

Our Ocean Backyard — *Santa Cruz Sentinel* columns by Gary Griggs, Director, Institute of Marine Sciences, UC Santa Cruz.

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Developing an Offshore Wind Farm

Permitting and environmental issues, local opposition and costs have been major obstacles in the U.S. for offshore wind installations. After a decade of study, analysis, environmental impact assessment and lawsuits, what would have been the first offshore wind farm in the U.S. off Cape Cod, the Cape Wind Project, was put on hold two years ago.

Learning from that history, Rhode Island brought government agencies, public interest groups, and stakeholders together to study their modest offshore area, and was one of the first states to actually zone the seafloor area for appropriate uses. As a result of this public process, they recently completed the first successful offshore wind project in U.S. waters, the Block Island Wind Farm.

Just six weeks ago, after qualifying nine companies for bidding, the Bureau of Offshore Energy Management (BOEM) successfully auctioned off the rights to develop a wind farm offshore Kitty Hawk, North Carolina. Avangrid Renewables, LLC (a subsidiary of Iberdrola, which had already completed the first commercial wind farm onshore in North Carolina) obtained a lease of 122,405 offshore acres for just over \$9 million. The lease begins 26 miles offshore and extends about 28 miles parallel to the coastline.

Although the wind company will determine the actual size of the project, the area has a potential capacity of about 1,486 MW or enough to power nearly 1,500,000 homes. There are still additional steps required of the firm that include a Site Assessment Plan, which will provide a description of facilities planned and ocean conditions in the lease area.

Following approval of the Site Assessment Plan, the firm has four and a half years to submit a Construction and Operations Plan for approval, which will contain a detailed proposal for the construction and operation of the wind project.

The next step in the process is an environmental review of the project and all reasonable alternatives, which includes a process for public input. If the Construction and Operations Plan is approved, Avangrid will then have 25 years to construct and operate the project.

The Bureau of Offshore Energy Management (BOEM) has already held seven competitive auctions for federal lands offshore that have generated over \$67 million for the federal government and cover over 1.2 million acres. The largest lease to date is a \$42.5 million bid for an area offshore New York.

Just a year ago, in a letter to then Interior Secretary Sally Jewell, Governor Brown requested the formation of the BOEM California Intergovernmental Renewable Energy Task Force. This is a non-decision making group that is facilitating the coordination and communication between BOEM and all of the potentially involved or interested agencies and groups in California concerning potential leasing of offshore federal waters (beyond the 3-mile state limit) for renewable energy.

The Task Force has been using a stakeholder engagement firm to conduct a data gathering and mapping effort focused off the Central Coast of California to identify potential areas that may be suitable for wind energy development based on ocean resources and other ocean uses. This first phase of information gathering is underway and interviews will continue through the summer of 2017.

In October 2015, Seattle-based Trident Winds filed a proposal for a wind farm offshore of the small central coast town of Morro Bay. Offshore areas usually have higher velocity and more persistent winds and generally don't come with quite as many concerns as do onshore sites. Well, at least there aren't next-door neighbors.

This proposed outer continental shelf project would include 100 large floating turbines, placed 15 miles offshore, each standing about 584 feet high. The proposed lease area is about 36 miles northwest of Morro Bay and in water 2,600 to 3,300 feet deep.

In response to this proposal, the federal Bureau of Ocean Energy Management in August of 2016, opened bidding for a 765-megawatt wind energy project in this area (which would provide for the power needs of about 775,000 homes). Seafloor transmission lines would bring the electricity ashore in Morro Bay where it would be distributed to the state power grid using the transmission lines from the now closed Morro Bay Power Plant.

If there is additional interest beyond Trident's application, the agency will initiate a competitive bidding process. If no other expressions of interest are received, BOEM will proceed with a noncompetitive leasing process with Trident. This lease

could move the state closer to its goal of producing 50% of its electricity from renewable energy sources by 2030, just 13 years away.