater certainty (and documentation in the case of an audit), and to provide the IRS with more information on the use of the deduction. Currently, the 179D deduction is claimed on the generic “Other Deductions” line of a tax return and there is no special form for computing the deduction. Without forms, the IRS also has no clear way of tracking how many taxpayers have claimed the deduction and for what amount.
- IRS guidance for the partial tax deduction (for individual lighting, HVAC, water heating, or envelope systems) should be more specific instead of requiring costly software modeling.

In conclusion, The Roundtable recommends those substantive and procedural changes specific to section 179D, discussed above, in an effort to make the energy efficient commercial tax deduction a more meaningful incentive for building owners and managers.

#### **IV. Green tax issues for real estate investment trusts (REITs).**

The Roundtable supports legislative proposals that would allow REITs to take full advantage of green tax incentives. For example, H.R. 4256, the “Sustainable Property Grants Act,” would allow REITs to be fully eligible for energy grants authorized by the American Recovery and Reinvestment Act (ARRA). Through H.R. 4256, REITs could take advantage of such stimulus programs without a limitation based on their statutorily mandated payment of taxable income as dividends to shareholders.

Recognizing that the current economic downturn would likely limit many taxpayers from producing adequate taxable liability, ARRA authorized the use of energy grants in lieu of tax credits through 2010, for companies that invest in renewable energy projects that would qualify for the tax credits. Despite being designed for this purpose, the energy grants provision in ARRA has been interpreted to limit any direct benefit to a REIT. H.R. 4256 would amend ARRA to specifically allow REITs to fully engage in renewable energy projects, such as installation of solar panels on rooftops, fuel cells, small wind, combined heat and power, and geothermal systems.

Similarly, The Roundtable supports H.R. 4599, the “Renewable Energy Expansion Act,” which would provide taxpayers an option to receive a tax credit or grant for investing in or producing renewable energy. The bill would extend the ARRA renewable energy program through the end of 2012, and give REITs and other companies an opportunity to elect grants in lieu of energy tax credits.

#### **V. Component-specific tax incentives.**

##### **A. Green roofs.**

The Roundtable supports a proposal of the Polyisocyanurate Insulation Manufacturers Association (PIMA) and the National Roofing Contractors Association (NRCA) to combine two separate roof-specific tax incentives: the accelerated depreciation allowed by the “Green Roofing Energy Efficiency Tax Act” (H.R. 426), and the efficiency requirements of the “Energy-Efficient Commercial Roofs Act” (H.R. 2615).

Combining these measures would encourage the installation of more energy efficient roofs on buildings. The PIMA/NRCA proposal would provide an accelerated 20-year depreciation period (instead of 39 years) for commercial roofs that meet certain R-values, a measure of the effectiveness of thermal insulation. The R-values as prescribed in the proposal are more stringent than what is currently required under most state and local building energy codes. The proposal would be limited to upgrades of existing building roofs in 2010 and 2011, and would only apply to low-slope roofs where the installation is entirely above deck.

#### **B. Chillers.**

The Roundtable also supports a tax credit for the replacement of older chillers, such as that proposed by Section 4 of H.R. 4455, the “Expanding Industrial Energy Efficiency Incentives Act.”

Large, water-cooled chillers are the “engines” of the air conditioning systems for almost all large buildings. Prior to 1993, chlorofluorocarbons (CFCs) were the refrigerants used in chillers; CFCs have since been banned in new systems because they contribute to ozone depletion. Yet, the Air-Conditioning, Heating and Refrigeration Institute (AHRI) estimates that as many as 30,000 CFC-based chillers remain in operation in public and private buildings across the country. This is largely due to the significant cost associated with the removal of old systems and the purchase of newer, more efficient ones. A chiller-specific tax credit can encourage building owners to remove from service older, more environmentally harmful chillers with CFC refrigerant. Also, a chiller tax credit would save electricity, as new chillers are on average up to 60 percent more efficient than those they would replace. A tax credit of \$150 per ton of cooling capacity of the unit being replaced would be a reasonable incentive for building owners to replace their old systems.

In conclusion, The Real Estate Roundtable appreciates this opportunity to provide our perspectives. We look forward to continue assisting the Committee in examining tax and other financial incentives to generate jobs and drive the new energy economy.

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### **Renewable Energy Group, Letter**

April 14, 2010

The Honorable Sander Levin, Chairman  
Committee on Ways & Means  
U.S. House of Representatives  
1102 Longworth House Office Building  
Washington, DC 20515

Dear Chairman Levin,

America’s biodiesel industry has been hit hard and is nearing collapse if the biodiesel blender’s tax credit is not reinstated and made retroactive before the Memorial Day Congressional recess. Further delays are causing a backslide on our national goal of energy security.

As the Chairman and Chief Executive Officer of Renewable Energy Group®—the largest biodiesel producer in North America—and an active Member of the National Biodiesel Board—our industry’s non-profit trade association—**I cannot emphasize enough the urgency of this matter.**

As you know, the first entity to blend biodiesel with petroleum diesel is credited \$1.00/gallon. These blenders typically include major petroleum distributors, regional jobbers and retail fuel locations such as truck stops. Due to the continued delay in the tax credit, these customers are no longer willing to risk purchasing biodiesel without knowing when the credit will be applied back. **Therefore, biodiesel sales in the U.S. have plummeted since the January 1 tax credit lapse.**

On April 12, associations representing nearly all of our downstream supply chain partners in a letter urged Senators Baucus and Grassley to continue their work to reinstate and make retroactive the biodiesel blenders tax credit. National Association of Convenience Stores (NACS), the Petroleum Marketers Association of America (PMAA), the Society of Independent Gasoline Marketers of America (SIGMA) and the National Association of Truck Stop Operators (NATSO) sent the combined letter because “. . . el retailers want to continue making investments in biodiesel infrastructure and want to continue selling biodiesel to customers.”

Due to the lapse in downstream supply chain demand, many biodiesel manufacturers around the country immediately idled their facilities on Jan. 1, 2010. Today—

104 days later—those manufacturers that are able to hang on; are facing imminent layoffs and significant investments losses for thousands of small, local shareholders. **This represents 23,000 jobs that are currently supported by the domestic biodiesel industry that will be added to the unemployment rolls if the tax credit is not quickly reinstated.**

Today, our industry financials sit at a critical threshold; continued delays in the tax credit could push our businesses across the line of no return. Future biodiesel projects that will continue to advance our industry and our Nation's energy goals are on indefinite "hold" until the certainty of our industry is in place with the reinstatement of the tax credit.

The REG Network, including wholly-owned and independent biodiesel plants in Iowa, has laid off 45 percent of its workforce and forced pay cuts. This has resulted in more than \$555,000 in lost wages for green collar biodiesel employees in the REG network first-quarter alone.

Further, our upstream supply partners and vendors are experiencing reduced sales as our plants idle and stop purchasing raw materials. Global Ethanol in Riga, Michigan invested in corn oil extraction technology in order to supply inedible corn oil feedstock to biodiesel companies like REG. Due to biodiesel industry idling, demand for their inedible corn oil has been limited.

The biodiesel tax credit is currently within the Extenders Package (H.R. 4213) which is part of the second jobs bill, the *American Workers, State, and Business Relief Act*. This bill was passed by the Senate March 10th and is currently awaiting action.

We know the countless issues you address each day deserve your attention and I know you work tirelessly to address each one; however, ours is increasingly becoming critical for our survival. We appreciate this work and humbly ask that you not let up.

Sincerely,

Jeff Stroburg, Chief Executive Officer  
*Renewable Energy Group, Incorporated*



**Renewable Fuels Association, Statement**


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**Ways and Means Committee  
United States House of Representatives**
**Hearing on Energy Tax Incentives Driving the Green Jobs Economy****Wednesday, April 14, 2010****Statement of the Renewable Fuels Association**

Chairman Levin, Ranking Member Camp, and Members of the Committee, the Renewable Fuels Association (RFA) submits this statement for the hearing record in support of H.R. 4940, the Renewable Fuels Reinvestment Act of 2010. This legislation, which provides multi-year extensions of the Volumetric Ethanol Excise Tax Credit (VEETC), the Small Ethanol Producers Tax Credit (SEPTC), the Cellulosic Biofuel Producers Tax Credit (CBPTC) and the Secondary Tariff on Imported Ethanol, is critically important in supporting and promoting our existing biofuels industry and growing our nation's green jobs economy.

As was highlighted by the Obama Administration in the Biofuel Agenda Outline released in February of this year, its goal of a robust biofuels industry will need to be achieved by providing "[support for] the existing biofuel industry, while also accelerating the commercial and sustainable development of the advanced biofuel industry. . . ."<sup>1</sup> As further highlighted in the Outline, this means "continu[ing] support on development of first- and second-generation biofuels with additional strong focus on accelerating third generation . . . biofuels development . . ."<sup>2</sup> The President's Biofuel Agenda clearly recognizes the benefits that the first generation, grain-based biofuel industry can provide to the country, its citizens and future biofuel development and advances.

The RFA strongly believes that passage of the Renewable Fuels Reinvestment Act of 2010 is necessary to provide our first and second generation ethanol producers with the continued market-based incentives that provide a sustained and robust market for biofuels. We believe the extension of these important incentives are essential to continuing our nation's drive to a clean, independent and secure energy economy.

**Introduction**

The RFA is the primary national trade association representing the U.S. ethanol industry. The RFA membership includes a broad cross-section of ethanol producers and suppliers, ranging

<sup>1</sup> *Growing America's Fuel: An Innovative Approach to Achieving the President's Biofuel Agenda*, President's Biofuel Interagency Work Group, Feb. 2, 2010.

<sup>2</sup> *Id.*

from early-stage cellulosic and advanced ethanol producers to larger scale grain ethanol producers, as well as other businesses, individuals and organizations dedicated to the expansion of the U.S. ethanol industry.

Tax incentives have played a critical role in supporting the development of our domestic renewable energy and biofuels markets, making U.S. ethanol and biodiesel the fastest growing renewable energy resources in the world today. We are pleased to provide the Committee with this statement about the ethanol industry and the U.S. energy tax policy that helps support its continued growth and expansion.

In 2009, the U.S. produced a record 10.6 billion gallons of ethanol, displacing the equivalent of 364 million barrels of crude oil valued at \$21.3 billion. Since an increasing share of our oil is imported, this displacement means that these dollars were spent and invested in the U.S. and not sent abroad to foreign suppliers. Ethanol today is the single most important value-added market for farmers, and is revitalizing rural communities across the country.

Finally, as ethanol is produced from agricultural feedstocks taking carbon out of the atmosphere, it is the only real strategy to address climate change in place today, actually lowering greenhouse gas emissions from the transportation sector by 16.5 million metric tons in 2009.<sup>3</sup> When consistent analytical boundaries are applied, there is no question that grain-based ethanol reduces greenhouse gas (GHG) emissions significantly compared to gasoline. Government agencies and academia have been studying corn ethanol's lifecycle GHG emissions, or "carbon footprint," for the last 20 years. During that time, a variety of analytical tools have been developed and much empirical data has been collected to assist researchers in estimating the direct GHG benefits of ethanol relative to gasoline. In the last five years alone, dozens of papers quantifying the direct GHG impacts of ethanol have been published in academic journals and regulatory literature. A review of recent estimates clearly shows that there is broad agreement that corn ethanol reduces GHG emissions by 30-50%, on average, compared to gasoline. (See Graph attached hereto as Exhibit A). The newest facilities employing the most efficient technologies have been shown to reduce GHGs by as much as 60% relative to gasoline.

The single most important federal policy driving these impressive results is the tax incentives available to refiners that choose to blend biofuels into gasoline and diesel fuel today.<sup>4</sup>

#### **Background**

Ethanol has become an essential component of the U.S. motor fuel market. Today, ethanol is blended into more than 90 percent of the nation's fuel, and is sold virtually from coast to coast and border to border. The industry boasts over 200 plants in 26 states with annual production capacity of 13.1 billion gallons. As a result of the recent recession, however, 12 plants representing 1.2 billion gallons of capacity are currently idled. But, another 11 plants representing 806 million gallons of new capacity are under construction, while another 626

<sup>3</sup> Source: *GREET 1.8 Model*.

<sup>4</sup> The Volumetric Ethanol Excise Tax Credit (VEETC) provides gasoline blenders/refiners with a federal tax refund of 45 cents per gallon of ethanol on each gallon of ethanol blended with gasoline, providing an important incentive to blend ethanol with their gasoline.

million gallons of capacity is being added through plant expansion. When these projects are complete, the industry will have the capacity to produce more than 14 billion gallons of renewable ethanol. Last year, the total ethanol produced in the U.S. increased by 14.7 percent over 2008. This growth in production and operating capacity was fueled by the completion, start-up, and operation of new plants and the ongoing expansion of existing plants, all of which was achieved with the help of VEETC and other existing tax incentives for biofuel.

The U.S. ethanol industry continues to have a positive impact on our nation's economy. U.S. ethanol producers have long been on the cutting edge of the green economy. According to a report prepared for the RFA<sup>5</sup>, spending by the U.S. ethanol industry in 2009:

- Contributed \$53.3 billion to the nation's Gross Domestic Product (GDP);
- Supported nearly 400,000 jobs in all sectors of the economy; and,
- Generated an estimated \$8.4 billion in tax revenue for the federal government and nearly \$7.5 billion of additional tax revenue for state and local governments.

Economic theory suggests that a new national industry should be able to gain a significant market share within the domestic market before tax incentives are phased out or abolished. Thus, RFA supports legislation such as H.R. 4940, the Renewable Fuels Reinvestment Act, which calls for a 5 year extension of VEETC, the Small Ethanol Producer Tax Credit and the Secondary Tariff on Imported Ethanol, and a 3 year extension of the Cellulosic Biofuel Producer Tax Credit. Consistency in Federal policies will send the necessary and appropriate signals to the marketplace. Maintaining and extending the existing tax incentives for ethanol are essential for continued growth of the industry.

#### **Tax Incentives**

##### *Volumetric Ethanol Excise Tax Credit*

The most significant tax incentive encouraging the expanded use of ethanol is the VEETC. The VEETC provides blenders and marketers of gasoline with a federal tax credit of 45 cents on each gallon of ethanol blended with gasoline. Thereby, VEETC enhances the cost competitiveness of ethanol with gasoline and provides gasoline marketers and blenders an important incentive to blend ethanol with their gasoline.

The VEETC protects ethanol producers from declines in oil and gasoline prices over which they have no control. Since ethanol is sold as an additive to motor gasoline, its price has traditionally been determined more by oil and gasoline than by ethanol supply, though current supplies relative to the artificial limitation on ethanol demand (the E10 blend wall) is undoubtedly weighing on the marketplace. An analysis of ethanol prices over the 1990 to 2009 period indicates that the wholesale market price of ethanol increases 6.3 percent for every 10 percent increase in spot market gasoline prices, but declines only 1.5 percent for every 10 percent

<sup>5</sup> *Contribution of the Ethanol Industry to the Economy of the United States*, Dr. John Urbanchuk, Director, LECG, LLC. Prepared for the RFA. February 12, 2010.

increase in ethanol production. Consequently ethanol producers are price takers with their revenue determined largely by developments in the oil and gasoline markets.

The VEETC is a tax credit claimed by the refiners and marketers that buy ethanol for blending with gasoline. As such, the credit supports demand by reducing the effective cost of ethanol to the purchaser, allowing him to purchase ethanol at an effective price below that charged by the producer. As a consequence, VEETC helps to reduce prices at the pump for the consumer. Today, because ethanol sells for \$0.70 to \$0.80 less than gasoline before the VEETC is taken into account. If the full value of the VEETC is passed through to the consumer, a gallon of gasoline blended with ethanol is 12 cents cheaper than conventional gasoline. These consumer savings are even greater in higher ethanol blends such as E15, and E85. Allowing VEETC to expire then, would increase consumer gasoline costs and slow the economic recovery.

Finally, it is important to note that VEETC is an exceptionally cost-effective investment in our energy future. According to an RFA report, with the increase in tax revenue, the cost of the VEETC is more than offset. In 2009, the \$8.4 billion in increased federal tax revenue attributable to the ethanol industry is in itself \$3.4 billion more than the estimated cost of the VEETC, assuming the 10.6 billion gallons of ethanol produced were blended. Factoring in the additional \$7.5 billion in tax revenue for state and local governments and the \$21.3 saved in foreign oil payments, each federal tax dollar invested in ethanol incentives returned more than \$7 to government and the economy at large.

#### *Small Ethanol Producer Tax Credit*

In addition to the VEETC, current law provides small ethanol producers with a tax credit to help them grow, expand and invest in greater efficiencies and technological advances. This credit, the Small Ethanol Producers Tax Credit (SEPTC), provides ethanol producers with capacity of no more than 60 million gallons can claim a credit against the producer's income tax liability of 10 cents per gallon of ethanol on the first 15 million gallons of ethanol produced in a tax year. The SEPTC, which also expires on December 31, 2010, can provide as much as \$1.5 million in tax benefit to help small, farmer-cooperative ethanol producers survive and flourish in a competitive market.

#### *Cellulosic Biofuel Producer Tax Credit*

Also, to facilitate the growth of second generation biofuels that expand the basket of available feedstocks for biofuel production, such as perennial grasses, crop residues, forestry products, and waste, a production tax credit of up to \$1.01 per gallon is available to reduce the income tax liability of producers of cellulosic biofuel. This credit, the Cellulosic Biofuel Producers Tax Credit (CBPTC), provides an important incentive for investment in the start-up, development and growth of the cellulosic biofuel industry. Given the high costs currently associated with production of cellulosic biofuel, and the need for further investment in the commercialization of existing pilot production facilities, the CBPTC is critical to reducing the risk associated with these investments.

Secondary Tariff on Imported Ethanol

Because the VEETC does not discriminate as to the nation or origin of the ethanol blenders' use, it allows foreign ethanol producers the benefit of the incentive. This means that without an offset for the incentive, U.S. taxpayer dollars will be directed to foreign ethanol industries. However, to prevent this from occurring, Congress established a Secondary Tariff on Imported Ethanol. Today, the Secondary Tariff provides a credit offset of 54 cents per gallon when the foreign ethanol is imported into the United States. The balancing act between the VEETC and the secondary tariff has proved effective and must be continued to ensure America is not subsidizing foreign ethanol production.

While some have criticized the secondary tariff, claiming that it is a barrier to trade, this is simply not true. Despite this tariff, direct imports of foreign ethanol from countries like Brazil have continued to persist and grow over time. Prior to 2006, U.S. imports of ethanol, annually, from all countries hovered around 200 million gallons. Then, in 2008, ethanol imports from all countries jumped to 578 million as record high oil prices and high domestic ethanol prices made imports attractive, even with the tariff. Imports landed, paid the offsetting secondary tariff, received the tax incentive, and competed quite effectively. As a consequence of lower ethanol prices and high world sugar prices, imports fell in 2009, totaling only 300 million gallons in 2009.

The fact that the tariff is not a barrier to trade can also be seen through the evidence from importation data under the Caribbean Basin Initiative (CBI). Under the CBI Program, CBI countries may export ethanol to the U.S. duty free provided that the ethanol is produced from a local feedstock or value is added via processing. While the CBI exemption is limited to 7 percent of U.S. consumption, it is important to note that imports have never come close to meeting the 7 percent limit, except in 2008, where it rose to 6.1 percent of consumption.

**Job Creation and Economic Growth**

The ethanol industry is an integral part of a manufacturing sector that makes a significant contribution to the American economy and adds substantial value to agricultural commodities produced by American farmers. Expenditures by the ethanol industry for feedstocks and other raw materials, other goods and services represent the purchase of output of other industries. The spending for these purchases circulate through the local and national economy generating additional value-added output, jobs in all sectors of the economy, household income, and tax revenue for government at all levels.

Today, the U.S. ethanol industry supports nearly 400,000 jobs in all sectors of the economy. These jobs were created in connection with increased economic activity from ongoing production and distribution, construction of new capacity and research and development. These jobs include direct employment by producers, but also employment from industries that are indirectly or peripherally involved in ethanol production.

As detailed in a recent study,<sup>6</sup> removal of the VEETC is likely to result in a reduction of as much as 37.7 percent in U.S. ethanol production. As detailed in the study, removing the 45 cents per gallon VEETC would reduce the price to producers by 27.4 percent. While this reduction would increase ethanol demand by nearly 12 percent, the lower price would induce producers to cut supply by nearly 38 percent. Moreover, the failure to extend the VEETC would significantly increase the possibility the currently idled capacity would not be brought back on line, thereby resulting in additional loss for the economy.

Using current production volumes of 10.6 billion gallons for 2009, this would represent a loss of exactly 4 billion gallons or the equivalent of the annual production from more than 60 average sized ethanol plants. This means that the ethanol industry would spend \$6.6 billion less on purchases of raw materials, and goods and services associated with those missing gallons.

According to the study, using value added output, earnings and employment figures provided by the U.S. Bureau of Economic Analysis, the loss to the economy of a 4 billion gallon reduction in ethanol production will have the result of:

- Reducing aggregate GDP by \$16.9 billion (2009 dollars);
- Eliminating 112,000 jobs in all sectors of the economy;
- Reducing household income by \$2.4 billion; and
- Cutting State and local tax revenue by \$2.7 billion and Federal tax revenue by \$2.4 billion

#### **New Technologies**

The ethanol industry today is on the cutting edge of technology, pursuing new processes, new energy sources and new feedstocks that will make tomorrow's ethanol industry unrecognizable from today's. Ethanol companies are already utilizing cold starch fermentation, corn fractionation, and corn oil extraction. Companies are pursuing more sustainable energy sources, including biomass gasification and methane digesters. There is not an ethanol company represented by the RFA that does not have a cellulose-to-ethanol research program. These cutting edge technologies are reducing energy consumption and production costs, increasing biorefinery efficiency, improving the protein content of feed co-products, utilizing new feedstocks such as cellulose, and reducing emissions by employing best available control technologies.

The technology exists to process ethanol from cellulose feedstocks; however, the commercialization of cellulose ethanol remains a question of economics. The capital investment necessary to build cellulose facilities remain about five times that of grain-based facilities. Those costs will, of course, come down once the first handful of cellulose facilities are built, the

<sup>6</sup> *Importance of the VEETC to the U.S. Economy and the Ethanol Industry*, Dr. John Urbanechuk, Technical Director, ENTRIX. Prepared for the RFA. February 10, 2010.

bugs in those “first mover” facilities are worked out, and the technology continues to advance. The enzymes involved in the cellulose ethanol process remain a significant cost, as well. While there has been a tremendous amount of progress over the past few years to bring the cost of those enzymes down, it is still a significant cost relative to processing grain-based ethanol. To continue this technological revolution, however, continued government support will be critically important.

The Renewable Fuels Reinvestment Act of 2010 recognizes the importance of providing continued support for cellulosic and other future biofuel technologies. By providing a 3 year extension of the CBPTC, which does not expire until 2012, this legislation provides for a long term approach to promoting new technologies and new fuels. Given the recent credit crisis and the economic downturn, many existing cellulosic producers have faced difficulties in making the transition from pilot project to commercial scale producer. By extending the CBPTC to 2015, it provides a risk reducer for investors and lenders to help producers make the necessary capital investments and expansion of their facilities. It also gives assurances to the investment community that government support for the industry will be sustained over a long period of time.

The VEETC also helps to reduce the risk associated with investment in new technology, such as cellulosic biofuels. Typically, the financial community will invest in higher risk, non-traditional activities only with the assurance that their revenues will not be threatened by foreign or domestic competition. Continued existence of the VEETC is an effective risk reducing instrument for investors and the financial community who are key to further expansion of the U.S. ethanol industry, particularly the use of cellulosic feedstocks for ethanol production.

#### **Energy Security**

One of the core objectives of the federal ethanol program is the need for energy security and energy independence. While our nation benefits environmentally from the production and use of clean, biobased fuels, the promotion of home grown, carbon free alternatives to oil is essential to wean our nation from foreign imported oil and thereby make our country more energy secure. Today, the U.S. consumes approximately 7 billion barrels of crude oil every year, with almost 70 percent of that oil coming from the global market, including from hostile Middle East nations. And, ethanol is currently the only clean fuel alternative that is reducing demand on petroleum based imports.

While the Renewable Fuel Standard (RFS), which mandates that refiners blend ethanol into the fuel stock, incentivizes its use by making it available to consumers, the VEETC ensures that the volumes mandated under the RFS are met with domestically produced ethanol. Under the RFS there is no requirement that RFS’ mandated volumes are satisfied with domestic ethanol supply. This means that, without sufficient domestic supply, the U.S. would have to import ethanol to satisfy RFS volumes, and thereby, continue to trade high trade deficits or large transfers of wealth for energy, by simply substituting one trading partner for another.

As explained above, the VEETC’s market-based, tax incentive structure assures that U.S. ethanol remains cost competitive for sustained periods despite wide and frequent price fluctuations in global petroleum prices. By providing a 45 cent credit on each gallon blended, the tax credit

provides a safety net to ethanol producers and blenders against wide fluctuations in oil prices and thereby assures ethanol producers and investors that their product will remain cost competitive over sustained periods of time. This way, VEETC works with the RFS to provide a demand floor for renewable fuels. The VEETC helps encourage discretionary blending above and beyond RFS levels in times of high crude oil and gasoline prices, which in turn helps hold down the price of gasoline at the pump.

If VEETC is allowed to expire in 2010, the absence of VEETC would greatly reduce U.S. ethanol market prices and deteriorate industry profitability. And, as a result, domestic ethanol production would have to be significantly reduced in the short term. Moreover, without the VEETC's market based benefits, investment in the ethanol industry would be curtailed in response to an increase in perceived investment risks, thereby impacting the long term profitability of the industry.

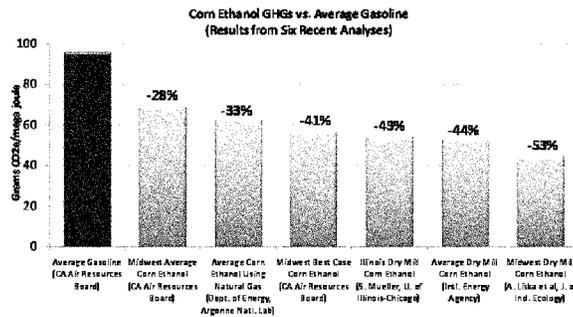
By encouraging and incentivizing production of ethanol in the United States, the VEETC ensures that the RFS volume requirements will be filled overwhelmingly with homegrown supply. Absent a market based incentive, it is highly likely that imports would be used to satisfy the RFS' growing biofuel volume expectations.

#### **Conclusion**

Mr. Chairman, existing U.S. tax policies have made a difference, and can continue to drive investment in domestic renewable fuels such as ethanol. The VEETC, in particular, has played an integral role in supporting investment and development in ethanol production facilities and the significant growth of the industry. The continued existence of U.S. renewable energy tax policy will be critical to the rapid deployment and commercialization of new technologies for biofuels. The RFA looks forward to working with the Committee during the 111<sup>th</sup> Congress to ensure the U.S. ethanol industry continues to grow.

Thank you.

### There is Broad Agreement that Corn Ethanol Reduces GHGs 30-50% Compared to Gasoline



#### Written Testimony of Jonathan Davis, President of SEMI North America

Chairman Levin, Ranking Member Camp, thank you for allowing me to submit testimony to the Committee on Ways and Means regarding energy tax policy.

My name is Jonathan Davis and I serve as the President of North America for Semiconductor Equipment and Materials International (SEMI). Although we are a global organization, SEMI represents about 425 U.S. companies in the \$50 billion worldwide semiconductor equipment and materials industries. These companies supply the enabling technologies, including raw materials and advanced tools, to produce every semiconductor-based product from cell phones to computers.

In addition to these products, our members also provide a base for emerging technologies such as solar photovoltaic (PV) and nanotechnology, including solid state lighting (SSL). That is why in 2008 SEMI members involved in solar energy/PV manufacturing formed the SEMI PV Group to address the opportunities and obstacles of bringing low-cost PV technology and sustainable clean energy to the world. As such, it is with our members concerns in the solar and energy efficiency industry that I submit these comments to you today.

SEMI and our members were pleased with the alternative energy investment sections of the American Recovery and Reinvestment Act (ARRA), and in particular with the Advanced Energy Manufacturing Tax Credit (MTC) and the Section 1603 payments in lieu of tax credit program as applied to the Investment Tax Credit (ITC). Both of these programs go a long way in helping to establish a more substantial base for domestic production of solar panels, and in helping consumers offset the cost of installing solar panels in their homes. The end result of both more manufacturing capacity and more installations is, of course, more jobs, cleaner electricity, and less dependence on foreign sources of energy. In fact, solar PV creates more jobs per installed megawatt (MW) than any other competitive renewable energy source.

So, how do we ensure that these programs are living up to their full potential and creating the most jobs possible?

When it comes to the MTC, there can be no doubt of the popularity of this program within the manufacturing community. Although ARRA capped the program at \$2.3 billion, the Treasury received over \$8 billion in eligible applications. This excess need represents thousands of jobs that could be produced, and many more billions of dollars in private investment left out of the economy. While some SEMI member companies were fortunate to receive the MTC, others were shut out, with a great deal of disappointment and lost opportunity. At this point in our Nation's economic recovery, it is imperative that we have an "all hands on deck" approach, and that is why SEMI advocates for the removal of the cap on the MTC.

Removing the cap will allow billions upon billions of dollars of private investment to leverage this tax credit and build up America's renewable energy manufacturing base. A recent report by the Pew Charitable Trust revealed that while the U.S. was number two globally in total investment in renewable energy technology at \$18.6 billion in 2009, we are a distant second to China which invested almost double that amount (\$34.6 billion). We need to close this gap, and quickly, if we are going to be competitive in the race to improve, manufacture, and install renewable energy sources. This will have an impact not only on those companies that produce solar panels, but also will increase investment and job creation across the supply chain, including equipment makers and material providers.

Although solar PV technology was created here in the United States, our share of the global manufacturing capacity is only 6%, or .5 gigawatts (GW). Simply put, it's not enough capacity to meet even our domestic demand for solar PV. (i) According to estimates, the U.S. will install twice as much solar PV in 2010 than we have the capacity to produce, and the demand only continues to grow from there. (ii) By 2016, it is estimated that the U.S. will install 6 GW, or twelve times the current capacity of our domestic production. (iii) If the jobs to meet this demand aren't in the America, that's a lost opportunity of over 80,000 jobs.

In addition to solar PV, SEMI members are increasingly ramping up efforts to bring lower cost, high efficiency solid state lighting (SSL) to the American consumer. The Department of Energy (DOE) expects SSL to completely displace all other technologies in commercial, residential, industrial and outdoor segments by 2030. They estimate this will save 1,488 terawatt-hours of energy representing a savings of \$120 billion at today's energy prices.

The real challenge in making this happen, however, is being able to increase our domestic manufacturing capacity for SSL technologies, such as light emitting diodes (LED's). Again, by removing the cap on the MTC, our members would be able to leverage this tax credit to pour billions of dollars of private investment into increased production of LED's, lowering the price, and greatly helping to reduce the amount of electricity we use for lighting. While our members are grateful for those MTC that LED companies received as part of ARRA, there is still plenty of unmet need in developing our domestic manufacturing capability in this area.

In addition to building up our manufacturing base, solar PV also needs to be price competitive in order to reach a sustainable level of deployment in the United States. While the ITC program has been a good driver, under the current economic circumstances SEMI believes that it is vital to continue the Section 1603 grants in lieu of credit program to provide the necessary up front capital for installation of renewable energy technologies.

With this program set to expire at the end of 2010, we are quickly approaching a cliff that will severely hamper the growth in solar PV installations. It is SEMI's belief that the Section 1603 program should be extended to 2012, which will allow continued growth, while providing sorely needed upfront capital for solar installation projects. It would be an unfortunate mistake to cut this successful program out at the knees, before it has a chance to make its full impact in the creation of jobs in our country. The current 2010 expiration date doesn't allow for a long enough time period for this provision to have the maximum impact on creating more renewable energy projects. By extending this program for an additional 2 years, more

large scale renewable energy projects will be ready to begin construction and take full advantage of the program.

Mr. Chairman and Ranking Member, again I thank you for allowing SEMI to submit this testimony, and I hope you will consider our requests. SEMI member companies are very proud of their contributions to the American economy, and we hope to be able to work closely with this committee as it continues to work on policies that support the growth of the renewable energy here in the United States.

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**Solar Energy Industries Association, Statement**

TESTIMONY OF  
**RHONE RESCH, PRESIDENT & CEO**  
**SOLAR ENERGY INDUSTRIES ASSOCIATION**  
BEFORE THE  
**HOUSE COMMITTEE ON WAYS & MEANS**  
**HEARING ON ENERGY TAX INCENTIVES DRIVING THE GREEN**  
**JOB ECONOMY**  
APRIL 14, 2010



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[www.seia.org](http://www.seia.org)

Mr. Chairman and Members of the Committee,

Thank you for the opportunity to submit this written testimony on jobs and renewable energy capacity potential from the Treasury Grant Program or an equivalent legislative solution within the tax code, the Solar Manufacturing Jobs Creation Act, and the solar investment tax credit.

#### **I. Introduction**

The Solar Energy Industries Association (SEIA) is the national trade association for the solar energy industry and represents over 1000 member companies at all points in the value chain – from financiers to project developers, component manufacturers to solar installers. Established in 1974, SEIA works to make solar energy a mainstream and significant energy source in the United States by expanding markets, strengthening the industry, and educating the public on the benefits of solar energy.

Today, we would like to highlight three critically important issues to the solar industry that address the commercial, manufacturing, and residential markets. They are the Treasury Grant Program, the Manufacturing Investment Tax Credit, and the Residential Bonus Investment Tax Credit, respectively. These three areas of the U.S. solar industry are creating thousands of jobs today, even in difficult economic times, but they are poised to make the U.S. – with the right policies – the renewable energy leader in the world.

#### **II. State of the Solar Industry Today**

Solar energy is the cleanest and most abundant renewable energy source available. And the U.S. has some of the richest solar resources in the world. Today's technology allows us to capture this power in several ways, turning the sun's rays into electricity for homes and commercial entities, as well as capturing the heat from the sun for use in water heating, space heating, and also space cooling applications.

Despite the economic turmoil of this past year, the U.S. solar energy industry has managed to maintain growth — both in new installations and employment. Total domestic solar energy capacity at the end of 2009 stands at 25,952 megawatts (MW) & megawatts-thermal (MWth), up 5 percent from 2008. Total electrical capacity has climbed past 2,000 MW, which is enough to serve over 350,000 homes, and total thermal capacity has reached nearly 24,000 MWth.<sup>1</sup>

While annual installations grew only 5 percent, a shift towards residential photovoltaic (PV) helped overall industry revenue climb roughly 36 percent. PV installations experienced a 33 percent growth, and solar water heating a ten percent growth. Three new concentrating solar power (CSP) plants came online after a one-year pause in installations and the utility-scale project pipeline has now surged to 17 gigawatts, promising continued growth.<sup>1</sup>

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<sup>1</sup> SEIA U.S. Solar Industry Year In Review 2009 [www.seia.org](http://www.seia.org)

Prices for PV modules in 2009 continued to significantly decline for the second year in a row. Prices have fallen to \$1.85-\$2.25 per watt from \$3.50-\$4.00 per watt in mid-2008, a drop of over 40 percent.<sup>2</sup> With module prices accounting for up to half of the installed cost of a PV system, these prices are beginning to put downward pressure on system prices. The average installed cost fell roughly 10 percent from 2008 to 2009. With new innovations in the installation process, increasing economies of scale and innovative equipment increasing energy yields, the cost reductions are expected to continue. In short: PV is becoming an increasingly attractive and secure investment.

Another sign of continued optimism in solar energy: venture capitalists invested more in solar technologies than any other clean tech in 2009. In total, \$1.4 billion in venture capital flowed to solar companies in 2009. For an industry that had a total U.S. volume of roughly \$4 billion, this signals huge optimism about near-term growth.<sup>3</sup>

Overall employment in the solar industry increased by 10,000 people from 2008 to 2009. In addition, the growth in economic activity from the industry and its employees supported an additional 7,000 induced jobs for a total economic impact of 17,000 new jobs in 2009. In total, the solar industry and its supply chain now support roughly 46,000 jobs in the U.S. With growth expected to continue this year, that number is likely to surpass 60,000 by the end of 2010.<sup>2</sup>

All of this is fantastic new for Americans, but it is not nearly enough. The United States is forecast to be the world's largest market for solar technology but today we lag behind countries that have made an investment in solar energy. Germany had a cumulative installed capacity of 8,877 MW of solar electric capacity at the end of 2009, Spain had 3,595 MW, and Japan 2,628 MW, leaving the United States in fourth place with 2,108 MW.<sup>2</sup> If we look at the cumulative capacity on a watt per capita basis, the U.S. ranks ninth behind Germany, Spain, the Czech Republic, Belgium, Japan, Italy, Korea, and France. As President Obama stated in his 2010 State of the Union Address, "I do not accept second place for the United States of America."<sup>4</sup>

More can and more should be done if the United States is to remain competitive with these other nations. The right policies and incentives are needed to allow for this to happen.

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<sup>2</sup> SEIA U.S. Solar Industry Year In Review 2009 [www.seia.org](http://www.seia.org)

<sup>3</sup> Greentech Media <http://www.greentechmedia.com/articles/read/green-vc-total-second-best-year-ever/>

<sup>4</sup> Remarks by the President in State of the Union Address. U.S. Capitol, Jan. 27, 2010  
<http://www.whitehouse.gov/the-press-office/remarks-president-state-union-address>

### III. The Commercial Market

#### a) The Treasury Grant Program

For the commercial market, the Treasury Grant Program is one policy that has already made a difference. The Treasury Grant Program was enacted in February 2009 as part of the American Recovery and Reinvestment Act of 2009, under Section 1603, in response to the reduced availability of tax equity. Prior to the financial crisis, many renewable energy projects relied upon third party tax equity investors to monetize the value of federal renewable energy incentives. The economic downturn dramatically reduced the availability of tax equity, severely limiting the financing available for renewable energy projects. The Treasury Grant Program allows for the owner of commercial solar property to receive a 30 percent grant, in lieu of taking the 30 percent solar Investment Tax Credit (ITC). Applicants are eligible for the Treasury grant only if they commence construction on projects by December 31, 2010 and complete construction by December 31, 2016.

As of the end of February 2010, the 30 percent Treasury Grant Program has supported the deployment of 303 solar energy systems, or 283 solar electric systems and 20 solar thermal systems. Since the guidance for the grant program was released in July of 2009, the manufacture and construction of these systems has supported roughly 10,100 jobs- including direct, indirect, and induced.<sup>5</sup>

Although the economy has started to recover, the tax equity market is still struggling- a condition likely to persist through 2012. Due to global economic conditions, a big gap persists between the total amount of financing renewable energy developers need and the actual money available. Large scale solar projects require large amounts of tax equity, which render many deals impossible in today's tax equity market.

Congress passed the Recovery Act in January of 2009, and intended to provide a two-year window for renewable energy projects to utilize the Treasury Grant Program. However, guidance and application procedures for the program did not become available until July 2009, cutting valuable months off the program.

Therefore, we strongly urge Congress to extend the Treasury Grant Program's "commence construction" deadline until December 31, 2012 - a 2 year extension of the program or pass an equivalent legislative solution within the tax code.

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<sup>5</sup> [http://seia.org/galleries/FactSheets/Factsheet\\_TGP.pdf](http://seia.org/galleries/FactSheets/Factsheet_TGP.pdf)

The Treasury Grant Program is working. Every dollar invested in the program goes directly to stimulate renewable energy investment, avoiding expensive tax equity transactions. Furthermore, many utility-scale solar energy projects rely on DOE loan guarantees to secure financing. Based on DOE's Loan Guarantee history many of these loans may not be closed in order to "commence construction" by the end of this year, threatening those projects' eligibility for the Treasury grant. Unless there is certainty that the grant program will be extended, many project developers will stop hiring and stop spending money on development costs.

But by extending the Treasury Grant Program now, projects that plan to commence construction this year will be provided certainty. In addition, an extension will allow the next wave of renewable energy projects planned for 2011 to move forward, creating thousands of jobs this year.

Let me reiterate the importance of this program. The wind, geothermal, hydro, and solar industries are all in agreement that an extension of this program is the number one job-creation policy priority.

Preliminary studies done by the Lawrence Berkeley Laboratory on the program showed that the program has been heavily used by renewable project developers. 64% of the eligible wind power capacity and 100% of the eligible geothermal capacity built in 2009 had either elected, or planned to elect the cash grant; these two technologies were awarded 92% of the funding distributed before March 1 of this year. The same goes for solar developers.<sup>6</sup>

The report also shows that the grant program provides a number of indirect benefits that can provide significant economic value to projects. These include full relief from the alternative minimum tax, elimination of PTC haircuts caused by the use of other government grants or subsidized energy financing, the ability to pursue leasing as a viable financing option, compatibility with behind the meter projects, relief from passive credit limitations, and a reduction in performance risk.

Most impressively, the study reports that 4,250 megawatts of clean power came on line thanks to the program in the first six months alone, and that these projects will create more than 143,000 jobs by the end of this year.<sup>6,7</sup> We estimate this equates to an additional 86,000 jobs by 2012 in the solar sector alone.<sup>7</sup>

We ask Congress to extend the Treasury Grant Program for two years, so the commercial renewable energy sector in the United States will continue to expand.

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<sup>6</sup>Bolinger, Mark. *Preliminary Evaluation of the Impact of the Section 1603 Treasury Grant Program on Renewable Energy Deployment in 2009*. April 2010 <http://eetd.lbl.gov/ea/EMS/reports/lbnl-3188e.pdf>

<sup>7</sup>SEIA estimate.

**b) H.R. 4599, the Renewable Energy Expansion Act**

We would like to take this opportunity to state our support for H.R. 4599, the Renewable Energy Expansion Act. This legislation would assist in the financing of solar projects of all scale, would help deploy vast amounts of solar capacity, and create tens of thousands of jobs across the United States.

The United States is forecast to be the world's largest market for solar technology. However, the right incentives are needed to achieve this huge potential. This bill would provide an effective tax mechanism for solar projects that works regardless of the tax equity market, which is still recovering from the economic recession. The bill recognizes the importance of long term financial planning, which is crucial for driving investment to renewable energies such as solar. The bill also recognizes the importance of the current Sec. 1603 Treasury Grant Program established under the American Recovery and Reinvestment Act by allowing the consumer to opt for either the grant program or this new policy mechanism, before the grant program sunset date.

By including the Renewable Energy Expansion Act in forthcoming energy jobs or tax bills, the industry projects both dramatic job growth and deployment of solar technology.

**III. Domestic Manufacturing – The Solar Manufacturing Jobs Creation Act**

As the commercial market grows, and more and more states enact Renewable Portfolio Standards, the demand for renewable energy will expand. However, without manufacturing incentives, much of this demand is likely to be met through imports since other nations have created a more favorable environment for investment. The U.S. has lost the lead in PV manufacturing that it held up until 1997, when the U.S. accounted for more than 40% of global solar photovoltaic production. In 2008, the U.S. produced only 5% of the world's solar cells, losing out to countries such as Germany and Spain.<sup>8</sup> Both China and India made headlines this past year when they independently announced plans to expand their solar power capacities to 20,000 MW each by 2020.<sup>9</sup> If these plans move forward, Asia will become a major demand center for solar energy equipment after several years of expanding manufacturing capacity.

The Recovery Act of 2009 included a competitive 30% tax credit capped at \$2.3 billion in total tax expenditures for advanced energy manufacturing projects, creating the new code "Section 48C". More than 500 final applications were received for this manufacturing investment tax credit. Out of the 500,

<sup>8</sup> [http://www.seia.org/galleries/FactSheets/Factsheet\\_MITC.pdf](http://www.seia.org/galleries/FactSheets/Factsheet_MITC.pdf)

<sup>9</sup> <http://www.reuters.com/article/idUSDEL104230> and <http://www.tradingmarkets.com/site/news/Stock%20News/2627697/>

183 projects received an allocation. 31 percent, or 58 of these projects were solar projects. The allocation for 57 of these solar projects totaled \$960 million, or 45% of the total allocation.<sup>10</sup> 26 SEIA Members received an allocation from the manufacturing tax credit.

Now that the \$2.3 billion cap is exhausted, the program is due to sunset. However, the Administration has proposed an additional \$5 billion in funding for this Section 48C credit. SEIA supports this additional funding for the Section 48C manufacturing investment tax credit.

The Recovery Act did its job and jump-started domestic solar manufacturing. However, the Section 48C credit isn't enough to support long-term growth in solar manufacturing.

SEIA supports legislation crafted by Representatives Thompson, Camp, Doggett, and Tiberi and Senators Menendez and Stabenow. The Solar Manufacturing Jobs Creation Act<sup>11</sup>, H.R. 4085 and S. 2755, would add equipment used to manufacture solar energy generating property to the eligible property list of the existing Section 48 commercial solar investment tax credit (ITC). Current law provides a 30% tax credit for solar energy generating property placed in service in the U.S. before January 1, 2017. This legislation would allow a 30% credit for investments in equipment placed in service in U.S. manufacturing facilities before January 1, 2017. The Solar Manufacturing Jobs Creation Act would also make manufacturing equipment eligible for the Treasury Grant program for property placed in service before January 1, 2011; as well as for property placed in service after January 1, 2011 if pursuant to a written binding contract which was entered into before that date.

The Solar Manufacturing Jobs Creation Act and the \$5 billion to the existing Section 48C credit will support a strong domestic solar manufacturing base and maximize renewable energy employment. New U.S. solar manufacturing facilities could begin construction soon after date of enactment with the 30 percent credit definitively in their financial calculations. Firms would have an incentive to make their investments early in order to capitalize on the grant program, greatly increasing the amount of investment and new jobs in the near-term.

We ask the Committee to support the Solar Manufacturing Jobs Creation Act.

#### **IV. The Residential Market – Short-Term Bonus Tax Incentive**

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<sup>10</sup> [www.whitehouse.gov/sites/default/files/100108-48c-Selection-Final-With%2520Projects.xls+manufacturing+tax+credit+recipients&cd=7&hl=en&ct=clnk&gl=us&client=firefox-a](http://www.whitehouse.gov/sites/default/files/100108-48c-Selection-Final-With%2520Projects.xls+manufacturing+tax+credit+recipients&cd=7&hl=en&ct=clnk&gl=us&client=firefox-a)

<sup>11</sup> [http://www.seia.org/galleries/FactSheets/Factsheet\\_MITC.pdf](http://www.seia.org/galleries/FactSheets/Factsheet_MITC.pdf)

With the Treasury Grant Program to support the commercial market, and the Solar Manufacturing Jobs Creation Act to enable the demand for solar energy to be met, the residential market must not be overlooked.

Installations of residential PV systems doubled from 2008 to 2009 from 78 to 156 MW.<sup>12</sup> This achievement was made possible in part by the expansion of the Federal residential investment tax credit, or ITC. That expansion sufficiently improved small PV project economics to make it an attractive investment in previously marginal areas. If this federal investment tax credit were expanded to 50 percent in 2011 and 2012 for residential and commercial systems less than 20 kilowatts, SEIA estimates that up to 80,000 additional jobs - direct, indirect and induced- will be created in 2012 compared to current policy. It could also result in the deployment of an additional 1,000 megawatts (MW) of solar electric capacity and \$6 to \$7 billion in additional investment in the solar industry.<sup>13</sup>

This analysis focuses only on photovoltaic systems, but this policy change would also impact the demand for and employment in solar water heating (SWH) and small concentrating solar power projects (CSP). Providing these small systems with a 50 percent credit would likely have a large and positive impact on employment in those industries.

Considering only Federal incentives, the change from a 30 to 50 percent ITC would make solar less expensive than traditional electricity in cities across the country. Solar would achieve grid parity with 8 cities with a 50 percent ITC- including Las Vegas, New York City, San Diego, and Portland Maine- instead of only 1 city- Honolulu- with a 30 percent ITC.<sup>13</sup>

SEIA estimates that expanding the ITC to 50 percent for small systems would increase demand for small PV systems by roughly 400 MW in 2011 and 600 MW in 2012.<sup>13</sup> This estimate is based on expected doubling in the baseline demand for residential systems in those two years and a shift from a conservative to an aggressive forecast for commercial systems.

Small systems, both residential and small commercial, are more labor intensive to install. As such, they will employ more people per dollar than larger systems. Given the estimated impact on demand for these systems, this policy change could help support over 80,000 additional jobs, as mentioned above.

We ask that Congress support a 50 percent bonus ITC for two years to bring jobs and investment to the residential solar sector.

#### **V. Conclusion**

In closing let me reiterate the key benefits of the solar industry and our three asks:

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<sup>12</sup> SEIA U.S. Solar Industry Year In Review 2009 [www.seia.org](http://www.seia.org)

<sup>13</sup> [http://www.seia.org/galleries/FactSheets/SEIA\\_50percent\\_ITC\\_analysis.pdf](http://www.seia.org/galleries/FactSheets/SEIA_50percent_ITC_analysis.pdf)

1. Solar energy creates more jobs per megawatt of energy produced than any other form of energy, be it renewable energy or fossil fuel.
2. Solar energy is a reliable domestic source of energy and is much less vulnerable to supply disruptions from foreign actions, natural disasters, or grid instability.
3. Solar technologies generate energy during peak hours of demand, when energy is in short supply and most expensive.
4. Solar energy is the cleanest of all energy sources, producing electric and thermal energy with zero emissions and no waste products or other forms of pollution.

The Treasury Grant Program has already supported 303 new solar energy projects, and the manufacture and construction of 10,100 jobs. A Lawrence Berkeley Lab study reports that 4,250 MW of clean power came online thanks to the program, and will create more than 143,000 renewable energy jobs by the end of this year. A two year extension of the Treasury Grant Program's "commence construction" deadline until December 31, 2012 will encourage the growth of the commercial solar industry.

The Solar Manufacturing Jobs Creation Act would add equipment used to manufacture solar energy generating property to the eligible property list of the existing Section 48 commercial solar investment tax credit (ITC). A \$5 billion allocation to the existing Section 48C credit will continue to support a strong domestic solar manufacturing base, allowing the U.S. to compete with other strong solar manufacturing nations and will create solar jobs here in America.

A 50 percent Bonus Investment Tax Credit would result in up to 80,000 additional jobs in 2012 compared to current policy, as well as the deployment of an additional 1,000 megawatts (MW) of solar electric capacity, and \$6 to \$7 billion in additional investment in the solar industry.

We strongly urge the Committee to include these three asks in any forthcoming energy, jobs, or tax bills.

Again, thank you for allowing SEIA to submit this testimony. We look forward to working with the Committee to cultivate solar energy development in this country and realize the domestic jobs that the solar industry has been creating and will create in the years to come.

**U.S. Green Building Council, Statement**



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**STATEMENT FOR THE RECORD**

**FOR THE HOUSE COMMITTEE ON WAYS AND MEANS  
FULL COMMITTEE HEARING ON ENERGY TAX INCENTIVES DRIVING  
THE GREEN JOB ECONOMY**

**APRIL 14, 2010**

**SUBMITTED BY**

**ROGER PLATT, SENIOR VICE PRESIDENT, GLOBAL POLICY & LAW  
U.S. GREEN BUILDING COUNCIL**



On behalf of the U.S. Green Building Council's (USGBC) nearly 19,000 organizational members and nearly 78 local chapters, I would like to thank Chairman Levin and Ranking Member Camp for convening a hearing on "Energy Tax Incentives Driving the Green Job Economy."

It is imperative the federal government play a leading role in improving the sustainability and energy efficiency of residential and commercial buildings nationwide. Expanding and creating new incentives are powerful market signals to consumer consumption and private industry investment.

**To aid in job creation, energy reduction use and to assist a market with capital challenges we recommend the House Ways and Means Committee and the Congress to take action on the following items:**

**Improve the Energy Efficient Commercial Building Tax Deduction:** Created in 2005, the Energy Efficient Commercial Building Tax Deduction (26 U.S.C 179(d)) currently provides a tax deduction of up to \$1.80 per square foot for the design and installation of qualified energy efficient building systems in new building construction or in the renovation of existing buildings. This performance-based deduction has leveraged billions of dollars in private capital, in turn leading to energy-efficient and sustainable construction or renovation of thousands of buildings across the country, and creating or preserving hundreds of thousands of jobs in the process. While it has been a powerful tool more can be done to improve the credit.

- 1) We recommend enlarging the Energy Efficient Commercial Building Tax Deduction from \$1.80 per square foot to \$3.00 per square foot in order to help stimulate immediate job creation. This improvement to 26 U.S.C 179(d) is contained in HR 4226, "The Expanding Building Efficiency Incentives Act of 2009," which we urge the Committee to swiftly consider and report.
- 2) In addition, the Committee should direct IRS to change the existing guidance on the Section 179D tax deduction to provide needed detail and to simplify needlessly burdensome requirements, which will increase the number of businesses that take advantage of the incentive. Directing the Service to clarify this guidance may be legislated by the Committee – or may be simply requested by the Chair and Ranking Member. In such request, we recommend the following specific areas for improvement:
  - As it has done with the similar new homes tax credit, the IRS should provide technical guidance for computing projected energy savings that is based on the California Alternative Calculation Method (ACM) manual, which is widely understood and also mentioned as a reference for calculation procedures in the text of Section 179D itself.



- To eliminate confusion and potential abuse of the tax deduction, the IRS should provide uniform regional energy cost assumptions for use in estimating building energy savings.
  - As required by the ACM manual, IRS should require that modeling software automatically generate the “reference” building against which energy savings are measured. Software meeting this requirement can be readily produced and would save considerable time and effort for potential applicants.
  - IRS guidance for the partial tax deduction (for individual lighting, HVAC, water heating, or envelope systems) should be further specified and simplified instead of requiring costly software modeling on the part of the applicant.
- 3) Finally, we recommend the Committee direct IRS to produce a form to provide taxpayers with greater certainty (and documentation in the case of an audit), and to provide the IRS with more information on the use of the deduction. Without forms, the IRS has no clear way of tracking how many taxpayers have claimed the deduction and for what amount.

**Allow Real Estate Investment Trusts (REITs) to be Fully Eligible for Energy Grants:** Companies investing in qualifying projects that include investments in solar, fuel cell, small wind, combined heat and power systems, and geothermal technology, are eligible for a credit against their federal income tax liability. In recognition that the current economic downturn would likely limit many taxpayers from producing adequate taxable liability, Congress authorized the use of energy grants in lieu of tax credits in the American Recovery and Reinvestment Act (Pub. L. 111-5) through 2010. Despite being designed for this purpose, the energy grants provision in the Recovery Act has been interpreted to limit any direct benefit to a REIT.

- 1) We urge the Committee to swiftly consider and report bipartisan legislation, H.R. 4256, the “Sustainable Property Grants Act of 2009.” The bill would allow REITs to be fully eligible for energy grants authorized in last year’s stimulus bill and would encourage greater efficiency in commercial buildings. Such a change would move the market dramatically given that REITs have property holdings that are approximately 10-15% of the U.S. commercial real estate industry.<sup>1</sup>

**Expand Access to Financing:** In a time of limited access to capital, a number of states and localities have utilized creative financing models to provide funding to perform building retrofits. Programs such as Property Assessed Clean Energy (PACE) financing enable the costs for efficiency upgrades in buildings to be added to commercial and residential property owner’s property tax bill as part of a

<sup>1</sup> “Real Estate Investment Trusts.” Hoovers Inc, 2010 <[http://www.hoovers.com/real-estate-investment-trusts-%28reits%29/-ID\\_\\_160--/free-ind-fr-profile-basic.html](http://www.hoovers.com/real-estate-investment-trusts-%28reits%29/-ID__160--/free-ind-fr-profile-basic.html)>



municipal property tax assessment. Bonds for PACE can be issued by municipal financing districts or finance companies and the proceeds can be typically used to retrofit both commercial and residential properties. To date sixteen states have passed PACE-enabling legislation that would allow municipalities to establish programs<sup>2</sup>.

- 1) We urge the Committee to swiftly consider and report H.R. 4155, "The Property Assessed Clean Energy Tax Benefits Act of 2009" or similar legislation or legislation soon to be introduced by Rep. Jim McDermott to assist states and localities to create and expand PACE programs.

**Renew and Review New Energy Efficient Home Tax Credit (45L):** The credit, created in 2005, provides a credit of \$2,000 for the construction of a new home that is 50 percent more energy efficient than 2003 standards. Since its creation this credit has been a tremendous tool to transform the new homes market to be more sustainable.

- 1) We urge the Committee to extend the tax credit until December 31, 2010 and to retroactively allow qualifying homes that were sold since January 1, 2010 to qualify for the credit.
- 2) Additionally, the Committee should pass provisions that establish a process for reviewing the credit to ensure it is utilizing up-to-date standards as its baseline year, thus maximizing the effectiveness of the program.

**Expand Incentives for Workforce Training:** The recent report from the U.S. Bureau of Labor Statistics paints a grim portrait: the construction industry alone has lost an average of 72,000 jobs per month in the last year.<sup>3</sup> With scores of individuals remaining unemployed or underemployed, Congress should expand training and retraining opportunities in the construction sector with an eye toward sustainability.

- 1) USGBC urges the Committee to enact provisions similar to H.R. 4226, the "Expanding Building Efficiency Incentives Act of 2009" which provide tax credit for home-performance auditor training and certification. Such a program should also include LEED for Homes Green Rater certificate as an eligible training program.

<sup>2</sup> Bureau of Labor Statistics, "Employment Situation Summary." United States Department of Labor, 2 April 2010 <<http://www.bls.gov/news.release/empsit.nr0.htm>>

<sup>3</sup> "Recovery Through Retrofit." White House, October 2009

<[http://www.whitehouse.gov/assets/documents/Recovery\\_Through\\_Retrofit\\_Final\\_Report.pdf](http://www.whitehouse.gov/assets/documents/Recovery_Through_Retrofit_Final_Report.pdf)>



**Create Tax Credits for Water Efficient Products:** The energy use to treat and transport water is staggering. American public water supply and treatment facilities consume about 56 billion kilowatt-hours (kWh) per year – enough electricity to power more than 5 million homes for an entire year.<sup>4</sup> Voluntary programs like EPA’s WaterSense, which designate products and services that save water and perform efficiently, are currently assisting consumers in decreasing water and energy use and saving money on their monthly utility bill. More can be done to encourage consumers to adopt water saving technologies – which will also save energy.

- 1) We urge Congress to pass H.R. 1908, “The Water Accountability Tax Efficiency Reinvestment Act,” or similar legislation to provide tax credit for WaterSense products and property.

USGBC commends the Committee’s attention to this matter and encourages you to consider legislation recommended above in order to spur job creation, lower energy costs, and curtail fossil fuel dependence. We look forward to working with the Committee, Congress and other stakeholders to make these recommendations a reality.

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<sup>4</sup> WaterSense, “Benefits of Water Efficiency.” U.S. Environmental Protection Agency, 30 March 2010  
<[http://www.epa.gov/watersense/water\\_efficiency/benefits\\_of\\_water\\_efficiency.html](http://www.epa.gov/watersense/water_efficiency/benefits_of_water_efficiency.html)>



**About U.S. Green Building Council:** *The Washington, D.C.-based U.S. Green Building Council is committed to a prosperous and sustainable future for our nation through cost-efficient and energy saving green buildings. With a membership comprising 78 local chapters, nearly 19,000 member companies and organizations, and more than 100,000 LEED Accredited Professionals, the U.S. Green Building Council is the driving force of an industry that leads an unlikely constituency of builders and environmentalists, corporations and nonprofit organizations, elected officials and concerned citizens, and teachers and students.*

**Environmental Impacts of Buildings:** *On the aggregate, buildings are responsible for 38% of U.S. CO<sub>2</sub> emissions per year.<sup>5</sup> In addition, buildings annually account for 39% of U.S. primary energy use,<sup>6</sup> use 13.6% of all potable water or 15 trillion gallons per year,<sup>7</sup> and consume 40% of raw materials globally (3 billion tons annually).<sup>8</sup> The EPA estimates that 136 million tons of building-related construction and demolition debris are generated in the U.S. in a single year.<sup>9</sup> (By way of comparison, the U.S. creates 209.7 million tons of municipal solid waste per year.<sup>10</sup>)*

<sup>5</sup> Energy Information Administration (2008). Assumptions to the Annual Energy Outlook.

<sup>6</sup> Energy Information Administration (2008). EIA Annual Energy Outlook.

<sup>7</sup> U.S. Geological Survey (2000). 2000 data.

<sup>8</sup> Lensen and Roodman, 1995, "Worldwatch Paper 124: A Building Revolution: How Ecology and Health Concerns are Transforming Construction," Worldwatch Institute.

<sup>9</sup> U.S. EPA Characterization of Construction and Demolition Debris in the United States, 1997 Update.

<sup>10</sup> U.S. EPA Characterization of Municipal Solid Waste in the United States, 1997 Update. Report No. EPA530-R-98-007.

**U.S. Fuel Cell Council, Statement****WRITTEN TESTIMONY FOR THE RECORD**

Ways and Means Committee  
Green Jobs Hearing  
April 14, 2010

**Ruth Cox, Executive**  
**United States Fuel Cell Council**

**Director Jeff Serfass**  
**National Hydrogen Association**

On behalf of the members of the US Fuel Cell Council and the National Hydrogen Association, we urge your consideration of several modest yet important changes in the tax treatment of hydrogen and fuel cells as you consider a tax component to a Green Jobs bill. Many of our suggestions are technical corrections to alter IRS guidelines and, if passed quickly, would enable full use of the tax credits as envisioned by Congress over the past several years. Broader, longer term expansions in the credits are also needed and included below.

Fuel cells and hydrogen, as a part of the clean energy economy, can provide significant green jobs over the next year, as well as significant jobs into the future. While we, today, are focused on short term jobs creation, investing in fuel cells and hydrogen today can, according to the US Department of Energy, create 677,000 jobs by 2035. The Korean Government, which is investing heavily in these technologies, is even more bullish on jobs creating estimating 3 million jobs worldwide by the year 2030; Korea has adopted a 20 year program to capture 20% of those jobs by supplying world demand for fuel cells.

We have estimated that for a cost of approximately \$175M during 2010-2014, the incentive modifications proposed below would likely lead to cost shared state and private investment of some \$680 M, associated economic activity of \$2.75 B and about 13,000 jobs.<sup>1</sup>

Like you, we are working hard to mitigate carbon and air pollution, make homes, businesses and our transportation system more energy efficient, increase our energy independence, and encourage job creation. Specifically we ask you to consider the following policy priorities:

Alternative Motor Vehicle Credit Modifications

Modify the 30B credit for hydrogen vehicles for parity with other advanced technologies by removing the sunset date and replacing it with a cap based on each Original Equipment Manufacturer's production. Retain 2009 base credit of \$8,000 per vehicle. Include industrial vehicles such as material handling in the definition of motor vehicles for purposes of hydrogen vehicles in this section.

Alternative Fuel Vehicle Refueling Property Credit

Extend Section 30C from 2010 until at least 2016 to put it in the same time frame as the sunset on other hydrogen and fuel cell provisions. Include as eligible property,

<sup>1</sup> The Connecticut Center for Advanced Technology Inc. concluded in November 2009 that for every job created in the Hydrogen and Fuel Cell industry an additional 1.31 jobs are indirectly supported elsewhere in the economy. Likewise, the revenue multiplier of 1.84 suggests that for each dollar of revenue generated by the hydrogen and fuel cell industry, an additional 84 cents of revenue is received by other businesses. The compensation multiplier of 1.72 indicates that for every \$1.00 paid to employees within the hydrogen and fuel cell industry, an additional 72 cents is paid by other employers in the supply chain. While these economic multipliers have been identified for Connecticut, a similar relationship could be expected for other states

installations that are for refueling of motive power applications (such as material handling) as well as motor vehicle applications, which will move early installations and reduce infrastructure costs. Additionally, we request language ensuring that, in case of hydrogen, generation, compression, storage and all dispensing site property is included, with each dispensing site being considered separately.

Modifications to the Section 48 fuel cell tax credit

Modify Section 48 to provide a more generous credit for highly efficient fuel cell systems. A tiered approach in the credit would further incentivize highly energy efficient systems that go even beyond the already stellar efficiency of fuel cells. A 40% credit, capped at \$4000 per kW is proposed for systems that are at least 60% efficient. Include language clarifying that parts and services are eligible under the section 48 fuel cell tax credit

Tax Parity for Residential Fuel Cells

We propose passage of provisions in H.R. 3660, the Fuel Cell Parity Act of 2009, a bipartisan bill that would modify Section 25 D of the IRS Code. When the dollar limit on the tax credit for fuel cells in industrial and commercial applications was raised to a maximum of \$3,000 per kilowatt, the limit for residential fuel cells remained at \$1000 per kilowatt. We respectfully request this minor adjustment, along with moving the sunset to 2016, to give parity to fuel cells for residential applications so homeowners can benefit to the same extent as businesses.

Clarify the Definition of Hydrogen

Currently, the definition of Hydrogen for purposes of 50 Cents per Gallon Alternative Fuel Tax Credit is being read as for liquid hydrogen only, whereas the definition should include all forms of hydrogen. This can be remedied with the simple deletion of the word "liquefied" in three places.

In addition to these minor changes in existing statute, the Fuel Cell and Hydrogen Industry stand with other clean energy interests in support of the following:

- Extension and expansion of the Grants in Lieu of Tax Credits Program  
This program has been hugely important to the fuel cell industry during this economic downturn and has spurred significant sales that would otherwise not have occurred or would have been deferred for several years. We would like to see the grants in lieu of tax credit expanded to cover fuel cell vehicles and infrastructure as well as the section 48 credits
- Tax credits for manufacturing of clean energy technologies  
We would advocate, as does the solar energy industry, for a manufacturing tax credit included in Section 48. Alternately, we are supportive of extension of the 49c credit for manufacturing
- For clean energy technologies, remove the constraints on sales to Tax Exempt entities' ability to utilize the credits  
Many entities with an interest in fuel cells have been reticent to invest as they receive no tax benefit that will reduce the cost of new technology. This is a problem that extends beyond the fuel cell industry and we advocate a solution.

In conclusion, we have an opportunity with fuel cells and hydrogen, to, with very little investment, create green jobs the economy desperately needs today, while positioning the United States as the leader in the green economy of the future.

Thank you for the opportunity to provide this testimony.



**United Solar Ovonix, LLC, a Subsidiary of Energy  
Conversion Devices, Incorporated, Statement**

Written Statement of

**Mark Morelli, CEO  
United Solar Ovonix, LLC**

Submitted to the  
**Committee on Ways and Means  
U.S. House of Representatives**

Hearing on Energy Tax Incentives Driving the Green Job Economy

April 14, 2010

**Introduction and Background**

United Solar Ovonix, LLC, a subsidiary of Energy Conversion Devices, Inc. (NASDAQ: ENER), is a global leader in building integrated and commercial rooftop solar photovoltaics, one of the fastest growing segments of the solar power industry. The company manufactures and sells thin-film solar laminates that convert sunlight to energy using proprietary technology. *UNI-SOLAR*<sup>®</sup> brand products are unique because of their flexibility, light weight, ease of installation, durability, and real-world efficiency. The company is headquartered in Rochester Hills, Michigan, and we have manufacturing facilities in several Michigan locations.

Thank you for the opportunity to file these written comments as the Committee examines the effectiveness of current energy tax policy. I discuss below steps that the Committee can take to support expanded American solar manufacturing capability, and thus the jobs that solar manufacturing creates and sustains.

**Energy Tax Incentives to Drive the Green Job Economy**

I urge prompt passage of The Solar Manufacturing Jobs Creation Act. This important piece of legislation (H.R. 4085, and its companion S. 2755) would add equipment used to manufacture solar energy generating property to the eligible property list contained in the existing Section 48 commercial solar investment tax credit (ITC). Importantly, the bill would extend the benefits of the ARRA-created Treasury Grant in Lieu of Investment Tax Credit to solar manufacturing equipment as well. As helpful as the 48(c) program for manufacturing in the stimulus programs has been – and we are grateful for the tax credits that United Solar received under that program – making the manufacturing ITC as permanent as the Section 48 ITC gives more stability to the market and thus more confidence to investors seeking to invest in solar manufacturing in America. And, by allowing solar manufacturers access to the Treasury Grant in Lieu of Tax program, solar manufacturers will receive a much needed cash infusion. As the committee is aware, tax credits are an important tool in times of economic expansion. Cash in lieu of the credit helps build an important bridge to economic and solar market recovery. Given the short time period during which the grant would be available means that the investments will have to be made quickly. The limited time period for the program creates an incentive to act quickly. In fact, the Congressional Budget Office estimates that the bill will only cost taxpayers \$315 million over 3 years.

Adding solar manufacturing equipment to the list of eligible property will help save and create solar jobs. Solar energy creates more jobs per MW than any other form of renewable energy. Despite our company's recent layoffs in response to world-wide economic decline, we employ 1,000 people in the United States. Our company has been able to turn automobile manufacturing facilities into solar manufacturing facilities and convert automotive related jobs into solar jobs. Passage of the Solar Manufacturing Jobs Creation Act will allow us to be able to continue to make these kinds of investments in manufacturing and manufacturing jobs, in an economically distressed area of the United States. United Solar exports 80% of what we manufacture in Michigan to the more mature, less volatile solar markets in Europe.

As the Committee considers this bill and other energy tax incentives, I urge you to exercise caution when you hear the claim that solar is “too expensive” and “can’t survive without subsidies.” The history of the U.S. energy industry is replete with government assistance in the form of tax breaks and other incentives provided to emerging energy technologies and producers as the U.S. sought to develop a strong energy infrastructure. The older, more traditional, fossil fuel based energy sources have, over time, institutionalized the government support they receive, thus they don’t need to come to Congress every year for extensions and additions. If we are serious as a country about increasing renewable energy, we must contemplate similar treatment for renewable technologies.

#### **Competition from foreign manufacturers**

Every day I read reports of cash infusions, low cost, long term loans, subsidized raw material cost programs and other supportive incentives offered to companies by countries such as China, Malaysia and the Philippines. These countries are actively developing manufacturing centers using a variety of incentives that allow companies to offer lower prices for non-U.S. made solar goods.

Ten years ago the United States represented 40% of worldwide solar manufacturing, today that figure is less than 10%. The market share in California for Chinese-made solar panels has grown from 2% to 46% in the last 3 years. Chinese market share doubled in 2009 alone. Over the same 3-year period, the market share of US-made panels fell from 43% to 16%. Solar technology is an example of American innovation and ingenuity. Solar was invented in this country and supported by government-funded research and development investments. However, manufacturing capability is increasingly going abroad to capture the robust incentives in place elsewhere. China and other countries have significant incentives for manufacturing, such as multi-year tax holidays, free land, low- or no-cost financing, subsidized raw materials, and significant cash grants.

As a proud American company, we welcome the competition from anywhere in the world – but only if we compete on a level playing field. Adopting the Solar

Manufacturing Jobs Creation Act will start to create a level playing field for U.S. manufacturers that build the projects that bring us clean, abundant solar power.

**Conclusion**

I am grateful for the opportunity to comment on these important issues and I urge you to approve the Solar Manufacturing Jobs Creation Act as an important first step toward putting U.S. solar manufacturing on equal footing with manufacturing in other countries.

**Windustry, Letter**

April 28, 2010

Dear Rep. Levin, Chairman, and all members of the U.S. House Ways and Means Committee,

Windustry respectfully submits these comments in response to the April 14th hearing on Energy Tax Incentives Driving the Green Economy. The goal for policy makers is to build a strong wind energy industry in the U.S. that is based on sound technology, largely manufactured in the U.S., and provide opportunities for a diverse set of business models for Main Street as well as Wall Street. In order to achieve this goal, Congress needs to provide a long-term stable policy that can be the foundation for a robust domestic renewable energy economy in the U.S.

For over 10 years Windustry has been the leading national voice for Community Wind and continues working to remove the barriers for broad local ownership of wind energy. Located in Minneapolis, MN, we work across the country to provide technical assistance, policy support, and general education and outreach about the opportunities for local ownership of wind energy generation. Our work has been influential in ensuring these opportunities exist at both the state and federal level.

**Community Wind Definition:**

- One or more members of the local community have a significant and direct financial stake in a project of 20 MW or less, (other than through land lease or property tax revenue).
- Eligibility: Any local entity or individual may have up to 100% ownership in one project and no more than 15% in any other qualifying community wind project. (Note: that this is primarily to prevent large projects being divided into many smaller projects all owned by the same entity or group.)

There are significantly more economic, social, and environmental benefits associated with Community Wind projects than with corporate wind projects:

- Community Wind projects create 2-3 times more job opportunities than corporate wind projects;
- Using local lenders and investors revitalizes main street economies in a way that financing from main street does not.
- Community Wind projects are often smaller in size and dispersed geographically this makes them easier to integrate into the existing electric grid.
- Large multi-national owned wind projects often require building massive transmission lines with long timelines and significant price tags
- Community Wind provides distributed generation benefits that include supporting the nation's electrical grid and diversifying our electricity supply.

Specifically we request the following three actions as a means to support Community Wind and a growing green economy:



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# WINDUSTRY

1. Extend Section 1603 of tax code regarding US Treasury Cash Grant for 10 years
  - a. primarily for Community Wind
  - b. all wind projects, if necessary
2. Extend Section 168 of the tax code regarding Modified Accelerated Cost Recovery System (MACRS) with eligibility based on
  - a. sliding scale for MACRS benefits based on percent of US Domestic Content of wind turbines
  - b. for example if at least 50% US Domestic Content for project equipment then offer the option for the wind project to accept MACRS or a US Treasury Cash Grant equal to 13.5% of the total eligible installed costs (Half of the MACRS credit) and additionally be allowed to utilize a 20-year straight line depreciation schedule for the remaining tax value under MACRS.
3. Provide a national power market. Community projects will only exist if there is a properly funded power market across the country. There are two potential paths – PURPA and Feed-in-tariffs. Both proposals have the same philosophy – create a power market for Community Wind based on independent review of realistic power pricing for new wind generation.
  - a. PURPA – PURPA has been around since the 1970's to require utilities to buy renewable energy at "avoided cost" prices. Avoided Cost prices mean the price a utility would pay if they were to build new generation power. Unfortunately, this concept has been perverted by many PUC's and utilities to mean the cost utilities are spending for old, depreciated coal plant. The power prices of these older plants are inexpensive enough that no new Community Wind project can be built for the prices offered by the utilities.
  - b. FEED-IN-TARIFFS – A feed-in-tariff funded by a public purpose charge. Seventeen states have had a public purpose charge that has worked well for a number of years that provides funding for renewable energy, energy efficiency, and pre-project support.

In order to have a strong and robust renewable energy industry in the United States, we need to address both ends of the spectrum and ensure that equal opportunities exist for small U.S.-based renewable energy businesses as for large multi-national energy developers. Distributed renewable generation means distributed economic development.

Sincerely,



Lisa Daniels, Executive Director

