

### 3. RENEWABLE ENERGY:

#### Wind could supply 35% of U.S. electricity by 2050 – DOE

Katherine Ling, E&E reporter

Published: Thursday, March 12, 2015

Wind energy could supply the nation with 35 percent of its electric generation by 2050 if the industry sees decreased technology costs, consistent policy and high fossil fuel prices, according to a new report from the Energy Department.

It is "viable" and "economically compelling" to push for deployment of wind at that level as consumers would see almost \$800 billion in benefits from avoided greenhouse gas emissions and air pollution. Those benefits would include an increase in the amount of natural gas available -- lowering prices -- for uses outside of the electric sector such as heating or chemical products, according to the main projection of Wind Vision's [report](#).

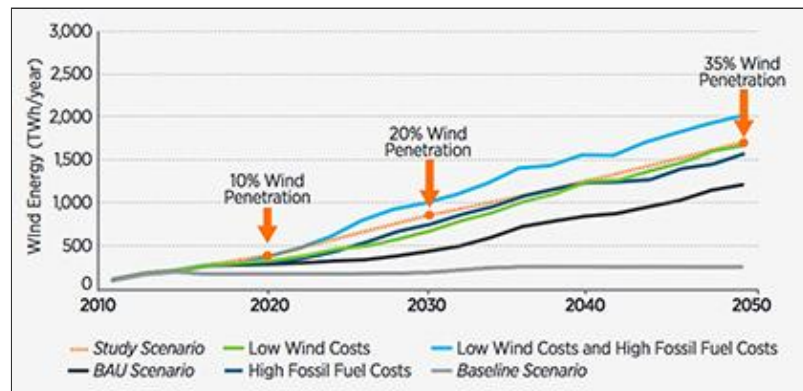
Wind power currently generates 4.5 percent of the nation's electricity. The report projects it is possible for that to double by 2020, reach 20 percent by 2030 and 35 percent by 2050, and be present in all 50 states. The analysis included consideration of U.S. domestic manufacturing capacity, current and projected cost trends, sensitivities to future demand and fuel prices, and transmission needs.

To reach these levels, the industry would need to see some combination of "aggressive" cost reductions of 37 percent by 2050 and electric natural gas prices of \$7 per million British thermal units (MMBtus) or higher, as well as several other conditions, the report says.

Under the favorable conditions -- including the preservation of a production tax credit that is currently expired -- wind could save consumers up to 3 percent on electricity prices in 2050, after an initial rise of almost 1 percent by 2030, as compared to a baseline scenario where the wind industry remains stagnant from 2013 levels. It could also lower cumulative electric sector expenditures by \$149 billion by 2050, DOE said.

It would also mean more than 600,000 jobs in the sector by 2050, the report finds.

Wind is a key part of President Obama's Climate Action Plan, according to Dan Utech, White House's deputy assistant for energy and climate change.



**[+]** DOE's Wind Vision report considers a range of costs and benefits to project baseline, business as usual (BAU) and a future scenario where wind could reach 35% of U.S. electricity generation by 2050. Graphic courtesy of the Energy Department.

Jan. 1, 2014.

The White House and renewable energy industry have been pushing hard to extend the PTC. After a last-minute deal at the end of the year to renew it just for 2014, industry is looking for at least a five-year extension, but that has received pushback from most Republicans.

Under the report's less rosy business-as-usual scenario, wind would reach 25 percent of the electricity sector by 2050 after a minimal growth of 10 percent by 2030. That scenario again predicts impressive deployment after 2030 similar to the

"This important report shows we can make huge progress in clean energy and wind, specifically in the coming decades," Utech said during a press call on the report.

"We are going to be doing everything we can over the next two years to put a strong framework in place for the coming years and decades," including pushing for a permanent production tax credit and the finalization of U.S. EPA's Clean Power Plan, he said.

The report does not consider impacts from the Clean Power Plan or other policy beyond what was enacted as of

last five years as technology costs drop and fossil fuel prices increase.

The long-awaited report presents an updated analysis of the costs, impact and benefits of a higher penetration of wind energy from a **2008 report**, which determined it was technologically feasible to achieve 20 percent wind penetration by 2030 with a 2 percent rise in electric sector costs compared to a future with no new wind.

The wind industry has managed to beat the 2008 projections in several areas, including annual installations, leveled cost per megawatt hour and geographic deployment. By 2013, the sector deployed 61 gigawatts instead of the 2008 forecast of 48 GW; it was in 39 states and not just 35 states; and it reached \$45 per megawatt-hour in good wind conditions compared to the 2008 projects of \$66 per MWh, according to the report.

"Policy is important, but it is our job to work on as many ways to bring new costs of wind power down as much as we can, and technology research has an important role to play there," said Franklin Orr, DOE's undersecretary of science and energy, during on the call. "We need all the parts. We need technology research, we need transmission, we need the marketplace to work all of this."

Technology improvements that could support the study's vision include taller towers up to 150 meters, longer turbines, greater efficiency through advanced control systems, deepened understanding of atmospheric physics and advanced transmission, the report says.

The report did not look extensively at the costs or benefits of some issues like a growing concern about wildlife impact or land use. But the report did include input from environmental groups, including Defenders of Wildlife President Jamie Rappaport Clark, who supported the report's work.

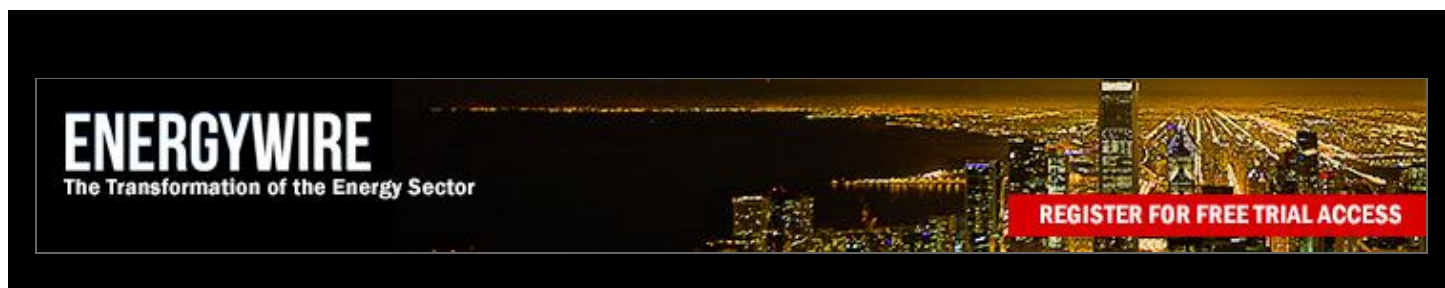
"Conservation organizations and the wind industry need to work together if we are to address the serious threats of climate change," Clark said in a statement. "We can facilitate responsible wind energy development that supports the conservation of our country's precious wildlife resources. The 'Wind Vision' is an incredible advancement in this effort."

Sen. Lamar Alexander (R-Tenn.), a vocal opponent of wind power and chairman of the appropriations subcommittee that sets DOE's budget, said the focus on wind is overblown.

"Relying on windmills to produce that electricity when nuclear power is available is the energy equivalent of going to war in sailboats when nuclear ships are available," Alexander said in a statement. "After 22 years of billions of dollars in subsidies, wind still produces only 4 percent of our electricity and the windmills work only about 30 percent of the time. Nuclear power produces 20 percent of our electricity and 60 percent of our clean electricity. For more jobs and cheap, reliable power, our country needs more nuclear reactors -- not more windmills."

---

Twitter: [@lingkate6](#)



**ENERGYWIRE**  
The Transformation of the Energy Sector

REGISTER FOR FREE TRIAL ACCESS



ENERGYWIRE

ClimateWire

ENVIRONMENT  
& ENERGY DAILY

Greenwire

E&E NEWS PM



*The Premier Information Source for Professionals Who Track Environmental and Energy Policy.*

© 1996-2015 E&E Publishing, LLC [Privacy Policy](#) [Site Map](#)