

**U.S. House of Representatives  
Committee on Ways and Means**

**Hearing on  
“Energy Tax Incentives Driving the Green Job Economy”**

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**April 14, 2010**

**Written Testimony of  
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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,

nuclear, oil & gas, water, transmission, smart meters, energy-efficient appliances, and renewable energy technologies such as wind, solar, and biomass.

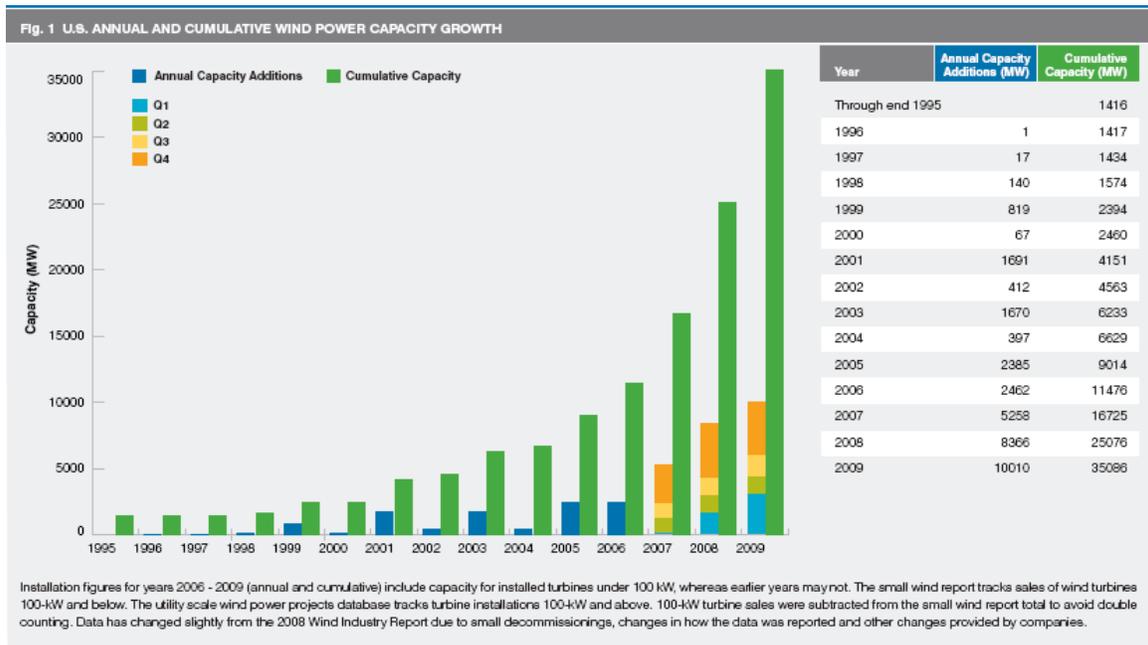
Today my testimony will focus on three themes:

- 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

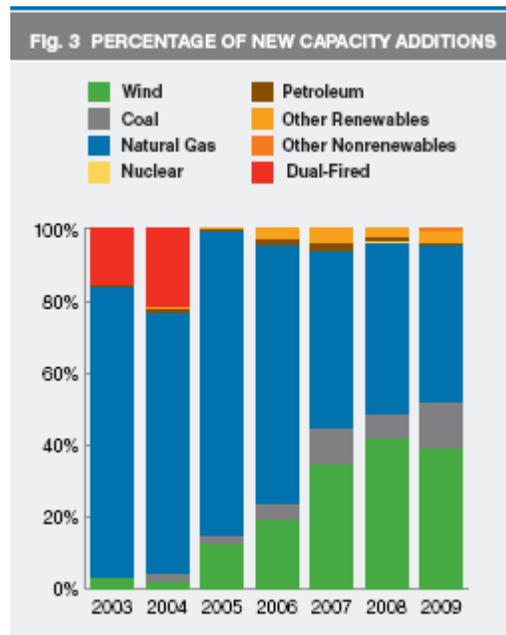


Source: AWEA.

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



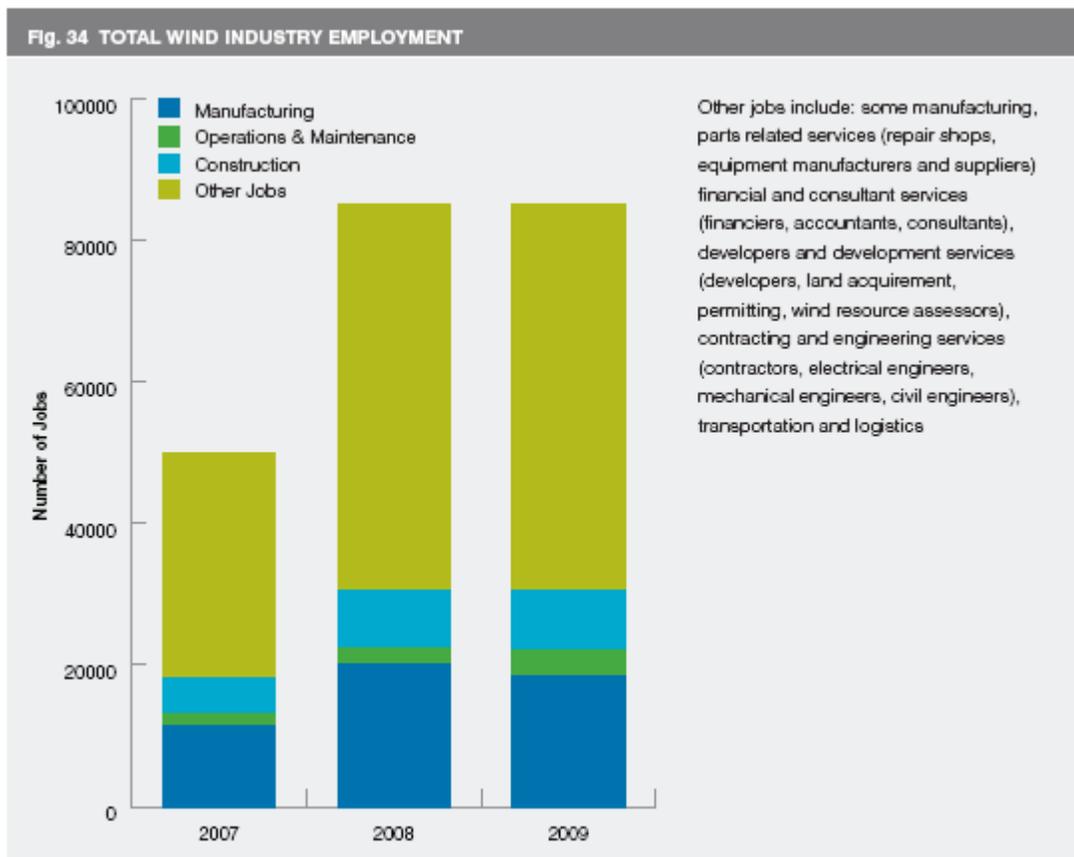
Source: AWEA.

<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**



Source: AWEA.



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.

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.