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Why It's The End Of The Line For Wind Power



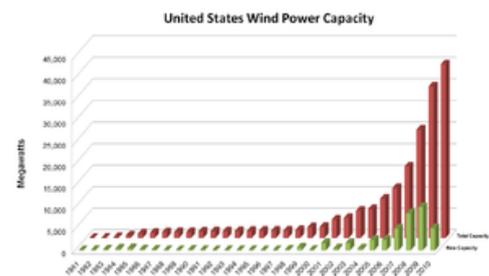
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Energy

It's the end of the world as we know it. That's what the U.S. wind power industry is saying to itself these days. And they aren't talking about some Mayan doomsday nonsense.

On Jan. 1 the federal production tax credit on wind investments expires. For the past 20 years the credit has offset about 30% of the cost of building wind turbines. Add to that the "renewable portfolio standards" for green energy mandated by 29 states, and as a result we've seen wind farms spring up across the country. Since 2007 nearly 40% of all the new electricity capacity built in this country has been wind. Wind now generates roughly 3.5% of U.S. electricity.

Don't expect wind's share to climb beyond that level any time soon. The end of the tax credit could very well mean the end of the wind industry.

According to the federal [Energy](#) Information Administration, the "levelized cost" of new wind power (including capital and operating costs) is 8.2 cents per kWh. Advanced clean-coal plants cost about 11 cents per kWh, the same as nuclear. But advanced natural gas-burning plants come in at just 6.3 cents per kWh.



Wind power generation in the United States. (Photo credit: Wikipedia)

But it could be getting a lot worse for wind. A fascinating [new report](#) by George Taylor and Tom Tanton at the American Tradition Institute called "The Hidden Costs of Wind Electricity" asserts that the cost of wind power is significantly understated by the EIA's numbers. In fact, says Taylor, generating electricity from wind costs triple what it does from natural gas.

That's because the numbers from the EIA and wind boosters fail to take into account a host of infrastructure and transmission costs.

First off -- the windiest places are more often far away from where electricity is needed most, so the costs of building transmission lines is high. So far many wind projects have been able to patch into existing grid interconnections. But, says Taylor, those opportunities are shrinking, and material expansion of wind would require big power line investments.

Second, the wind doesn't blow all the time, so power utilities have found that in order to balance out the variable load from wind they have to invest in keeping fossil-fuel-burning plants on standby. When those plants are not running at full capacity they are not as efficient. Most calculations of the cost of wind power do not take into account the costs per kWh of keeping fossil plants on standby or running at reduced loads. But they should, because it is a real cost of adding clean, green, wind power to the grid.

Taylor has crunched the numbers and determined that these elements mean the true cost of wind power is more like double the advertised numbers.

He explains that he started with 8.2 cents per kWh, reflecting total installation costs of \$2,000 per kw of capacity. Then backed out an assumed 30-year lifespan for the turbines (optimistic), which increases the cost to 9.3 cents per kwh. Then after backing out the effect of subsidies allowing accelerted depreciation for wind investments you get

10.1 cents. [Next](#), add the costs of keeping gas-fired plants available, but running at reduced capacity, to balance the variable performance of wind -- 1.7 cents. Extra fuel for those plants adds another 0.6 cents. Finally, tack on 2.7 cents for new transmission line investments needed to get new wind power to market. The whole shebang adds up to 15 cents per kwh.

Ouch.

As Taylor figures it, natural gas would need to cost upwards of \$20 per mmBTU before gas-fired power would cost as much as wind.

Granted, the American Tradition Institute is a right-wing nonprofit that in the past has railed against climate scientists and sought to discredit Global Warming fear mongering. That doesn't mean Taylor's calculations are wrong, just that everyone on the pro-wind side ought to [read the report](#) and chime in with their critiques.

The American Wind Energy Association says that the wind sector employs 37,000 and boasts 500 factories building components. Even with new [anti-dumping tariffs](#) on Chinese makers of wind turbines, the AWEA says that if Congress fails to extend the production tax credit for wind, many of those jobs could be eliminated and factories closed in early 2013. That's how important these tax credits are to wind's viability.

Taylor and Tanton figure that at the current price of natural gas, and before counting any subsidies or transmission costs, ratepayers are paying about \$8.5 billion more this year for electricity from wind than they would have paid if it were gas-fired power. That amount doesn't even include the cost of the direct federal subsidies.

What's more, ratepayers will have to shoulder that cost for as long as the turbines are in operation. That's \$8.5 billion a year that ratepayers are forking over to subsidize a less efficient, more expensive technology;

\$8.5 billion that could otherwise be invested in natural gas electricity, or better yet, nuclear.

Just think, in [South Carolina](#), power company [Scana](#) and its partners are investing about \$11 billion to construct two 1,100 mw nuclear reactors on roughly 1,000 acres. To get the same amount of electricity out of wind (remember that turbines operate at an average of less than 50% capacity because of wind's intermittancy) and you'd need more than 1,700 turbines stretched across 200,000 acres, for an upfront investment of \$8.8 billion. The nukes might cost more upfront, but they last longer, they provide reliable base load power and they emit zero carbon.

The wind lobby has proposed that congress extend the tax credits, then gradually phase them out over 6 years. This could happen, but the plan has its antagonists. Senator Lamar Alexander (R.-TN) said in a floor speech last week: "This government in [Washington](#), D.C. is borrowing 42 cents out of every dollar we spend. That is why I come to the floor to point out a proposal that has been made to fleece the taxpayers out of an additional \$50 billion over the next 6 years. This is a proposal that is as brazen as a mid-day bank robbery on Main Street. It is a proposal by the wind developers of America to say to the taxpayers: 'Please give us \$50 billion or so more dollars over the next 6 years to phase out the federal taxpayer subsidy for wind power.'"

Natural gas power plants do not require any kind of taxpayer subsidies. Gas is plentiful, and it's far "greener" than the coal-burning plants that are being phased out every day. Wind has a place in the generation mix, and if consumers are willing to pay through the nose for 100% wind power, then they should be free to do so. But it's hard to justify wasting more taxpayer dollars propping up a technology that has had more than a decade to establish itself and yet still can't stand on its own.

Tell us what you think -- leave a comment below. And follow me on twitter [@chrishelman](#)