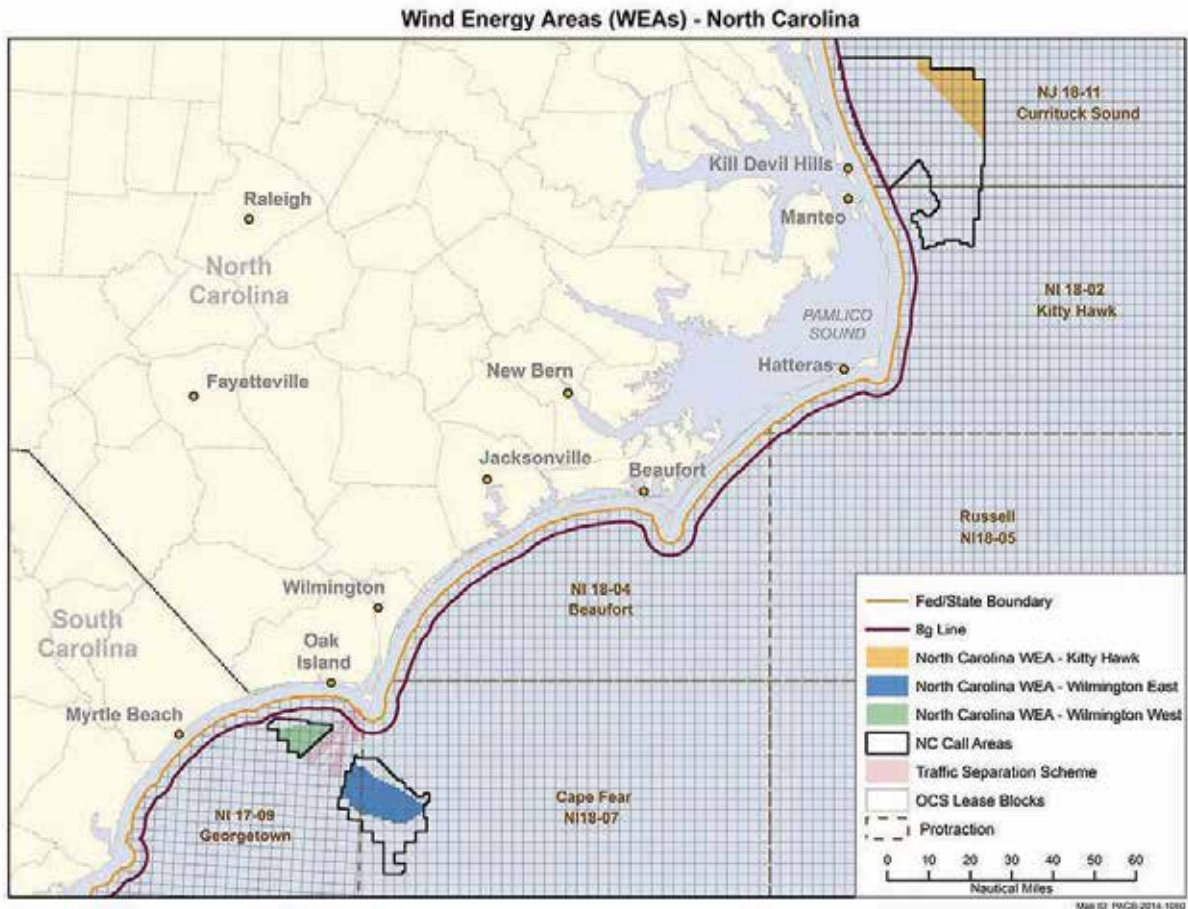


DIRECTION

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BOEM DEFINES OFFSHORE AREAS OFF THE COAST OF NC

Three sites amassing over 300,000 acres have been designated for commercial offshore wind energy development



In mid-August, the Bureau of Ocean Energy Management (BOEM) has defined three Wind Energy Areas offshore North Carolina, which total approximately 307,590 acres, for potential commercial wind energy development.

The areas include the Kitty Hawk Wind Energy Areas (about 122,405 acres), the Wilmington West Wind Energy Areas (about 51,595 acres) and the Wilmington East Wind Energy Areas (about 133,590 acres).

“Today represents an important step forward for North Carolina in harnessing the vast wind energy potential along the Atlantic Coast to power homes and strengthen our clean energy economy,” Department of the Interior Secretary Sally Jewell said regarding the announcement. “This milestone is the result of collaboration with stakeholders and partners at all levels to identify areas off the coast with great resource potential while also minimizing

conflicts with other important uses. We look forward to working with the state of North Carolina, industry and a broad range of stakeholders as this exciting process continues to further commercial wind development in the United States.”

BOEM has awarded five commercial wind energy leases off the Atlantic coast: two non-competitive leases (for the proposed Cape Wind project in Nantucket Sound and an area off Delaware) and three competitive leases

(two offshore Massachusetts-Rhode Island and another offshore Virginia). The competitive lease sales generated more than \$5 million in high bids for more than 277,500 acres in federal waters. BOEM will hold a competitive auction for an area offshore Maryland on Aug. 19, 2014, and expects to hold additional competitive auctions for wind energy areas offshore Massachusetts and New Jersey in the coming year.

“Today is a significant step forward in facilitating the responsible development of renewable, clean energy offshore the United States and a true testament to the dedication of the North Carolina Intergovernmental Renewable Energy Task Force to ensure that we are moving forward in a safe and smart manner,” said BOEM Acting Director Walter Cruickshank.

Each of the three Wind Energy Areas has been designed to make available areas that are attractive for commercial offshore wind development, while also protecting important viewsheds, sensitive habitats and resources and minimizing space use conflicts with activities such as military operations, shipping and fishing.

BOEM worked closely with the United States Coast Guard to ensure that development in the identified areas would not pose significant risks to navigational safety. BOEM also worked with the National Park Service to address concerns regarding potential visual impacts to the Cape Hatteras National Seashore and the Bodie Island Lighthouse. As a result, BOEM refined the areas originally considered for commercial wind energy development during the process of defining the Wind Energy Areas.

Before any leases are offered for competitive auction, BOEM will complete an Environmental Assessment to determine potential impacts associated with issuing leases and approving site assessment activities in the Wind Energy Areas, in accordance with the National Environmental Policy Act.

BOEM is only considering the issuance of leases and approval of site assessment plans at this time. If leases are issued, any proposal for a commercial wind energy facility will require a construction and operations

plan and a site-specific environmental analysis. ↗

— U.S. Department of the Interior,
Bureau of Ocean Energy Management



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FISHERMEN'S ENERGY SIGNS DEPARTMENT OF ENERGY GRANT

At the end of Steel Pier, with the ocean as a backdrop, Fishermen's Energy, U.S. Senator Robert Menendez, State Senator Jim Whelan, Atlantic City Mayor Don Guardian, Jose Zayas, U.S. Department of Energy Director of the Wind and Water Power Technologies Office, and numerous officials, memorialized the \$46.7 million of grant funding over four years to accelerate the commercialization of innovative offshore wind technologies in the United States.

This funding will supplement the investment by Fishermen's Energy principals to finalize construction planning, fabrication, and deployment to achieve commercial operation by 2016, of a demonstration wind farm of five turbines 2.8 miles off of Atlantic City, potentially the first offshore wind farm in America.

"Clean, responsible energy development projects like this bring good - paying jobs to our state and help us modernize New Jersey's economy," said Senator Robert Menendez. "We must continue looking into innovative energy options — like clean wind and solar projects — that can one day become the next energy giant and can reinvigorate our workforce in the 21st century global economy."

"Projects like Fishermen's Atlantic City wind farm and the other projects sponsored by the Department of Energy are a first step in the direction of a building a robust sustainable energy

infrastructure," said Chris Wissemann, Fishermen's Energy CEO. "The support provided by Congress, specifically the NJ delegation, and the Department of Energy is critical to bringing offshore wind to the United States. Our goal here in Atlantic City is to build a commercially operational wind farm that demonstrates job creation and specifically to show that these types of projects create benefits that far exceed their costs," Wissemann continued.

Fishermen's Energy has all Federal and State permits necessary for construction of the first demonstration offshore wind farm to be built in the US, making the Atlantic City resort the birthplace of offshore wind in the Americas. Construction in Atlantic City is planned to commence onshore in 2015 with offshore construction and commissioning by Fishermen's of the first grid connected US offshore wind farm in 2016.

In 2012, DOE announced the start of an initiative to capture the potential of wind energy off American coasts. As part of a planned six-year \$180 million initiative, these offshore wind projects will accelerate the deployment of breakthrough wind power technologies that will help diversify our nation's energy portfolio, promote economic development, and launch a new industry here in America.

— Source: Fisherman's Energy

JUHL ENERGY ACQUIRES TWO WIND FARMS IN IOWA

Juhl Energy, Inc. has announced that the company has completed its previously announced acquisition of two operating wind farms in Iowa. The \$4 million acquisition closed on August 11, and the wind projects are now wholly-owned by Juhl Energy.

The two GE XLE 1.62 MW wind turbines are located in North Central Iowa near the towns of Manley and Kensett. The wind turbines are installed on private farmland approximately 10 miles apart from each other and have been commercially operating since 2011.

"This transaction underscores our ongoing commitment to building our residual, independent power production business made up of wind farms today and other forms of renewable energy in the future," stated John Mitola, President of Juhl Energy.

"We believe that building our asset ownership and operating division, with its predictable revenue and cash flow, is the foundation for the ongoing strength of our company. These two Iowa projects are representative of the hundreds of projects under 50 MWs — the market sector where Juhl stands head and shoulders above others in its ability to own, operate and maintain such assets."

"The Iowa projects are being acquired with bank financing and our Juhl Renewable Asset, Inc. preferred stock," continued Mitola. "Currently our JRAI Preferred stock is only available to accredited investors who have an existing relationship with the company."

— Source: Juhl Energy, Inc.

VESTAS, EP GLOBAL EXPAND WIND FOR PROSPERITY INTO AFRICA

Vestas and EP Global Energy have been working since March on developing a donor-funded wind farm in Jordan to help the country address its growing energy challenges, which are being exacerbated by the influx of refugees as a result of the ongoing conflict in Syria. The burdened communities will benefit from the clean, reliable, and locally produced electricity provided by the project to meet the power needs of local consumers. The project is expected to be completed during 2015.

With the signing of the expanded MOU EP Global Energy becomes an official Wind for Prosperity Development Partner for the African continent. Vestas and EPGE will collaborate to deploy wind-diesel hybrid systems to help improve access to electricity for communities that currently have no or only limited

energy infrastructure within Africa and the Middle East.

According to Efthymou Paraskevaides, chairman of EPGE, “We are delighted with our expanded alliance with Vestas, to become an official Wind for Prosperity Development Partner within Africa and to further solidify our collaboration with Vestas in our other developments with our focus countries of EMEA. Bringing clean, cost-effective, and locally produced electricity to those communities that need it most is among our highest priorities, and we look forward to working with Vestas to bring multiple projects to fruition. We are focused on jointly delivering our donor project for Jordan as a first priority, and to progress our efforts in Africa in parallel.”

Morten Albæk, Vestas Group Senior Vice President & CMO, concludes, “This agreement is another important milestone — especially for Jordan, which is facing growing challenges in providing clean, affordable, and reliable power. Our partnership with EP Global Energy continues to expand, and look forward to establishing Wind for Prosperity projects in other markets.”

The Memorandum of Understanding signed on August 5 expands on the MOU the parties signed in March and further solidifies the collaboration between Vestas and EP Global Energy, which also includes the 117 MW Al Tafila project in Jordan, announced in December 2013.

— Source: Vestas

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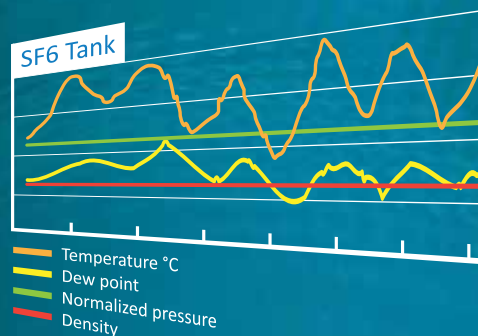
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STUDY: PRICE OF WIND IN THE U.S. AT ALL-TIME LOW

Report from Berkeley National Laboratory shows that wind's competitiveness with other generation sources has also improved

Wind energy pricing is at an all-time low, according to a new report released by the U.S. Department of Energy and prepared by Lawrence Berkeley National Laboratory (Berkeley Lab). The prices offered by wind projects to utility purchasers averaged just \$25/MWh for projects negotiating contracts in 2013, spurring demand for wind energy.

“Wind energy prices — particularly in the central United States — are at an all-time low, with utilities selecting wind as the low cost option,” Berkeley Lab Staff Scientist Ryan Wiser said. “This is especially notable because, enabled by technology advancements, wind projects have increasingly been built in lower wind speed areas.”

Key findings from the U.S. Department of Energy's latest “Wind Technologies Market Report” include:

- Wind is a credible source of new generation in the United States. Though wind power additions slowed in 2013, with just 1.1 GW added, wind power has comprised 33 percent of all new U.S. electric capacity additions since 2007. Wind power currently contributes more than 4 percent of the nation's electricity supply, more than 12 percent of total electricity generation in nine states, and more than 25 percent in two states.
- Turbine scaling is boosting wind project performance. Since 1998-99, the average nameplate capacity of wind turbines installed in the United States has increased by 162 percent (to 1.87 MW in 2013), the average turbine hub height has increased by 45 percent (to 80 meters), and the average rotor diameter has increased by 103 percent (to 97 meters). This substantial scaling has enabled wind project developers to economically build projects in lower wind-speed sites, and is driving capacity factors higher for projects located in given wind resource regimes. Moreover, turbines originally designed for lower wind speeds are now regularly employed in higher wind speed sites, further boosting expected capacity factors.
- Low wind turbine pricing continues to push down installed project costs. Wind turbine prices have fallen 20 to 40 percent from their highs back in 2008, and these declines are pushing project-level costs down. Based on the small sample of 2013 wind projects, installed costs averaged \$1,630/kW last year, down more than \$600/kW from the apparent peak in 2009 and 2010. Among a larger sample of projects currently under construction, average costs are \$1,750/kW.
- Wind energy prices have reached all-time lows, improving the relative competitiveness of wind. Lower wind turbine prices and installed project costs, along with improvements in expected capacity factors, are enabling aggressive wind power pricing. After topping out at nearly \$70/MWh in 2009, the average levelized long-term price from wind power sales agreements signed in 2013 fell to around \$25/MWh. This level is lower than the previous lows set back in the 2000-2005 period, which is notable given that wind projects have increasingly been sited in lower wind-speed areas. Wind energy prices are generally lowest in the central portion of the country. The continued decline in average wind prices, along with a bit of a rebound in wholesale power prices, put wind back at the bottom of the range of nationwide wholesale power prices in 2013. Wind energy contracts executed in 2013 also compare very favorably to a range of projections of the fuel costs of gas-fired generation extending out through 2040.
- The manufacturing supply chain has experienced substantial growing pains in recent years, but a growing percentage of the equipment used in U.S. wind projects has been sourced domestically since 2006-2007. The profitability of turbine suppliers rebounded in 2013, after a number of years in decline. Five of the 10 turbine suppliers with the largest share of the U.S. market have one or more manufacturing facilities in the United States. Nonetheless, more domestic wind manufacturing facilities closed in 2013 than opened. Additionally, the entire wind energy sector employed 50,500 full-time workers in the United States at the end of 2013, a deep reduction from the 80,700 jobs reported for 2012. Despite these challenges, trade data show that a decreasing percentage of the equipment used in wind projects has been imported,

when focusing on selected trade categories. When presented as a fraction of total equipment-related wind turbine costs, the combined import share of selected wind equipment tracked by trade codes (i.e., blades, towers, generators, gearboxes, and wind-powered generating sets) is estimated to have declined from nearly 80 percent in 2006–2007 to approximately 30 percent in 2012–2013; the overall import fraction is higher when considering equipment not tracked in wind-specific

trade codes. Domestic content has increased and is high for blades, towers, and nacelle assembly; domestic content is considerably lower for much of the equipment internal to the nacelle.

- Looking ahead, projections are for solid growth in 2014 and 2015, with uncertain prospects in 2016 and beyond. The availability of federal incentives for wind projects that began construction at the end of 2013 has helped restart the domestic market, with significant new

builds anticipated in 2014 and 2015. However, as noted by Mark Bolinger, Research Scientist at Berkeley Lab, “Projections for 2016 and beyond are much less certain. Despite the attractive price of wind energy, federal policy uncertainty — in concert with continued low natural gas prices and modest electricity demand growth — may put a damper on medium-term market growth.”

— Source: U.S. Department of Energy

GE TO INVEST IN ATRIA POWER’S WIND FARMS IN INDIA



GE Energy Financial Services has invested equity in three Atria Power wind projects under construction in India, supporting GE’s commitment to invest USD \$1 billion annually in renewable energy projects worldwide. The wind farms will have a combined capacity of 126 megawatts and will support the Indian Ministry of New and Renewable Energy’s program to generate competitively priced grid-interactive wind power through feed-

in tariffs. Financial details were not disclosed.

Located in Ananthapur district of Andhra Pradesh, the 25.6-megawatt first project is expected to reach commercial operations in September. The two other projects, each 50 megawatts, are located in Betul district of Madhya Pradesh, and are expected to reach commercial operations in December and June 2015 respectively. Off-take

arrangements for the projects have not yet been finalized.

The projects will use GE 1.6-87.5 wind turbines, serviced by GE under an operations and maintenance agreement, to generate 76 megawatts of the total capacity. Additional turbines will be supplied and serviced by another manufacturer to generate 50 megawatts. Atria Power is managing construction and operations.

“GE’s global experience, financial structuring capabilities and commitment to advanced technology complements our strategy to develop low-cost renewable energy projects with maximum energy output,” said Sunder Raju, Director at Atria Power.

Raghuvver Kurada, business leader for India and South East Asia at GE Energy Financial Services, added, “Partnering with Atria Power, a strong and accomplished regional energy player, accelerates our global growth and India wind portfolio.”

— Source: GE

DOE BOOSTS DISTRIBUTED WIND MANUFACTURING FUNDING THROUGH COMPETITIVENESS PROJECT

The Energy Department and the Department's National Renewable Energy Laboratory recently announced funding for projects led by Pika Energy, Northern Power Systems, Endurance Wind Power, and Urban Green Energy that will help drive down the cost of small and medium-sized wind energy systems. Through the second round of the Competitiveness Improvement Project (CIP), the teams will receive a total of \$1.27 million between them. In support of the Energy Department's Clean Energy Manufacturing Initiative, this funding aims to help U.S. manufacturers improve their turbine designs and manufacturing processes to reduce hardware costs, improve efficiency and eventually earn certification from accredited third-party certification bodies, which issue easy-to-understand labels showing a turbine has met performance and safety testing requirements set by the wind industry.

Comprising more than two-thirds of all wind turbines installed in the United States in the last decade, distributed wind energy systems provide clean, renewable energy to consumers and reduce their energy bills. Distributed wind systems are typically installed on

residential, agricultural, commercial, industrial, or community sites, and can range in size from 5 kilowatts (kW) to multiple megawatts depending on their application. While these wind systems vary widely in size, the CIP focuses on small and medium-sized turbines up to 250 kW in rated capacity. Here are the projects announced for funding:

- Pika Energy of Westbrook, Maine, will improve the performance of their existing components and manufacturing process. Pika will scale up their existing turbine components to roughly twice their current size to produce a turbine capable of producing more energy at a reduced end-user cost. Pika will also implement the use of an injection molding technique for manufacturing in order to produce lighter and stronger components.
- Northern Power Systems of Barre, Vermont, will develop and deploy an innovative blade designed for low wind speed applications. Northern Power Systems will also model and test an advanced control method that will help increase the amount of energy produced by their turbine.

- Endurance Wind Power of Spanish Forks, Utah, will test the prototype of their expanded rotor that allows for a larger wind-sweep area, leading to a more efficient turbine.
- Urban Green Energy of New York City, New York, will test their vertical axis wind turbine against the American Wind Energy Association's Small Wind Turbine Performance and Safety Standard. The standard was created by the small wind turbine industry, scientists, state officials, and consumers to provide consumers with realistic and comparable performance ratings of competing products.

This second round of CIP awards builds on the success of the first round awarded in 2013, through which Bergey Windpower identified the component improvements necessary to optimize a turbine for increased performance and reduced end-user costs, while Pika Energy developed an advanced blade manufacturing process they plan to further improve in this second round.

— Source: U.S. Department of Energy

HOOSIER ENERGY SIGNS PPA WITH EDP RENEWABLES

Hoosier Energy has entered into a 15-year power purchase agreement with EDP Renewables North America that will add 25 MW of wind energy from an Illinois wind farm beginning in December.

The wind power agreement is for 25 MW from the Rail Splitter Wind Farm located roughly 25 miles west of Bloomington, Illinois. The Rail Splitter project has been in operation since 2009 with installed capacity of about 100 MW.

"Hoosier Energy is focused on providing cost-effective renewable energy for our member systems," said Steve Smith, Hoosier Energy president and chief executive officer. "Our agreement with EDP Renewables adds more wind resources to our portfolio, which already includes

wind, hydro, landfill methane and coalbed methane generation."

The purchase agreement will provide approximately 74,000 megawatt-hours of energy annually to Hoosier Energy's cooperative member systems and their consumers in southern Indiana and southeastern Illinois.

Hoosier Energy will also earn Renewable Energy credits (RECs) for the wind power. RECs certify the environmental attributes of renewable energy production.

"We are excited about this opportunity for partnership with EDP Renewables," said Heath Norrick, Hoosier Energy renewable energy manager. "The Rail Splitter Wind Farm is a proven Midwest provider of renewable energy that will provide benefits for our members."