



Inside Energy

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RE: Governors' Request for 1GW of Wind Energy to be Purchased by Federal Government

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Energy independence has emerged as one of the leading issues as we enter the 21st Century. Delaware is positioning to be a leader in that global arena by getting out in front of alternative energy production with off-shore wind farms and many different municipalities funding solar arrays. Indeed, Delaware is one of only ten states currently under a cap and trade regulation model instituted a few years ago under the name of the Regional Greenhouse Gas Initiative (RGGI). That legislation has forged the way for a new Sustainable Energy Utility, responsible for connecting federal subsidies with alternative energy projects in the First State. In addition, Delaware recently welcomed Fisker Automotive to our dwindling family of manufacturers for production of a new model plug-in hybrid vehicle.

So many innovations...so many promises...so many unanswered questions. How realistic are the goals? How much will it cost? Is there an adequate return on our collective investment? How reliable are these alternative energy sources? How much energy supply can we ever realistically expect from wind, solar, etc.? What percentage of our actual yield will they ultimately be responsible for? What should guide our future direction; well-meaning intentions, or facts, figures and costs? Are we ready for the answers?

The Caesar Rodney Institute has determined to answer these questions, in order to help determine just how Green Delaware needs to be. To that end, CRI introduces its newest Policy Center focused on Delaware's role on all things energy, named the Center for Energy Independence. In the Caesar Rodney Institute tradition, policy proposals, legislation and energy initiatives will be researched and analyzed in a straightforward fashion allowing the facts to lead the decisions and response.

To begin, CEI has reviewed the recent letter sent to President Obama, from both Governors Markell of Delaware and O'Malley of Maryland, asking for the Federal Government to purchase one gigawatt of wind power from this region. CEI has prepared a response to that letter, authored by CRI's Director of Public Policy, David Stevenson. What follows is a factual analysis of the governors' proposal.

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Governors Markell of Delaware and O'Mally of Maryland would like the Obama Administration to require Federal facilities to enter into long term purchase agreements for at least 1 Gigawatt (GW) of electricity from off shore windmills. If they do so, the federal government will spend \$800 million in tax credits and an extra \$58,000/yr¹ for the proposed 1 GW of electricity. Delaware or Maryland will gain 170 permanent jobs with an investment cost of \$4.7million/job! For Comparison, in 2008, private industry invested about \$15,000/job. With deficits soaring, this is not a wise use of funds.

The governors claim the investment is needed to create jobs and to develop off shore wind technologies and economies of scale to make these windmills more cost competitive. Their letter claims 1 GW of windmill capacity would create 20,000 new jobs. Economists frequently come up with large job creation numbers like this to justify new investment. Only 3000² of those jobs are direct jobs in manufacturing, construction, and operations. The rest are indirect or induced jobs resulting from the multiplying effect of the money spent on materials and direct employees. A similar study for the nuclear power industry shows the same 1 GW of nuclear electricity capacity would create 50% more total jobs and 5 times the number of permanent operations jobs. Also, new US wind mills have about 50% domestic content with the rest coming from Europe. Off shore wind mills are larger with more foreign content. At least half of the manufacturing jobs and indirect jobs would be in Europe.

There is a big problem with using these big numbers for job creation. In the first quarter of 2010 only 0.5 GW of new wind power was installed, about one fifth of US industry capacity. With current excess industry capacity, no new jobs will be created in manufacturing or construction which also limits any new indirect jobs. US

electric power consumption has not grown in five years and none of this "job creation" considers jobs lost by the current power provider.

The best estimate of job creation comes from actual projects. Blue Water Wind is building a wind project off the coast of Delaware to produce 0.6 GW of electricity. They project 350 construction jobs lasting about 6 to 12 months, 100 permanent operations jobs, and an investment of \$1.6 billion. A slightly larger facility to provide 1 GW might require 600 construction jobs, 170 permanent operations workers, and an investment of \$2.7 billion. Wind projects qualify for a 30% Production Tax Credit convertible to a cash grant so a 1 GW project would generate an \$800 million federal grant. This amounts to \$4.7 million invested for each permanent job!

The argument the industry needs more experience to mature is also inaccurate. Utility scale wind power is twenty years old and all the separate technologies to produce components for windmills have been around and have been understood for many decades. There are hundreds of experienced suppliers. Even off shore windmill technology is mature with over 4 GW installed in Denmark alone.

The governors indicate that one of the major users of the 1 GW of wind driven electricity would be the U.S. Department of Defense. Military installations require reliable sources of electricity, and wind power is not reliable. As of yet, the electricity from wind power cannot be stored and used during peak or non-wind periods. Moreover, the summer peak demand for electricity coincides with the lowest levels of wind. These realities explain why coal and oil consumption for electricity in Denmark has not changed over the past decade even though electricity from wind turbines has jumped 136%.

No Congressional consensus has been reached to require specific consumption set asides

for renewable energy sources as some states have done. Piecemeal programs that use administrative orders to override Congressional power are not the answer. Nor does it make sense to pick technologic winners and losers. One of the few strengths of state set asides for renewable power sources is that they do not specify the source. It is too soon to choose between on shore wind, off shore wind, solar, geothermal, ocean wave, and biomass systems. New possibilities could also arise. By setting a timeline and percentage target for electricity from renewable sources, market forces can pick the most economical choice.

We do agree with one of the proposals in the Governors' letter. Federal permitting needs to be streamlined. Blue Water Wind identified 16 separate federal studies or permits required before construction can start. It will take two to three

years to obtain approvals. One of the benefits of windmills is new capacity can come online 6-12 months after an order is placed. It is ridiculous to spend three to six times longer on approvals. For example, the EPA was going to require information on how much emissions a boat needed to install a wind test tower would create. A one year delay was expected. The boat would be used for a total of 7 days! The delay was averted when Delaware discovered they could issue the permit without the EPA.

President Obama, we respectfully request you deny Governor Markell's and Governor O'Mally's proposal.

David T. Stevenson
Policy Director
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Notes:

- 1) Using information from the Blue Water Wind project, we know off shore wind is about 60% more expensive than standard power which averages \$.0974/KW. So to switch to off shore wind as proposed, the Federal government would pay \$155,000/yr for the governors' gigawatt of electricity compared to about \$97,000/yr now.
- 2) The American Wind Power Association 2010 study "A Manufacturing Blue Print for the Wind Industry", reports about 30,000 direct jobs and 55,000 indirect jobs for the industry in 2009 when 10 GW were installed in the US. This suggests an average of only 3,000 direct jobs and 5,500 indirect jobs/GW, not 20,000. Only 340 of the direct jobs were permanent operations jobs.