



**The Wind Industry:  
Subsidies Today, Subsidies Tomorrow, Subsidies Forever?**

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## INTRODUCTION

In April 2014, the National Renewable Energy Laboratory (NREL) issued a report evaluating the impacts of extending the federal wind production tax credit (PTC), which expired at the end of 2013.<sup>1</sup> The NREL Report wrongly concludes that extending the PTC indefinitely is the preferred policy, stating that doing so could “provide the best opportunity to sustain the existing wind installation and manufacturing base at its current level.”<sup>2</sup> Thus, despite decades of subsidies, NREL concedes that wind generation is *still* not competitive and recommends continued subsidies to sustain wind energy’s manufacturing base and associated jobs.

The NREL Report’s recommendation promotes a fundamental “free-lunch” economic fallacy: that artificial production subsidies somehow increase overall economic growth and employment. While basing an entire industry on government subsidies works wonders for the politically-connected beneficiaries of government largesse, the costs that must be borne by everyone else are always – *always* – far greater.<sup>3</sup>

## PTC HISTORY

The PTC began in 1992 as an effort to subsidize wind generation development and jump-start the wind industry, offering a subsidy for each kilowatt-hour (kWh) of electricity produced for a plant’s first 10 years of operation. Prior to the PTC, wind generation was subsidized under the auspices of the Public Utilities Regulatory Policy Act of 1978. Thus, wind generation has been subsidized continually in one form or another for the last 36 years.

Starting at 1.5 cents/kWh (\$15/MWh), the PTC increased each year with the inflation rate. Before its expiration at the end of 2013, the PTC stood at 2.4 cents/kWh (\$24/MWh). On a pre-tax basis, that is equivalent to a subsidy of \$35/MWh, greater than the average price of electricity in many wholesale markets in 2013.

Although the PTC was never intended to be permanent, it was repeatedly extended by Congress. Only in 2013 was the PTC finally allowed to expire, although wind generating facilities that had simply begun construction by the end of 2013 will still be eligible. Moreover, the PTC is not the only subsidy wind generation receives. In addition, wind developers can take advantage of other federal tax incentives, such as accelerated depreciation. And, 30 states, plus the District of Columbia, have renewable portfolio standards (RPS) that force local electric utilities and other retail generation suppliers to purchase increasing percentages of total electricity supplies from wind power.

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<sup>1</sup> E. Lantz, et al., “Implications of a PTC Extension of U.S. Wind Deployment,” Technical Report NREL/TP-6A20-61663, April 2014 (NREL Report).

<sup>2</sup> *Id.* (emphasis in original).

<sup>3</sup> For an extended discussion, see Jonathan Lesser, “Gresham’s Law of Green Energy,” *Regulation*, Winter 2010-2011, pp. 12-18.

Whereas the PTC expired at the end of 2013, Congress provided a subsidized lifeline for the wind industry, allowing facilities that were under construction prior to expiration to qualify for the PTC. Moreover, *under construction* was interpreted quite broadly: facilities that placed orders for wind turbines before the end of the year, for example, would be deemed “under construction.” And so, while only about 1,000 MW of new wind generation went on-line in 2013, another 13,000 MW was under construction at the end of that year.<sup>4</sup> Thus, the extension amounts to a multi-year phase out of the PTC, which the Congressional Budget Office estimated will cost taxpayers an additional \$12 billion.

## **IS WIND GENERATION COMPETITIVE?**

Yet, despite the PTC, accelerated depreciation, and RPS mandates, the NREL report concludes that new wind generation development will be relatively low “unless additional incentives are provided that result in wind being cost competitive with *existing* gas-fired generation”<sup>5</sup> and that “without policy support to enhance the cost position of wind power, purely economic development will also likely be modest.”<sup>6</sup> The NREL report considers “modest growth” to be between 3,000 and 5,000 additional MW of new capacity each year, or between 5% and 8% based on the 60,000 MW of installed wind generation today. Given that US electricity demand growth is projected to be less than one percent annually between 2012 and 2040,<sup>7</sup> 5 – 8% annual growth in wind capacity in the absence of subsidies is hardly evidence that subsidies must be continued.

The NREL report directly contradicts assertions made by the American Wind Energy Association (AWEA) that wind is cheaper than other generating resources. For example, AWEA cites to a US Department of Energy study to assert that “the cost of wind energy has declined by 43% over the last four years,” and that “wind energy is one of the most affordable options for new electricity generation.”<sup>8</sup> Then again, no less an investor than Warren Buffett, CEO of Berkshire Hathaway, stated that the only reason his company builds wind turbines is to obtain

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<sup>4</sup> Todd Woody, “The Crazy Economics of the Wind Industry in Two Charts,” *The Atlantic*, May 5, 2014. <http://www.theatlantic.com/technology/archive/2014/05/the-crazy-economics-of-the-wind-industry-in-two-charts/361672/>

<sup>5</sup> NREL Report, p. vi.

<sup>6</sup> *Id.*, p. 4.

<sup>7</sup> US Energy Information Administration, “Implications of Low Electricity Demand Growth,” 2014 Annual Energy Outlook, April 30, 2014. Available at: [http://www.eia.gov/forecasts/aeo/section\\_issues.cfm#elec\\_demand](http://www.eia.gov/forecasts/aeo/section_issues.cfm#elec_demand)

<sup>8</sup> AWEA, “Wind Power’s Consumer Benefits,” February 2014. Available at: <http://awea.files.cms-plus.com/AWEA%20White%20Paper-Consumer%20Benefits.pdf>

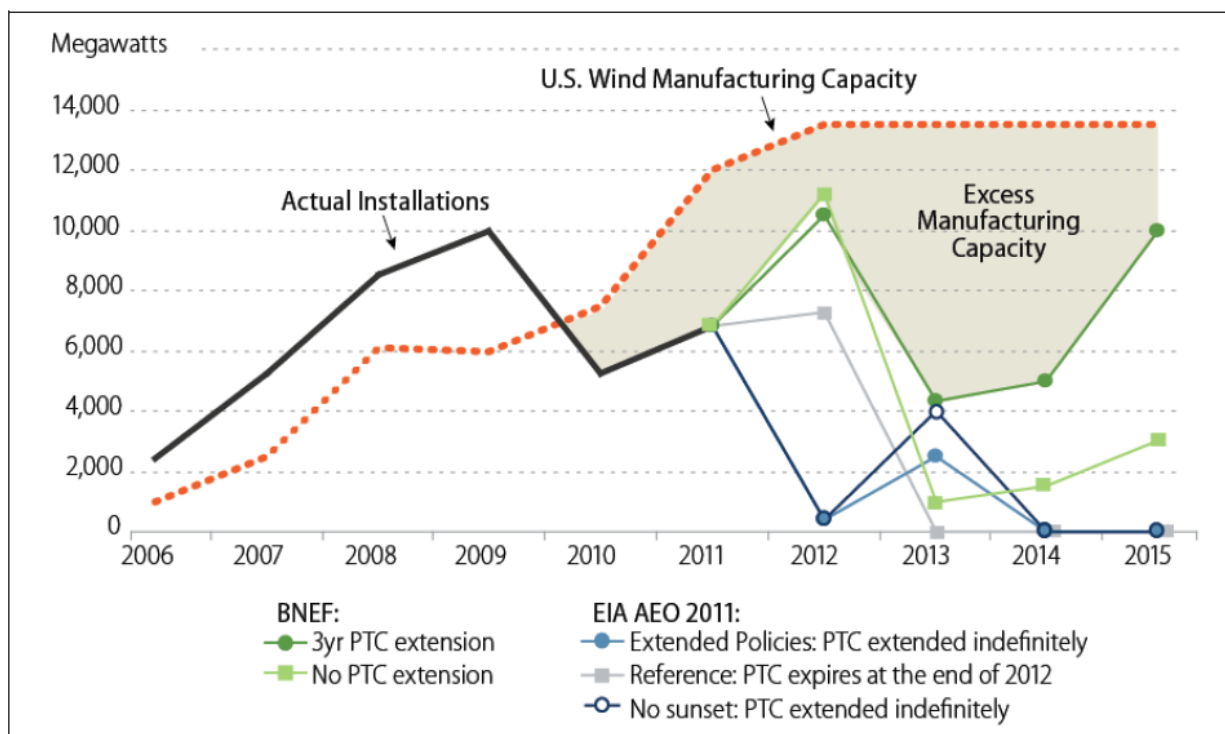
the accompanying tax credits. “That the only reason to build them. They don’t make sense without the tax credit.”<sup>9</sup>

## THE MANUFACTURING INDUSTRY AND JOBS FALLACY

One of most common justifications for continuing wind generation subsidies, including the PTC, is based on supporting a US manufacturing base and creating jobs. The argument is straightforward: without the PTC, industries that support wind turbine manufacturing are not sustainable and the result will be lost jobs. As the NREL report states, “Given the limited export market, a reduction in domestic wind power deployment is likely to have a direct and negative effect on U.S.-based wind turbine manufacturing production and employment.”<sup>10</sup> In other words, the US wind-turbine manufacturing industry *requires* subsidized wind energy to survive.

However, a report published in 2012 by the nonpartisan US Congressional Research Service<sup>11</sup> shows that there will be excess wind industry manufacturing capacity – estimated to be about 14,000 MW per year – even if the PTC is extended permanently (Figure 1).

**Figure 1: US Wind Manufacturing Capacity**



Source: Reprinted from Brown (2012).

<sup>9</sup> Stephen Gandel, “Warren Buffett: We took a stand on Coke’s pay package,” *Fortune*, April 28, 2014. <http://finance.fortune.cnn.com/2014/04/28/warren-buffett-coke-interview/>.

<sup>10</sup> NREL Report, p. 14.

<sup>11</sup> Philip Brown, “U.S. Renewable Electricity: How Does the Production Tax Credit (PTC) Impact Wind Markets?” US Congressional Research Service, June 20, 2012. Available at: [www.crs.gov](http://www.crs.gov).

That amount of manufacturing capacity cannot be sustained because it's simply not possible to add 14,000 MW of new wind capacity each year onto the US electrical grid given the projected low growth in overall US electricity demand and the adverse impacts of subsidized wind generation on wholesale power markets, including premature retirement of baseload nuclear plants, which will increase electric prices and lead to higher carbon emissions.<sup>12</sup> As for why there is a limited export market for US manufactured wind turbine components, the NREL Report states that the causes are relatively high shipping costs for turbine components and high US labor costs: "In the United States, the factory gate prices for components like blades, which are labor-intensive to produce, also tend to be higher than the prices of the same goods manufactured in many other regions, further limiting export opportunities from U.S.-based facilities."<sup>13</sup> In other words, US manufactured wind turbine components cost too much to compete in the world market.

Thus, according to NREL, if the US wishes to maintain an already subsidy-larded domestic wind manufacturing industry at its current capacity, we must increase the demand for wind turbines artificially with perpetual subsidies. But even then, the US electric market cannot absorb all of that generating capacity.

From a macroeconomic standpoint, policies that subsidized manufacturing end up *reducing* economic growth. Moreover, if one accepts the reasoning –US manufacturing industries should be subsidized through artificially induced demand to boost economic growth and employment – then why just the wind industry? Why not subsidize other manufacturing industries – appliances, automobiles, steel, apparel, and so forth – through artificial increases in demand? For example, to increase the demand for domestically manufactured automobiles, Congress could mandate that consumers be required to purchase a new car every five years and prohibit cars older than five years from being driven on public highways. How about mandates compelling individuals to purchase new washing machines every two years, or a mandate that all licensed attorneys purchase at least two new wool business suits each year? Such mandates could be combined with tax credits for purchases made from domestic manufacturers.

No doubt, these examples will strike most readers as absurd. The fact that we do not subsidize every industry by creating artificial demand, or provide tax credits for every US product purchased, stems from a basic economic truth: artificial subsidies cannot produce long-term economic growth. To believe otherwise is to believe in the proverbial economic "free lunch," in which something can be had for nothing.

In reality, wind energy subsidies such as the PTC and RPS mandate are paid for by everyone else. *Every* consumer and *every* business owner pays for these subsidies, just as they pay for all other subsidies, whether mandates for corn-based ethanol, which drive up food prices

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<sup>12</sup> See, e.g., Hannah Northey, "Spate of reactor closures threatens U.S. climate goals -- DOE," Energy and Environment News, Subscription, February 5, 2014. Available at: <http://www.eenews.net/greenwire/stories/1059994082>.

<sup>13</sup> *Id.*

and increase pollution or mandates that oil refineries use minimum quantities of cellulosic ethanol that do not physically exist.

Moreover, with wind energy, the subsidies do not end with the PTC and RPS mandates. Consumers and businesses must also pay for the additional high-voltage transmission lines to interconnect wind generation, which is generally located far from population centers, to the electric grid. For example, whereas the NREL Report cites Texas as an example of where wind generation can compete successfully,<sup>14</sup> that state has spent over \$7 billion to deliver wind energy from the rural western part of the state to the population centers in the southeast. And, because wind generation is intermittent – generating power only when the wind blows – additional monies must be spent on backing up that wind generation with fossil-fuel generation to ensure the electric grid can operate safely and reliably. Again, those costs are borne by consumers and businesses, not wind generation owners.

### **IT'S PAST TIME FOR AN ECONOMICALLY SENSIBLE POLICY**

The PTC and RPS mandates are inflicting collateral damage on wholesale electric markets and electric system reliability. Although AWEA touts wind energy's ability to "suppress" wholesale market prices and thereby benefit consumers, in fact such price suppression is one more manifestation of the *adverse* impacts of subsidies. Distorting competitive markets hurts consumers and producers who lack sufficient political clout to receive subsidized largesse. Again, economic "free lunches" cannot exist.

A better approach is to allow competitive markets to work as they are intended. The NREL Report itself estimates that wind generation development will continue even in the absence of the PTC. AWEA insists that wind energy is competitive, if not cheaper, than conventional generating resources. If so, then there is no basis for continued subsidies. And if not, then are 36 years of wind power subsidies not sufficient? How many more years must wind generation be subsidized for it to become competitive?

Many European countries have discovered just how expensive subsidized renewable energy can be, as electric prices have skyrocketed and businesses have discovered they cannot compete in global markets because of their high energy costs. Must the US fall over the same cliff to realize that wind subsidies impose a huge economic cost?

Wind energy, along with all other types of generation, should demonstrate it can compete on its own merits. If wind energy truly costs less than other resources, it has no need for additional subsidies. But if wind still cannot compete, despite 36 years of subsidies and mandates, it is time to say "enough." The US electric industry, and the entire US economy, today faces enough challenges without the added burden of endless subsidies for the wind industry.

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<sup>14</sup> *Id.*, p. 4. "To date, the PTC and other federal tax incentives (e.g., accelerated depreciation) have boosted wind power's economic position relative to alternative generation sources, enabling wind to be lower cost than other generation technologies in some regions (e.g., Texas)." (footnote omitted).