



Offshore Wind Development: Federal Permitting Program Challenges

By Martin Levy, JD 2020

Offshore wind has the potential to generate enormous amounts of energy and change the American energy sector. The National Renewable Energy Laboratory estimates that America's offshore wind energy potential exceeds 4,000 gigawatts (GW) nearly four times the total capacity of the nation's electric power system. Off the Atlantic coast, wind can generate over 1,300 GW. Many coastal states have committed to purchasing offshore wind developed in federal waters. For instance, in 2019 Connecticut requested proposals for developing up to 2,000 megawatts (MW) of offshore wind power; New Jersey awarded a purchase agreement to a 1,100 MW project; Massachusetts approved an agreement to purchase 800 MW from Vineyard Wind; and New York finalized contracts with two offshore wind developers for 1,700 MW. These states have recognized that developing offshore wind will not only provide benefits in terms of greenhouse gas reductions, but will also lead to subindustry booms as leases and proposed developments move into construction and operation. States are now in active competition to reap these economic development benefits.

There is only one offshore wind farm in operation today in US waters: a 30 MW facility in Rhode Island's state waters composed of five turbines generating power for 17,000 people. A second small pilot project is expected to begin construction in 2020 thirty miles off the coast of Virginia. There are currently fifteen active leases in federal waters, which have spurred a spate of state power procurement solicitations, such as those described above. While construction has not begun on any of these leased waters, active bidding in response to state requests for proposals indicates that there will be many new projects moving into the permitting process in the near future.

Further, developments in Europe highlight the potential of offshore wind as a power source. The International Energy Association predicts that offshore wind could be the largest single source of electricity for the European Union by 2040 given current investment and technology trends. Additionally, Europe is leading the way on offshore wind technology—floating turbines are already in operation off the coast of Scotland and will soon be deployed in Spain. These floating turbines will be necessary for offshore wind to succeed in parts of the American Outer Continental Shelf with particularly deep waters, such as the Pacific northwest.

If the industry is proving viable elsewhere, what might be holding back its growth in the US? Among the factors that have vexed offshore wind development, an unstable regulatory landscape and financing challenges exacerbated by regulatory delays have proven particularly difficult to overcome.

Cape Wind Project

An unstable regulatory landscape has plagued wind energy development. For instance, the Cape Wind Project interacted with three different lead federal agencies over the course of its nearly 17-year proposal life. After the initial 2001 project proposal, the Army Corps of Engineers (Corps) took responsibility for the Cape Wind Project as the lead federal agency under the Rivers and Harbors Act. After the Energy Policy Act passed in 2005, the Minerals Management Service (MMS) assumed federal responsibility for all offshore wind projects. Then, in 2010, the Department of the Interior initiated a reorganization of the Minerals Management Service (MMS) that ultimately created three separate sub-agencies independent of each other. This included the establishment of the



Bureau of Ocean Energy Management (BOEM) in 2011, which took responsibility for offshore wind leasing and permitting.

This changing regulatory landscape contributed in part to rising costs, delay, and litigation from which Cape Wind never fully recovered. After working with the Corps for over two years to produce an draft Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA), jurisdiction over the Cape Wind Project transferred to MMS under the Energy Policy Act. MMS then undertook its own NEPA review that began in 2006 and was not completed until 2009. After these environmental reviews were completed, Cape Wind signed the first commercial offshore renewable energy lease in the US in 2010 and submitted the final version of its development plans in 2014. Because of this drawn-out regulatory process, opponents of the Cape Wind Project had the opportunity to engage in a torrent of litigation, including 32 court cases and administrative hearings, which one judge described as a “a vexatious abuse of the democratic process.”

Additionally, financing issues hindered Cape Wind. Because of costs and delays incurred as a result of litigation, Cape Wind missed payments to two utilities that had promised to purchase 75% of its power. These utilities then terminated their agreements with Cape Wind, which had depended on the power purchase agreements to secure financing. Additionally, when Massachusetts passed legislation in August 2016 requiring the procurement of 1,600 MW of offshore wind energy it defined offshore wind energy generation to exclude Cape Wind by excluding projects within ten miles of inhabited areas. The combined loss of both financial viability and political viability facilitated Cape Wind’s demise despite the company successfully navigating all BOEM’s permitting requirements.

Vineyard Wind Project

After the Cape Wind saga, the finalization of regulations governing BOEM's Renewable Energy Program in 2009 along with a subsequent update of those regulations in 2014, promised to bring regulatory certainty to the wind leasing process. However, Vineyard Wind, the next major offshore wind proposal after the Cape Wind Project, has similarly languished. After BOEM issued a draft EIS under NEPA for the Vineyard Wind Project in 2018, BOEM announced in August 2019 that it would conduct additional environmental studies before issuing a final EIS. This study proposes to evaluate the cumulative impacts of a series of planned projects along the east coast. Industry observers have expressed concern that the cumulative study is an attempt to delay the project’s completion. Excessive delays may endanger Vineyard Wind’s contracts with utilities, which required the company to begin delivering energy by January 15, 2022.

Like Cape Wind, the Vineyard Wind Project may similarly face the crunch of lost financial viability and political support. Vineyard Wind has relied on an investment tax credit, which provides 24% savings on the \$2.8 billion Vineyard Wind has spent on capital costs. Apart from costs savings, this credit allowed Vineyard Wind to contract for lower energy prices with the state of Massachusetts. However, the credit was to expire at the end of 2019 before being extended for an additional year in December 2019. Given delays in Vineyard Wind’s environmental approvals, this one year extension is critical to ensuring that the project remains solvent. However, the one year extension creates uncertainty because any further delays that push construction past 2020 may jeopardize the financial health of the project. Not only is beginning the project within the year critical for tax credit purposes, it is also critical for honoring underlying power purchase commitments requiring energy production by January 2022.



Conclusion

The experiences of both Vineyard Wind and Cape Wind demonstrate how regulatory delays can interfere with the financing of offshore wind energy projects. In order to attract investors and financing, offshore wind developments must provide proof of an assured revenue stream. One form of assured revenue streams are long term power purchase agreements with credit worthy buyers, such as the State of Massachusetts. Recognizing this, the Massachusetts Green Communities Act requires renewable energy developers enter into long term contracts to facilitate project financing. However, extended permitting delays, whether caused by regulatory instability or lengthy environmental reviews, can jeopardize these underlying contracts and therefore threaten financing for capital-intensive wind energy projects.

The recent trend of major oil companies shifting resources into offshore wind energy development may ameliorate the need for some projects to navigate this financing dance. For example, Shell New Energies has shifted employees from the Gulf of Mexico to the northeastern US to capitalize on the growing wind market and has won multiple bids for wind leases in northeastern state waters. Major oil companies usually self-finance, possibly increasing their tolerance for permitting delays because project solvency would not be dependent on outside financing. Even so, power purchase assurances and tax credits may be key indicators of a project's viability regardless of the entity providing financing. In addition, self-financed projects will still need to deliver power in accordance with the agreements they make with state purchasers.

The Cape Wind and Vineyard Wind experiences demonstrate the challenges of creating an effective regulatory process that provides adequate reviews without significantly hindering the development of a new industry. As discussed at the beginning of this piece, the demand exists for offshore wind but enthusiasm could wane if projects can't reach the steel in the water stage.

For an explanation of the current BOEM leasing and permitting process, see the Appendix below.



Appendix: Bureau of Ocean Energy Management’s Offshore Wind Leasing Program

The Bureau of Ocean Energy Management (BOEM) has a four-step process for permitting offshore wind development on the outer continental shelf. In short, BOEM (1) identifies suitable offshore areas for wind energy development (2) issues leases for development (3) requests and reviews a site assessment conducted by the leasehold and (4) reviews the leasehold’s construction and operations plan. At each stage of this process, key stakeholders have an opportunity to provide input and suggestions to BOEM.

To instigate the identification process, BOEM has discretion to publish a Request for Interest (RFI) in the Federal Register; this will help determine whether there is competitive interest in leasing a given area of the Outer Continental Shelf (OCS). BOEM will then publish a call for information and nominations, during which BOEM may request information on (1) areas that should be considered for leasing and (2) geological, socioeconomic, biological, and environmental information relevant to the proposed leasing site. After the call, BOEM will identify appropriate areas for wind leasing in consultation with states, local government, tribes, and other affected federal agencies. It concludes the identification phases by conducting an environmental assessment pursuant to NEPA. This environmental assessment does not focus on any specific project proposals, but rather the environmental impact of simply surveying the OCS.

After identifying Wind Energy Areas (WEAs), BOEM can issue leases. The agency does this either competitively or noncompetitively. As a default, BOEM will issue leases on a competitive basis by publishing a proposed sale notice (PSN). During the PSN, BOEM requests public comments on the area available for leasing, the proposed and final lease provisions, and conditions, the auction details, and the criteria BOEM will use in evaluating competing leases and provisions, among other factors. Any parties that wish to hold a lease must demonstrate their legal, technical, and financial qualifications. At least 30 days before the lease sale, BOEM will publish a final sale notice (FSN). The FSN will include the final terms and conditions and identify qualified bidders. Bidding then proceeds in either a sealed process, an ascending process, a two-step combination of ascending and sealed bidding, or a multi-factor process. The winner of the auction will be granted the lease.

Alternatively, BOEM will conduct a non-competitive leasing process if it determines that there is no-competitive interest for a wind energy area, either through a PSN in a planned BOEM lease or in an RFI after BOEM receives an unsolicited request to lease a wind energy area. In a non-competitive process, BOEM awards a lease without conducting an auction. It will conduct NEPA review for unsolicited bid requests for areas that have not undergone environmental scrutiny.

After BOEM grants a lease, the lessee must submit a Site Assessment Plan (SAP) and a Construction and Operations Plan (COP). These may be submitted simultaneously, otherwise the SAP should be submitted before the COP. For both an SAP and a COP, BOEM encourages a lessee to conduct pre-survey meetings with BOEM and relevant stakeholders to develop lease stipulations.

An SAP describes the initial activities necessary to characterize a lease site, resource assessment surveys, or technology testing activities that involves the installation of bottom-founded facilities. SAPs must include data from physical characterization surveys, such as geological and hazard surveys, and from baseline environmental surveys, such as biological or archaeological surveys.



After BOEM receives a lessee's SAP, it will determine if the SAP is complete and sufficient. It will then determine if the site is complex or significant; complex or significant sites may be subject to further regulatory requirements. Finally, BOEM will conduct supplemental NEPA review if necessary. BOEM commits to a policy of issuing a final SAP decision (approval, approval with conditions, or denial) within 90 days of BOEM's determination that a received SAP is complete and sufficient.

A COP describes all proposed activities and planned facilities that a lessee intends to construct and use for a project under a commercial lease. The COP must include a description of all planned facilities, including onshore and support facilities, as well as anticipated project easements needed for the project.

After BOEM receives a lessee's COP, it will first review it to determine if it contains all the information necessary and sufficient to conduct technical and environmental reviews. It will then prepare an appropriate NEPA analysis and, if the COP is submitted after lease issuance, will coordinate with the applicable state agency on Coastal Zone Management compliance. NEPA analysis at the COP stage is project-specific and would most likely take the form of an EIS, providing additional opportunities for public involvement.

If BOEM approves the COP, it will specify terms and conditions to be incorporated into the COP. If they deny the COP, BOEM will provide the reasons for disapproval and allow for an opportunity to resubmit a revised plan addressing the concerns; BOEM may also suspend the terms of the lease if appropriate.

Before beginning any construction activity, whether under the COP or related to site surveying outlined in the SAP, lessees must submit more specific details in a Facility Design Report and Fabrication and Installation Report.