TOWN MEETING

Overblown Promises

The hidden costs of symbolic environmentalism

by Dr. Jonathan Lesser, Ph.D.

Initiating a state-mandated policy for wind power development is not economically sound. But before discussing why, I must clarify a few points. First, this article is not anti-wind power. It is, however, unabashedly against two related issues: 1.The illogical arguments that some wind-power proponents foist on the public and 2. The notion that the state should mandate that electric customers be required to pay for some minimum wind content requirement for their serving utilities. Second, despite its importance, I will not discuss the aesthetics of wind turbines on ridgelines. Rather, I will focus on the straightforward economic issues associated with wind power development.

Wind power, while certainly a viable technology with the potential to provide electricity at reasonably competitive prices, is not a panacea. What is worse, however, is that wind power development in Vermont won't achieve the goals that the pro-wind groups claim. That's all right of course, because wind power can be viable if independent developers want to invest their money in wind power and sell it on the market, they should be allowed to do so and it's very likely that they will. That's what competitive markets are for. But having wind power development as a state-mandated policy wrapped in a halo of promises is another matter.

If wind power is going to be developed, it makes sense that it be done in circumstances that produce the lowest-possible cost. One important factor in determining total cost is location. Ideally, you want a location for wind turbines where there are strong, steady winds, they can be placed reasonably close together, they are near high-voltage transmission interconnections and are easily accessible. The Midwest, for example, is a great location for wind turbines because there is lots of wind and no mountains.

photo: Steve Allen

Contrast this with Vermont. Here, wind farms on ridgelines are less likely to achieve the scale economics of large developments. The locations are mostly remote, the climate is harsh and the transmission infrastructure to connect wind turbines to the power grid is likely to be costly. What I counsel against is forcing all ratepayers to buy wind power through the use of a much-discussed "renewable portfolio standard"—basically a government mandate for electric utilities to purchase higher cost generating resources.

What about wind power's ability to reduce air pollution? While it's true that wind power is clean, wind proponents either do not understand or have ignored some basic regulatory realities. First, emissions of two of the major pollutants regulated by the federal government under the Clean Air Act—sulfur dioxide, which causes acid rain and oxides of nitrogen, which cause smog—are already capped across the whole market. Polluters, such as coal-plants, can buy and sell emissions permits amongst themselves to achieve the cap at the lowest possible cost. More wind power does not change the cap, it just drives demand for emission permits, and thus prices, downwards. As for global warming, the reduction of carbon dioxide that could be achieved by wind power is fairly negligible, so wind shouldn't be thought of as some kind of silver bullet. Forcing all Vermonters to pay higher electric prices to reduce greenhouse gases simply asks us, in an economic sense, to "fall on our swords" relative to other nations and states with lower electric rates. That is expensive, symbolic and ineffective environmentalism.

Likewise, there is the issue of reducing Vermont's pollution at the lowest cost. By far the largest source of pollution in Vermont, especially carbon dioxide, is not electric generation, it's cars. But environmentalists have

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focused on the state's electric utilities. Why? It's not because Vermont's electric generation is a large polluter; Vermont has one of the least emitting, cleanest generation portfolios in the nation. The reason is that electric utilities are already regulated and environmentalists believe that utilities are a better political target than is your car. Heaping more environmental regulations on electric utilities is convenient and easy.

Still another overblown pro-wind argument heard repeatedly is that wind will help make Vermont "energy independent." This argument makes no economic sense. Why? Cars. Since Vermont doesn't have any oil reserves, it's not going to achieve energy independence no matter what. And why should it? It makes as much sense for Vermont to become energy independent as it does for Florida to become maple syrup independent, and both are just as likely.

Another popular pro-wind argument is that wind development will create good jobs for Vermonters. While creating more jobs and a stronger economy is important, building wind turbines is an expensive and ineffective jobs program. True, building wind-generating facilities would provide some temporary construction jobs, but once in operation, they require little labor. Don't take my word for it, ask a developer. Wind power is probably one of the least labor-intensive forms of electric generation. Moreover, subsidizing wind generation to create jobs fails to consider the employment-reducing impacts on everyone else from higher taxes or electric rates.

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Finally, some wind proponents ignore the cost of wind power's intermittency. If there is no wind at 8 a.m., there is no power at 8 a.m. There is nothing wrong with that per se—hydroelectric generation faces the same sort of issue. But because utilities must have sufficient supplies to instantaneously meet consumer demands in every hour, wind energy is less valuable to the reliable operation of the electric system than other types of generation that can be scheduled when needed. Utilities already pay to ensure they can access enough controllable supply to meet consumer demands hour by hour. With too much reliance on wind or other uncontrollable renewable power, that cost would increase.

If Vermonters can settle the aesthetic and land-use issues arising from siting wind turbines near ridgelines, then wind developers can build more wind generation and sell it in a competitive market. But we should not rely on ill-conceived economic arguments to justify forcing all Vermonters to pay for it.

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LIVIN' SALUTES YANKEE INGENUITY

ADVANCEMENTS & MODIFICATION OF EXISTING TECHNOLOGY AGAINST ALL BETTER JUDGEMENT

Reading magazines can motivate you to do some pretty odd things, just ask Lisa Marchetti and her boyfriend Harry Atkinson, of Burlington, VT. For years this dynamic duo has been boning up on alternative energy sources by reading Home Power Magazine. The result?

A handmade, $30,000, 360-watt combined photovoltaic array and wind turbine power generating system perched spider-like atop their Battery Street apartment building. "Lisa and I got the idea to do this because we wanted to do something in terms of not getting our energy just from conventional sources; doing something with a truly renewable resource. We did everything ourselves...anybody can do it," Harry quips.

Lisa and Harry's humming behemoth was composed, for the most part, of scavenged, defective boiler pipes and the odd bed frame. They offset the price of the components that they did have to buy, photovoltaic cells and angle iron, with a grant provided by Efficiency Vermont, Inc. and a second mortgage.

"Harry had been saving these boiler tubes for years. It was quite a stack when we started and we've used them all up." How many defective boiler pipes could they have stockpiled? "We used about half-a-ton of boiler tubes for both systems," Lisa says.

Swiveling on an ingenious tube-within-a-tube construction and able to adjust it's tilt to better follow the wandering winter sun, the mammoth construction is capable of feeding 8,500 watts of raw power back into the grid under optimal conditions. "Best of all," they note, "if you use the juice in your own home it improves efficiency, since the grid has a 10 to 15 percent power loss." Three cheers for efficiency! Three cheers for Ingenuity! Three cheers for old bed frames!

—Lisa and Harry, we salute you.

photo by Luke Eastman

If you know a genius, whose creative approach to technology (regardless of aesthetics, functionality or common sense) would make them a good subject for our Salute to Yankee Ingenuity send us an email at: info@livinmagazine.com