

A photograph of an offshore wind farm under construction at sunset. The sky is a mix of orange, yellow, and blue. In the foreground, the dark blue sea has small waves. In the middle ground, a large steel structure for a wind turbine is being assembled. To the right, a construction vessel with a crane is visible, illuminated by its own lights. The overall scene is industrial and serene.

# EAST COAST OFFSHORE WIND OUTLOOK

# *When it comes to the offshore wind industry, progress is being made with a regional approach.*

By LIZ BURDOCK

**T**here is no question that 2018 is emerging as a watershed year for the offshore wind energy industry in the U.S., with several large wind farms having their site plans approved and states increasing their commitments and goals for offshore wind energy.

In the midst of this energy and excitement, we need to keep in mind that regional cooperation between developers, suppliers, and between the states is going to be critical to building a healthy and sustainable industry supported by a viable supply chain.

We use the term “co-opetition” to describe the combination of competition and collaboration, and apply it to remind the industry that no single state is going to own the entire supply chain. The U.S. offshore wind energy pie is big, and there is enough for every state so they don’t need to fight but work together on complex issues such as commercial fishing, navigation, environmental impacts, and supply chain development on a regional basis.

To those waiting for this technology to come online and start replacing fossil fuel power plants, a year or two or even five years may seem like a long time to wait, but timing projects so we have a “good pipeline” — a steady, consistent stream of projects throughout the 2020s — is important, so construction projects don’t stack up on each other and we don’t have huge, expensive pieces of customized offshore wind equipment and highly skilled labor forces standing idle one year and strained to the breaking point the next.

## **FEDERAL ROLE**

The Trump Administration is streamlining permitting, accelerating design, and reviewing a recommendation for a future offshore wind leasing program that could cover 20 GW of capacity, or 2 GW per year over a decade. All of these factors present a strong business case for offshore wind investment in the United States.

The two main federal agencies overseeing the offshore wind process, the Department of Interior’s Bureau of Ocean Energy Management (BOEM) and the Department of Energy (DOE), support the industry with auctions of offshore wind-energy areas, research, environmental and engineering review, industry guidelines, and outreach such as regional task force meetings and presentations at industry events.

BOEM has stated offshore wind fits the administration’s “All of the Above” approach to energy development and is working to streamline the offshore approval process, while DOE just issued an \$18.5 million grant for offshore wind research and development, administered by NYSERDA (see New York below).

BOEM also recommends a regional approach. “The offshore wind industry is experiencing exciting momentum as a result of growing industry-wide confidence in the U.S offshore wind market, thanks to decreasing global costs, stronger state policy commitments, and this Administration’s commitment to American energy,” said BOEM’s Jim Bennett, Chief of the Office of Renewable Energy Programs. “However, experience has shown that it will take a concerted effort by the Federal and State governments to propel this industry forward. States and regions often find themselves with shared economic interest. To realize the full potential of offshore wind, we need to take a regional look at how the offshore wind industry is going to come together.”

Here is where we see the northeastern and mid-Atlantic coastal states going in the next six months or so:

## **MASSACHUSETTS**

Perhaps the most dynamic of the East Coast states, Massachusetts has aggressively moved into a leadership position in offshore wind, highlighted by its announcement that Vineyard Wind had been selected out of three bidders for the state’s first, 800 MW solicitation in May. Vineyard Wind is a joint venture of Avangrid Renewables and Copenhagen Infrastructure Partners.

The Power Purchase Agreement (PPA) for Vineyard Wind’s 800 MW project was scheduled to be submitted to the Massachusetts Department of Public Utilities for approval July 31, 2018. Vineyard Wind has continued to advance the planning of its project and should be soon selecting some of its tier 1 contractors — including turbine manufacturers, foundation suppliers, and installation contractors. It hopes to start construction next year and begin delivering clean energy by 2021.

BOEM is scheduled to auction the two remaining offshore wind energy lease areas in the Massachusetts Wind Energy Area (MAWEA) by the end of the year, which provides the possibility of having additional offshore wind developers competing for the next Massachusetts

Offshore Wind Solicitation next year.

To coordinate with the commercial fishing industry, the state is working with the Massachusetts Fisheries Working Group, Rhode Island Fisheries Advisory Board, BOEM, National Marine Fisheries Service, and others to establish the Southern New England Fisheries Science Panel to track interactions between fisheries and offshore wind structures. They also are working with the Massachusetts Clean Energy Center to create a state-wide workforce training program.

In June, the state Senate passed a law to raise its Renewable Portfolio Standard (RPS) to 100 percent by 2047. The state also has supported investing millions to redevelop and modernize dock space in the old whaling and fishing village of New Bedford for offshore wind.

## RHODE ISLAND

On the same day that Massachusetts announced the selection of Vineyard Wind, Rhode Island awarded Revolution Wind — a wind farm led by Deepwater Wind — its solicitation of 400 MW. Jeff Grybowski, CEO for Deepwater Wind, called the joint announcements “the first really large-scale procurement ever for offshore wind in the United States.” Deepwater Wind also developed the nearby Block Island 30-MW wind farm.

Revolution Wind hopes to start local construction of the project by 2020, with 50 turbines operating by 2023.

## CONNECTICUT

Deepwater Wind scored again on June 13, when it won a competitive bid to supply Connecticut with 200 MW of wind power. The state’s Department of Energy and Environmental Protection (DEEP) noted the project is expected to create about 1,400 direct, indirect, and induced jobs. Deepwater Wind has committed to invest \$15 million in the New London State Pier.

Deepwater Wind will now work on negotiating 20-year contracts with electric utilities Eversource and United Illuminating, which will then be reviewed by the state’s Public Utilities Regulatory Authority (PURA) for final approval.

## NEW YORK

Another regional powerhouse, New York is moving quickly to stake out its offshore wind territory and compete with Massachusetts to the north and New Jersey to the south. Gov. Andrew Cuomo kicked off the year with a call for a solicitation for a total of 800 MW of offshore wind in 2018 and 2019, part of his goal to generate 2,400 MW of offshore wind by 2030.

Equinor, formerly known as Statoil, leased 80,000 acres for \$42 million at auction just south of New York City and Long Island in December 2016. Now the New York State En-

ergy Research and Development Authority (NYSERDA) has requested and BOEM has agreed to a call for four new wind energy areas (WEAs) in the New York Bight between New Jersey and Long Island. BOEM has held several meetings on the proposal and set a July 30 deadline for comments from the public. BOEM hopes to hold auctions for the New York Bight properties in late 2019.

On June 15, NYSERDA was awarded an \$18.5 million grant from the U.S. Department of Energy to lead the National Offshore Wind Research and Development Consortium. The agency already has begun bringing together the offshore wind industry, utilities, research laboratories, and other states (New Jersey has signed on). This national and independent consortium will help reduce industry barriers; advance technologies and methods to reduce siting and installation costs; address operations challenges; and foster job growth throughout the supply chain.



Sunset at Block Island wind farm. (Courtesy: Dan Clark)

On July 12, Cuomo announced NYSERDA will procure approximately 800 MW of offshore wind through a solicitation issued in the fourth quarter of 2018, in consultation and coordination with the New York Power Authority and the Long Island Power Authority. Awards are expected to be announced in the second quarter of 2019. If needed, a second solicitation will be issued in 2019.

## NEW JERSEY

Despite being a little late to the party, New Jersey inaugurated a new governor in January whose administration is strongly committed to offshore wind. On May 23, Gov. Phil Murphy signed the Clean Energy Bill, which increased the state’s RPS to 50 percent by 2030, with an objective of 3,500 MW of offshore wind power built in.

Also on May 23, Murphy signed Executive Order No. 28, requiring state agencies to update the Energy Master Plan (EMP) that prepares a strategy for achieving 100 percent clean energy by January 1, 2050. The new EMP is scheduled to be finalized and published by June 1, 2019.

The state has three active projects, led by the small (24

MW) Fishermen's Energy wind farm located about three miles off Atlantic City. Fishermen's Energy, now owned by EDF RE, was scheduled to file a new application with the NJ Board of Public Utilities (BPU) by the end of July, and the BPU will have 90 days to review their proposal. If approved, Fishermen's could have its four 6-MW turbines producing electricity by 2020.

The Danish developer Ørsted has the Ocean Wind project under way 10 miles off Atlantic City, which will provide electricity to 500,000 homes when fully built. Ocean Wind had its Site Assessment Plan (SAP) approved May 17, the same day it opened a new office in Atlantic City. Just to the north, U.S. Wind has a second major wind development planned for 183,353 acres.

New Jersey BPU is also working on its Offshore Wind Renewable Energy Credits (OREC) funding mechanism, a solicitation for 1,100 MW of offshore wind, and an Offshore Wind Strategic Plan, all due by the end of this year.

## MARYLAND

The first state to pass legislation that uses ORECs as the funding mechanism for offshore wind, Maryland has one active offshore wind project: U.S. Wind near Ocean City.

On March 22, BOEM approved the SAP for the U.S. Wind project. The SAP approval allows for the installation of a meteorological tower; a seabed-mounted acoustic Doppler current profiler (ADCP) sensor; and a conductivity, temperature, and depth (CTD) sensor, so U.S. Wind can conduct the testing required for the next critical step, the Construction and Operations Plan (COP).

## VIRGINIA

Another state that is catching up on offshore wind, Virginia doesn't have a formal RPS, but its Grid Transformation and Security Act of 2018 declares that 5,000 MW of renewable energy are in the "public interest," including a carve out for 12 MW of offshore wind.

Dominion Energy Virginia (a utility) is partnering with Ørsted to build the Coastal Virginia Offshore Wind project 27 miles off Virginia Beach. This 12-MW demonstration project of two 6-MW turbines could be installed by 2020 and is directly adjacent to an 112,800-acre site leased by Dominion.

Once the Virginia State Corporation Commission (SCC) approves Dominion's funding request for 12MW of offshore wind to be paid by the ratepayers — approval is expected this year — then construction may start. The state would then need to increase its offshore wind carve out beyond 12 MW to use the much larger commercial lease area held by Dominion.

To accelerate the state's offshore wind development, the Virginia Department of Mines, Minerals, and Energy (DMME)



Department of Interior Secretary Ryan Zinke speaking at the International Offshore Wind Partnering Forum in April. (Courtesy: Business Network for Offshore Wind)

posted a Request for Proposals May 22 from qualified contractors to "develop a plan to position Virginia as the East Coast offshore wind supply chain and service industry location of choice."

## MAINE

A large northeastern state with 378 land-based wind turbines and good offshore wind potential, Maine is being held up because its governor opposes wind energy and claims that it would be too expensive for ratepayers (much like New Jersey's former governor). In January, Gov. Paul LePage imposed a moratorium on new wind-energy projects until a new Maine Wind Energy Advisory Commission reports on wind

power's economic impacts. The commission also could affect the experimental Maine Aqua Ventus floating wind farm, which is being developed by the University of Maine.

The governor leaves office in January, and offshore developers and investors are waiting to see who wins the election in November before making their next moves.

## NORTH CAROLINA

Like Maine, North Carolina has a long coastline and tremendous wind resources off its shores but is being held up by state politics. The state has three WEAs: Kitty Hawk (122,000 acres), Wilmington West (52,000), and Wilmington East (134,000), but similar to Maine, it is facing resistance, in this case from the state Senate.

In a report released March 28, offshore wind advocates demonstrated the steady winds blowing off the North Carolina coast could provide 4.7 times the state's electricity usage each year. Avangrid Renewables, which won the offshore wind lease for the Kitty Hawk parcel in 2017, stated in March that plans for a massive wind farm off the North Carolina coast are "moving faster than I think anybody anticipated," according to CEO Laura Beane.

However, the company still faces some challenges, including the lack of infrastructure in that area, the relatively low cost of competing energy sources, and political obstacles.

Overall, it's clear the U.S. East Coast as a region is moving forward and seizing the opportunities provided by the offshore wind-energy marketplace.

As the projects move toward completion, supply chains develop, and scale drives costs down, it will be essential for developers and state governments to team with the federal agencies and work together to avoid missing out on this chance to make the most of the global clean energy revolution.

## ABOUT THE AUTHOR

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