

Commentary

A New Study Takes The Wind Out Of Wind Energy

[Robert Bryce](#), 07.19.11, 05:00 PM EDT

Reality has overtaken green hope.

Facts are pesky things. And they're particularly pesky when it comes to the myths about the wind energy business.

For years, it's been an article of faith among advocates of renewables that increased use of wind energy can provide a cost-effective method of reducing carbon dioxide emissions. The reality: wind energy's carbon dioxide-cutting benefits are vastly overstated. Furthermore, if wind energy does help reduce carbon emissions, those reductions are too expensive to be used on any kind of scale.

Those are the findings of an exhaustive new study, released today, by Bentek Energy, a Colorado-based energy analytics firm. Rather than rely on computer models that use theoretical emissions data, the authors of the study, Porter Bennett and Brannin McBee, analyzed actual emissions data from electric generation plants located in four regions: the Electric Reliability Council of Texas, Bonneville Power Administration, California Independent System Operator, and the Midwest Independent System Operator. Those four system operators serve about 110 million customers, or about one-third of the U.S. population.

Bennett and McBee looked at more than 300,000 hourly records from 2007 through 2009. Their results show that the American Wind Energy Association (AWEA) and other wind boosters have vastly overstated wind's ability to cut sulfur dioxide, nitrous oxide, and carbon dioxide.

Indeed, the study found that in some regions of the country, like California, using wind energy doesn't reduce sulfur dioxide emissions at all. But the most important conclusion from the study is that wind energy is not "a cost-effective solution for reducing carbon dioxide if carbon is valued at less than \$33 per ton." With the U.S. economy still in recession and unemployment numbers near record levels, Congress cannot, will not, attempt to impose a carbon tax, no matter how small.

AWEA claims that every megawatt-hour of electricity produced by wind turbines cuts carbon dioxide emissions by 0.8 tons. But the Bentek study shows that in California, a state that relies heavily on natural gas-fired generation, the carbon dioxide reduction from wind energy was just 0.3 tons of carbon dioxide per megawatt-hour. Further, the study

found that in the area served by the Bonneville Power Administration, which uses a large amount of hydropower, the carbon dioxide reduction was just 0.1 ton of carbon dioxide per megawatt-hour.

To be clear, the Bentek study found that in the region served by the Midwest Independent System Operator, which relies heavily on coal-fired generation, the carbon dioxide reduction benefits of wind are actually greater (1.0 ton of carbon saved) than what AWEA claims. But when it came to reductions in sulfur dioxide and nitrous oxide in the Midwest, Bentek found that, again, the claims made by AWEA were overstated.

What about [Texas, the state that has some 10,000 megawatts](#) of installed wind generation capacity, more than any other state? Again, the Bentek study found that AWEA's claims were exaggerated. Texas relies heavily on natural gas-fired generation. Therefore, when wind gets deployed within the Electric Reliability Council of Texas, Bentek found that it cuts sulfur dioxide emissions by 1.2 pounds per megawatt-hour, far less than the 5.7 pounds claimed by AWEA. Similarly, the reduction in nitrous oxide was 0.7 pounds rather than AWEA's 2.3 pounds, and carbon dioxide emissions were reduced by 0.5 tons per megawatt-hour, not the 0.8 tons claimed by AWEA.

The Bentek report provides yet more bad news for the subsidy-dependent wind business, which is already on its heels. Low natural gas prices, the economic downturn, and uncertainty about the continuation of federal subsidies have left the wind industry in tatters. In 2010, total U.S. wind generation capacity grew by 5,100 megawatts, about half as much capacity as was added in 2009. During the first quarter this year, new wind installations totaled just 1,100 megawatts, indicating that this year will likely be [even worse than 2010](#).

The wind industry's prospects are so bad that T. Boone Pickens, long one of the sector's loudest advocates, has given up on the U.S. market. [Pickens, the billionaire self-promoter](#) who famously placed an order for some \$2 billion worth of wind turbines back in 2008, is now trying to find a home for those turbines in Canada.

In addition, the wind industry faces increasingly vocal opposition in numerous countries around the world. The European Platform Against Windfarms now has [485 signatory organizations from 22 European countries](#). In the UK, where fights are raging against industrial wind projects in Wales, Scotland, and elsewhere, some [250 anti-wind groups](#) have been formed. In Canada, the province of [Ontario alone has more than 50](#) anti-wind groups. The U.S. has [about 170 anti-wind groups](#).

While many factors are hurting the wind industry, the Bentek report, which was released today, undercuts the sector's primary reason for existing. The Global Wind Energy Council, one of the industry's main lobby groups, claims that reducing the amount of carbon dioxide into the atmosphere "is [the most important environmental benefit from wind power generation](#)." For its part, the American Wind Energy Association insists that the wind business "[could avoid 825 million tons of carbon dioxide annually by 2030](#)."

But if wind energy doesn't significantly reduce carbon dioxide emissions, then critics can easily challenge the industry's hefty subsidies, which include the federal production tax credit of \$0.022 for each kilowatt-hour of electricity. That amounts to a subsidy of \$6.44 per million BTU of energy produced. For comparison, in 2008, the Energy Information Administration reported that subsidies to the oil and gas sector totaled \$1.9 billion per year, or about \$0.03 per million BTU of energy produced. In other words, subsidies to the wind sector are more than 200 times as great as those given to the oil and gas sector on the basis of per-unit-of-energy produced.

If those fat subsidies go away, then the U.S. wind sector will be stopped dead in its tracks. And for consumers, that should be welcome news.

The wind energy business is the electric sector's equivalent of the corn ethanol scam: it's an over-subsidized industry that depends wholly on taxpayer dollars to remain solvent while providing an inferior product to consumers that does little, if anything, to reduce our need for hydrocarbons or cut carbon dioxide emissions. The latest Bentek study should be required reading for policymakers. It's a much-needed reminder of how the pesky facts about wind energy have been obscured by the tsunami of hype about green energy.