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Can U.S. Offshore Wind Find a Way to Realize its Vast Potential?

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Written by John Egan for Industrial Info Resources (Sugar Land, Texas) —To underscore the size of the U.S. coal resource base, pro-coal commentators often say the U.S. is the “Saudi Arabia of coal.” U.S. offshore wind energy enthusiasts have similarly described the potential offshore wind resource base as the “Saudi Arabia of wind.”

Last month, Rhode Island utility regulators approved a 400-megawatt (MW) power-purchase agreement for the Revolution Wind windfarm, which is scheduled to be built off the coast of Martha's Vineyard, Massachusetts. Assuming permits are awarded, construction could begin in 2020, and the project could begin generating electricity in 2023. The developers of this project are Orsted U.S. Offshore Wind (Providence, Rhode Island) and Eversource Energy (NYSE:ES) (Boston, Massachusetts). Offshore wind enthusiasts hailed the project as the first of many more to come.

For all the boosterism, however, it remains an open question how much of the offshore wind resource will be realized, and when. Only one U.S. offshore windfarm is operating: the 30-MW Block Island project off the coast of Rhode Island. Built by Orsted at a cost of about \$290 million, the windfarm began operating in late 2016.

By contrast, 24 proposed offshore windfarms, with a total generating capacity of over 12,000 MW and a total investment value of about \$44.4 billion, have been cancelled over the last decade, according to Industrial Info's global marketing intelligence platform. The offshore wind energy's most spectacular flameout was the planned \$2.5 billion Cape Wind offshore windfarm a few years back, which was planned to be built off the Nantucket shore. For more on this, see January 15, 2015, article - Cape Wind Project's Future in Doubt after Utilities Cancel PPAs.

Earlier this month, the Offshore Wind Jobs and Opportunity Act was reintroduced in the U.S. House and Senate, heartening offshore wind energy advocates. An education and job-training measure, the bill drew bipartisan support in the House and Senate. It directs the Department of Energy to work with stakeholders to identify gaps in the offshore wind industry's workforce development before setting up a grant program to address those needs. Those grants, up to \$25 million annually for fiscal years 2020-2024, would support community colleges, organizations that serve minority populations and those seeking to enter the offshore wind energy industry from other industries.

In cosponsoring the bill, Senator Susan Collins (R-Maine) said, "Within 50 miles of the U.S. coast, there is enough offshore wind capacity to power our country four times over. In order to harness this substantial supply of clean energy, a coordinated approach between businesses, universities, community colleges and government is necessary. Our bipartisan legislation will help bolster job training programs to assist Americans seeking careers in the offshore wind industry."

The Department of Energy found that the U.S. could install 22,000 MW of offshore wind projects by 2030 and 86,000 MW by 2050, creating tens of thousands of jobs in communities along the Atlantic Coast.

Some states on the East Coast, including New York, New Jersey and Massachusetts, have set specific targets for offshore wind generation. New York Governor Andrew Cuomo wants to have at least 2,400 MW operating by 2030. For more on that, see February 13, 2018, article - Will New York be the Place Where Offshore Wind Generation Finally Takes Off? New Jersey's clean energy law, enacted last year, calls for 3,500 MW of offshore wind by 2030. For more on that, see March 20, 2018, article - New Jersey Clean Energy Plan Includes Offshore Wind, Nuclear Support and Electricity Storage.

Massachusetts wants to see 3,200 MW of offshore wind built off its coastlines by 2035. In 2017, the state awarded an 800-MW contract to the Vineyard Wind project, which is scheduled to be built south of Martha's Vineyard. Earlier this year, the Bay State issued a second request for proposals, for another 800 MW. Bids are due in August and winners are scheduled to be announced in November.

Currently, there are 12 active commercial leases for offshore wind development in the U.S. The Bureau of Ocean Energy Management (BOEM), a branch of the U.S. Department of the Interior, plans to hold wind lease sales off the coast of New Jersey and New York next year, as well as off California, following identification of wind energy areas at some point this year, according to a report in E&E News.

BOEM estimates that about 15,000 MW of wind generation could be built if all 12 commercial lease sites are fully developed.

But clean energy advocates, offshore wind developers and government agencies should be prepared for push-back from local communities. In other words, potentially numerous replays of the Cape Wind saga. Long Island newspapers have been filled with stories featuring offshore wind opponents who are against those projects on several grounds: the projects could interfere with commercial fishing lanes; they could take up precious shoreline real estate; they would be a blight on ocean views, and the power generated by the offshore windfarms would be very expensive.

"It's hard to see how these conflicts will get sorted out in the near term," said Britt Burt, vice president of research for Industrial Info's Global Power Industry. "As with Cape Wind, some opponents have deep pockets and a willingness to litigate. But states have enshrined clean air commitments, including to offshore wind energy, into law. Europe has thousands of megawatts of offshore wind, but there appears to be something in the American character that says, 'not off my shoreline.' "

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