

Race is on to complete first US offshore wind project

The battle lines are drawn for supremacy in the developing US offshore wind-generation business as various states vie to be the first to achieve that crucial milestone – going online. So what stage are we currently at in this all-important race? Jennifer Zajac of SNL Energy is your guide to the current movers and shakers . . .

After years of encountering NIMBO, (Not in My Beautiful Ocean), sentiment and regulatory uncertainty, the US may finally see its first offshore wind project begin operations within the next three years. President Barack Obama announced on Earth Day, 22 April, that the US Interior Department had finalized a framework that established a program to grant leases, easements and rights of way for development activities such as the siting and construction of offshore wind farms. Since its release, a number of projects have gained momentum and interest continues to grow in offshore wind, according to Laurie Jodziewicz, manager of siting policy at the American Wind Energy Association (AWEA).

According to SNL Energy, there are about 37 US offshore wind projects in various stages of development. The race is on to see which project will be the first to begin operations. "There's a lot of interest in being first and it's difficult to say who will be the first to have an offshore wind farm in the US," Jodziewicz said.

Nantucket Sound

The Cape Wind Offshore project appears to have a solid lead. Touted by the

developer as 'America's First Offshore Wind Farm on Nantucket Sound', Cape Wind is the furthest along in the permitting process and has attracted the most attention. Developer Cape Wind Associates, a subsidiary of Energy Management Inc., has spent about eight years and \$40m so far on its efforts to build the facility in waters 5.5 miles from Hyannis, Mass. However, opponents have fought the project nearly every step of the way over the potential adverse economic, environmental, aesthetic and public safety impacts it may pose.

In May, the Massachusetts Energy Facilities siting board unanimously approved the proposed 130-turbine offshore wind farm, granting a certificate of environmental impact and public interest that rolls up all state and local permits. A month later, the Alliance to Protect Nantucket Sound, the town of Barnstable, Mass., and the Cape Cod Commission launched an effort to appeal the decision to the state's Judicial Supreme Court.

"Here on the Cape, I think, opinions have really shifted over the years and the majority supports it now," said Cape Wind Associates spokesman Mark Rodgers. "The project has been so thoroughly vetted now after so many years and so many pages of environmental impact statements that people understand now that scare tactics that have been in play here just haven't held up."

Cape Wind now must wait for the US Minerals Management Service and Interior Secretary Ken Salazar to issue decisions on the project, which may be as soon as this month, according to Rodgers. If all goes well, construction on the project will begin in the second half of 2010, and operations will begin around 2012. Should the decisions reject the offshore wind project, Cape Wind may appeal, but given the favorable final environmental impact statement the MMS issued in January, "it's difficult for us to envision a scenario in which we would be rejected", Rodgers said.

Delaware inched closer to having an offshore wind farm when four state agencies approved the power purchase agreement between Babcock & Brown Ltd. and Pepco Holdings Inc. subsidiary Delmarva Power & Light Co. for the output of an offshore wind energy farm. Under the 25-year contract, Delmarva Power will buy up to 200 MW from Babcock & Brown subsidiary Bluewater Wind LLC. Bluewater Wind said it would construct two meteorological towers in spring 2010, one each off the coasts of New Jersey and Delaware.

In Rhode Island, meanwhile, Deepwater Wind has pledged investment of up to \$1.5bn, which will include establishing a regional manufacturing facility in Quonset, R.I., and creating up to 800 direct jobs. The company is proposing to build two offshore wind farms off the coast of Rhode Island: the Block Island Wind Farm, consisting of five to eight wind turbines located three miles off the coast; and the Sound Wind Farm, which will feature 100 turbines in federal waters 15 miles to 20 miles from the nearest landfall. Deepwater Wind intends to use its Quonset Point headquarters as a staging and assembly area for all of its proposed offshore wind farms. Further, the company hopes that its presence at Quonset will encourage the start of a regional wind power industry, according to spokeswoman Meaghan Wims.

The company also plans to develop two projects consecutively off the coast of New Jersey. Each one would comprise about 115 turbines. New Jersey state regulators awarded a \$4m grant to Garden State Offshore Energy, which proposes a 345.6-MW offshore wind facility southeast of Atlantic City, 16 miles off the coast. The proposal calls for 96 wind turbines arranged in a rectangular grid 16 miles to 20 miles off the coast of Cape May and Atlantic counties. PSEG Renewable Generation, a Public Service Enterprise Group Inc. subsidiary that owns 50 per cent of Garden State, partnered with Deepwater Wind for the project.

Actions taken by states such as Rhode Island and New Jersey are indicative of what has been happening at the state and national levels for some time, said PSEG spokesman Paul Rosengren. "States have taken the lead where national policy hasn't," he said.

A long road

Efforts to put 'steel into the water' have proved challenging for offshore wind projects across the globe. "A number of factors conspire to limit the development of offshore wind farms. Aesthetic considerations, for example, have limited development of wind resources in the near-shore environment in the US, although objections to near-shore development in Europe appear to have been less influential. There is a need to also accommodate requirements for shipping, fishing, and wildlife reserves and to minimize potential interference with radio and radar installations," said a Harvard study, published last July in the Proceedings of National Academy of Sciences.

A subsidiary of FPL Group Inc. proposed a 40-turbine project intended to provide power to the Long Island Power Authority, but the 140-MW project encountered public protests and was scrapped because of ever-escalating cost estimates, which reached \$700m to \$800m. Yet, in a sign that offshore wind projects are becoming more attractive, a collaborative of New York utilities and New York City and regional and state agencies, including LIPA and Consolidated Edison Inc., announced last July, a request for information to gauge the level of interest in developing a 350-MW offshore wind energy project roughly 13 miles off Long Island, N.Y., that could be expanded to 700 MW.

Coordination among developers and government agencies is key in the growth of the offshore wind industry in the US. Thinking beyond state borders would help the nascent US offshore wind sector. "You need a regional approach to working on these," Susan Stewart, a research associate at the Energy Science and Power Systems Division of Pennsylvania State University's Applied Research Laboratory, said at a recent offshore wind conference. Some have also called for offshore wind developers to share data in a controlled fashion.

Other regions

Wind generation has not been pursued much in the South because many regions lack the necessary sustained wind. Some states, however, are conducting studies to determine whether offshore wind projects would be viable. Texas is hoping that steady winds, combined with a friendly regulatory environment, will make its Gulf of Mexico coast attractive to offshore wind power developers. "If you want to build a wind farm in Massachusetts or New York, you've got to deal with the feds; it's an easier process to deal with us at the Land Office," said Jim Suydam, Press Secretary for Texas General Land Office Commissioner Jerry Patterson. Meanwhile, states located near the Great Lakes are also keenly interested in the possibilities of offshore wind power. Ohio and Michigan have conducted separate studies aimed at assessing feasibility and identifying roadblocks. It certainly seems unlikely that the first US wind farm to go online will also be the last one. ▀

Kerry Bleskan, Kelly Harrington and Corina Rivera contributed to this article. For more information, please visit www.SNL.com

Offshore wind farms under development in the US

Power plant	Owner	Ultimate parent	Planned capacity	
			State	(MW)
Radial Wind Offshore Project	Radial Wind	Radial Wind	MI	1,950.00
Gull Bank Offshore Wind	Winergy LLC	Deepwater Wind	MD	1,821.60
Isle of Wight Offshore Wind	Winergy LLC	Deepwater Wind	MD	1,267.20
Mustage - offshore	Baryonyx Corp	Baryonyx Corp	TX	1,150.00
Rio Grande - offshore	Baryonyx Corp	Baryonyx Corp	TX	1,150.00
Indian River Offshore Wind	Winergy LLC	Deepwater Wind	DE	1,100.00
Five Fathom Bank 3 Offshore Wind	Winergy LLC	Deepwater Wind	NJ	964.80
Nantucket 1 Offshore Wind	Winergy LLC	Deepwater Wind	MA	831.60
Nantucket 2 Offshore Wind	Winergy LLC	Deepwater Wind	MA	763.20
Davis Bank Offshore Wind	Winergy LLC	Deepwater Wind	MA	748.80
Five Fathom Bank 2 Offshore Wind	Winergy LLC	Deepwater Wind	NJ	686.00
Allco Offshore Wind Farm	Allco Renewable Energy Group Ltd. LLC	Allco Renewable Energy Group Ltd. LLC	RI	676.00
Jones Beach Offshore Wind	Winergy LLC	Deepwater Wind	NY	600.00
Cape Wind Offshore	Cape Wind Associates	Energy Management Inc.	MA	468.00
Bluewater Offshore Wind	Babcock & Brown Renewable Holdings Inc.	Babcock & Brown LP	DE	450.00
Great Egg Offshore Wind	Winergy LLC	Deepwater Wind	NJ	439.20
Newport Nearshore Windpark - Offshore	Delsea Energy	Delsea Energy	NJ	381.60
Asbury Park Offshore Wind	Winergy LLC	Deepwater Wind	NJ	352.80
FERN Blueribbon Offshore Wind Farm	Fishermen's Energy of New Jersey	Fishermen's Energy of New Jersey	NJ	350.00
Garden State Offshore Wind Farm	PSEG Renewable Generation, Deepwater Wind	Public Service Enterprise Group Inc., Deepwater Wind	NJ	350.00
LIPA/Con Edison Offshore	Consolidated Edison Inc., Long Island Power Authority	Consolidated Edison Inc., Long Island Power Authority	NY	350.00
South Coast Offshore Wind	Jay Cashman Inc.	Jay Cashman Inc.	MA	300.00
South of Long Island Offshore Wind	Winergy LLC	Deepwater Wind	NY	300.00
Brazoria County Offshore Wind	Wind Energy Systems Technologies Inc.	Wind Energy Systems Technologies Inc.	TX	275.00
Calhoun County Offshore Wind	Wind Energy Systems Technologies Inc.	Wind Energy Systems Technologies Inc.	TX	275.00
Cameron County Offshore Wind	Wind Energy Systems Technologies Inc.	Wind Energy Systems Technologies Inc.	TX	275.00
Jefferson County Offshore Wind	Wind Energy Systems Technologies Inc.	Wind Energy Systems Technologies Inc.	TX	275.00
Gray Harbor County Offshore Wind	Grays Harbor Ocean Energy Company LLC	Grays Harbor Ocean Energy Company LLC	WA	270.00
Galveston-Offshore Wind	Wind Energy Systems Technologies Inc.	Wind Energy Systems Technologies Inc.	TX	150.00
Rhode Island Energy Independence 1 Offshore Wind Project	Deepwater Wind	Deepwater Wind	RI	150.00
Tillamook Offshore Wind	Principle Power Inc.	Principle Power Inc.	OR	150.00
Long Island Offshore Wind	NextEra Energy Resources	FPL Group Inc.	NY	140.00
Great Lakes Offshore Wind	New York Power Authority	New York Power Authority	NY	120.00
Hull Offshore Wind	Town of Hull	Town of Hull	MA	15.00
Great Lakes Offshore Wind Energy	Great Lakes Wind Energy	Great Lakes Wind Energy	OH	12.50
Plum Island Offshore Wind	Winergy LLC	Deepwater Wind	NY	10.80
Georgia Tech Offshore Wind	Southern Co., Georgia Institute of Technology	Southern Co., Georgia Institute of Technology	GA	10.00

As of Aug. 31. Source: SNL Energy