

# Offshore Wind: Green Energy and Red Tape in the Deep Blue Sea

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The federal government recently began exploring the possibility of offshore wind projects in the Gulf of Mexico. Offshore wind is a promising energy source that America has yet to capitalize on. But the development process takes years, and, as prior experience has shown, its success depends on intergovernmental coordination and local support.

## What is an offshore wind farm?

The defining features of an offshore wind farm (OWF) are likely familiar to most Americans, who can probably call to mind the profiles of tall, white, origami-like turbines (sometimes called windmills), dotting a prairie somewhere in the heartland. Replace the tallgrass with ocean waters, and that image remains largely intact for an OWF. Here, an obvious analog is the oil well, whose offshore presence in the Gulf of Mexico is well-established. Similar to oil, wind developers see promise in our oceans for a simple reason: resource abundance and access.

One significant difference from terrestrial wind farms is the sheer size of an offshore turbine. Take, for example, General Electric's Haliade-X turbine, a prototype of which just became operational in Dutch waters in October 2021.<sup>1</sup> Just one blade on a Haliade-X is slightly longer than a football field, including both end zones. And size matters: a single Haliade-X turbine can provide up to 74 gigawatt hours of annual energy production. That is enough to power roughly 16,000 homes.<sup>2</sup> The larger of the two operational OWF in American waters has five turbines off the coast of Rhode Island capable of producing 0.03 GW annually. Compare this to a windfarm in the United Kingdom, Hornsea Project One, which has 174 turbines capable of a total of 1.2 GW annually.<sup>3</sup>

The construction of even one turbine is a feat of modern engineering. Most turbines are designed to be anchored into the ocean floor. The standard process utilizes specialized wind turbine installation vessels, which temporarily jack themselves up from the ocean floor. There

are, however, no less than six foundation types with their own associated processes (*see* image below).



Credit: Josh Bauer, NREL, *Comparison of Environmental Effects from Different Offshore Wind Turbine Foundations* (Aug. 2021).

So how does offshore wind figure into the broad landscape of energy production? Quite prominently, wagers one legacy energy company. BP officials stated that they expect offshore wind to be the energy industry's "fastest-growing business over the next 20 years," in announcing a £879 million deposit to lease an area off the British Isles that could power up to seven million homes.<sup>4</sup>

## The Gulf of Mexico and its Task Force

What does the Gulf of Mexico have to do with all of this? After all, several states along the Atlantic coast are much further along in the process of developing offshore wind. In 2017, however, the National Renewable Energy Lab (NREL) of the U.S. Department of Energy began studying the Gulf's wind energy potential. In two reports issued in 2020, NREL found that offshore wind development was technically and economically feasible in the Gulf.<sup>5</sup> Then, in October 2020, Governor Edwards of Louisiana requested the relevant federal agency convene the Gulf of Mexico Intergovernmental Renewable Energy Task Force (Task Force).

There is more to an OWF than scientific studies and specialized construction. An OWF also requires extensive approval at different levels of government. That is where the Task Force comes in. It provides an official line of communication between federal agencies and state, local,

and tribal officials to ensure that there is mutual support for and awareness of potential projects. While the Task Force does not have any official decision-making authority, it is a forum for interests, concerns, and procedural questions before they arise later in the process.

The Gulf Task Force held its first meeting on June 15, 2021.<sup>6</sup> The participants included: officials from 16 federal agencies or offices; a Member of the U.S. House of Representatives and a staff member from another U.S. Representative; representatives from two Tribes; and a number of state-level officials. Each spoke of their own entity's role in OWF leasing. The discussion included questions about jurisdiction, permit requirements, timelines, coordination strategies, and general procedures, highlighting the Task Force's purpose.

### Who does What?

American companies secure permits and leasing rights to develop offshore wind from federal agencies. In 2005, Congress amended the Outer Continental Shelf Lands Act (OCSLA) to give the Department of the Interior the authority to lease and permit offshore renewable energy projects.<sup>7</sup> The Department then delegated this responsibility to a subordinate agency, the Bureau of Ocean Energy Management (BOEM or "the Bureau").

OCSLA's title also describes where federally-approved projects are located: the "outer continental shelf" (OCS). In short, the OCS – waters belonging to the federal government – begins roughly three nautical miles off the coastline. With some caveats, all territory inward from that point belongs to the respective states.<sup>8</sup>

Nonetheless, not even the feds, in federal waters, can unilaterally develop offshore wind energy. State authorities must also be onboard with the idea. For instance, states can exert regulatory control over access to electric transmission lines – necessary infrastructure to transport energy onshore.<sup>9</sup>

Government officials are not the only relevant actors. OWFs also require commercial entities that are willing and able to deliver these projects from 'cradle to grave.' This includes manufacturers, laborers, shipping companies, maintenance crews, and any number of the niche enterprises necessary to execute an OWF. Conversely, for the project to proceed efficiently, commercial and recreational fisheries and other coastal entities must be satisfied that the OWF will not seriously impact their operations.

### Baby Steps: Get the Lease

The Bureau describes its leasing process as having four steps: (1) Planning and Analysis; (2) Leasing; (3) Site Assessment, and; (4) Construction and Operations.<sup>10</sup> This four-step breakdown is but a rough categorization of the process (see *Overview of the BOEM Renewable Energy Authorization Process* in this issue for more on this subject). By the end of the first phase, the Bureau hopes to have: conducted preliminary environmental reviews; narrowed the location for potential leasing into a more manageable Wind Energy Area (WEA); considered objections; and put all interested parties on notice about the direction of the proposal.

During the second phase, leasing, the Bureau auctions-off a lease within the WEA identified in the prior phase (if there is competitive interest in the WEA). The initial lease agreement, however, only contains future rights to develop the project when, and if, the proposed OWF survives the rest of the regulatory process.

When an energy company signs that first dotted line to secure the WEA lease, that is just the first of many steps before breaking ground... or water. The remaining parts of the process appear to be treacherous waters, so to speak. In large part, the developer must work to assure the Bureau that it will comply with the applicable environmental and safety laws. It will submit a Site Assessment Plan (SAP) describing how it will evaluate the area, and then, once that is approved, and site assessment completed, it will submit its plan for building and operating the OWF, known as the Construction and Operations Plan (COP). Both the SAP and COP are subject to environmental review by BOEM.

### The Role of Environmental Reviews

Environmental reviews loom large over regulatory processes involving the federal government. Not even an OWF – a green energy source – gets a free lunch. These projects must comply with a number of laws, such as the Endangered Species Act or the National Historic Preservation Act. One law in particular has a central role in the past, present, and future of offshore wind development: the National Environmental Policy Act (NEPA).

NEPA requires federal agencies to prepare Environmental Impact Statements (EIS) for actions "significantly affecting the quality of the human environment."<sup>11</sup> An EIS – or even its less onerous cousin, the Environmental Assessment (EA) – will consider an action's potential effects on the environment,

and alternatives to that action. Courts describe NEPA's requirements as "procedural."<sup>12</sup> This purportedly limits judicial review to how an agency reaches a decision, which is considered under the deferential "arbitrary and capricious" standard, rather than whether the agency reaches the most desirable result.

But NEPA has teeth. Any person "adversely affected or aggrieved by an agency action" has legal standing to challenge the associated EIS or EA. These "citizen suits" are the principal NEPA enforcement mechanism. With so many potential litigants, one or more of them may find a colorable challenge that survives long enough to be a problem. Thus, even after it receives agency approval, an OWF's fortune may rest with the federal court system and whether private parties oppose the project.

### The Cape Wind Litigation

To get a sense of what this means in practice, consider the case of Cape Wind. Back in 2001, Cape Wind Associates (CWA) proposed a 130-turbine OWF to be located off of Massachusetts in Nantucket Sound. After a long leasing phase – owed in part to an ambiguity in leasing authority, which Congress remedied with the 2005 OCSLA amendments – CWA signed a lease with the Department of the Interior in October 2010.<sup>13</sup> Not everyone in Massachusetts was equally enthusiastic about the proposal. Cape Wind's opponents formed an alliance of strange (yet determined) bedfellows, ranging from Indian tribes to the Kennedys. The Cape Wind challengers lost the majority of their lawsuits. In a practical sense, however, they did prevail.

In 2016 a federal Court of Appeals issued the final major decision in the Cape Wind litigation, *Public Employees for Environmental Responsibility v. Hooper*.<sup>14</sup> On appeal, the challengers argued, among other things, that the Bureau's EIS for the Cape Wind project failed to take a "hard look" at alternative geological data. Additional surveys from the BOEM geologist overseeing the project cast doubt on the seafloor's ability to support large structures. Siding with the project's opponents, the D.C. Circuit Court of Appeals vacated the Bureau's 2009 EIS for its failure to consider this information. The court enjoined construction until the Bureau could produce a revised EIS.

By this point, however, the project could not afford further delays; two energy companies had already terminated their power purchasing agreements with CWA. In 2018, almost two decades later, CWA relinquished its lease.<sup>15</sup>

### Conclusion

Four years before the litigation ended, in 2013, Cape Wind's developers estimated that \$70 million had already been spent to defend legal and regulatory challenges to the project.<sup>16</sup> In an opinion issued two years before the D.C. Circuit's *Hooper* decision, one federal district judge wrote about the litigation: "There comes a point at which the right to litigate can become a vexatious abuse of the democratic process."<sup>17</sup> It remains to be seen whether the Task Force can avoid such a fate for wind production in the Gulf of Mexico. 🌊

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### Endnotes

1. General Electric Press Release, [GE Renewable's Haliade-X prototype starts operating at 14 MW](#) (Oct. 5, 2021).
2. General Electric, [Meet the Haliade-X – Powering 16,000 Homes](#).
3. Orsted, [About the Project](#).
4. Stanley Reed, [Oil Giants Win Offshore Wind Leases in Britain](#), N.Y. TIMES, Feb. 9, 2021.
5. NREL, [Two NREL Studies Find Gulf of Mexico Well Positioned for Offshore Wind Development](#) (May 6, 2020).
6. BOEM, [Meeting Summary](#) (June 15, 2021).
7. Energy Policy Act of 2005, Pub. L. No. 109-58, § 388(a), 119 Stat. 594, 744 (amending section 8(p) of Outer Continental Shelf Lands Act, 43 U.S.C. § 1337(p)(1)(C)).
8. Submerged Lands Act, 43 U.S.C. § 1301(a)(2).
9. Jeffrey Thaler, [Fiddling As the World Floods and Burns: How Climate Change Urgently Requires A Paradigm Shift in the Permitting of Renewable Energy Projects](#), 42 ENVTL. L. 1101, 1140 (2012).
10. BOEM, [National Offshore Wind Strategy](#) (Sept. 2016) at p. 34.
11. 42 U.S.C. § 4332(2)(C).
12. *See* Vermont Yankee Nuclear Power Corp. v. National Resources Defense Council, Inc., 435 U.S. 519, 558 (1978).
13. Mitchell Hokanson, [Avoiding the Doldrums: Evaluating the Need for Change in the Offshore Wind Permitting Process](#), 44 COLUM. J. ENVTL. L. 181 (2019).
14. *Public Employees for Environmental Responsibility v. Hopper*, 827 F.3d 1077 (D.C. Cir. 2016).
15. *See*, BOEM, [Renewable Energy: Cape Wind](#).
16. Katherine Seelye, [Koch Brother Wages 12-Year Fight Over Wind Farm](#), N.Y. TIMES, Oct. 23, 2013.
17. *Town of Barnstable, Mass. v. Berwick*, 17 F. Supp. 3d 113, 124 (D. Mass. 2014).

# Overview of the BOEM Renewable Energy Authorization Process

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**The Bureau of Ocean Energy Management (BOEM)** is the agency within the U.S. Department of the Interior responsible for managing development of the nation's offshore energy resources, including conventional energy, renewable energy, and marine minerals, in an environmentally and economically responsible way.

## BOEM's Regulatory Authority for Renewable Energy Activities

BOEM is responsible for issuing leases, easements, and rights-of-way for renewable energy projects on the Outer Continental Shelf (OCS). The OCS is regulated by the Outer Continental Shelf Lands Act (OCSLA).<sup>1</sup> The OCS refers to federal submerged lands, subsoil, and seabed beginning three nautical miles off the coastline (for most states) and extending to the edge of the Exclusive Economic Zone (EEZ).<sup>2</sup>

BOEM's authority to oversee renewable energy development derives from amendments to subsection 8(p) of the OCSLA, as set forth in section 388(a) of the Energy Policy Act of 2005.<sup>3</sup> The Secretary of the Interior delegated authority to BOEM to regulate activities that produce or support the production, transportation, or transmission of energy from sources other than oil and gas. BOEM published regulations governing its renewable energy program in 2009, found in 30 C.F.R. part 585.<sup>4</sup>

## Importance of Stakeholder Engagement

To familiarize stakeholders with BOEM's planning and leasing process and to initiate conversations to set the stage to obtain crucial stakeholder input, BOEM established Intergovernmental Renewable Energy Task Forces in states that expressed an interest in developing offshore renewable energy. The role of each Task Force is to collect and share relevant information that would be useful to BOEM during its decision-making process. Task Force meetings have helped identify areas of significant promise for offshore development and provided the opportunity to identify and resolve potential conflicts.

In August 2020, Louisiana Governor Edwards signed Executive Order JBE-2020-18, establishing a Climate Initiatives Task Force and setting greenhouse gas emission reduction goals for the State of Louisiana.<sup>5</sup> On October 21, 2020, Louisiana requested that BOEM take the necessary steps towards the establishment of an Intergovernmental Task Force for offshore renewable energy. The inaugural meeting of the Gulf of Mexico Regional Task Force was held on June 15, 2021, and included the States of Louisiana, Texas, Mississippi, and Alabama.

## The Process

BOEM's renewable energy program occurs in four distinct phases: (1) planning and analysis, (2) leasing, (3) site assessment, and (4) construction and operations. A timeline of these activities is provided below.

For OCS activities, a lease is an agreement between an energy developer and the United States authorizing the use of a designated portion of the OCS for renewable energy activities. A developer holding a lease is referred to as a Lessee. A lease agreement allows a prospective renewable energy developer to explore, develop, and, potentially, produce energy from renewable energy resources.<sup>6</sup> BOEM issues three types of leases for offshore renewable energy production:

- Commercial lease — for commercial activities that generate energy for sale and distribution.
- Limited lease — for activities that support the production of energy, but do not result in the production of electricity for sale or distribution beyond a very limited threshold.
- Research lease — reserved solely for states or federal agencies to conduct renewable energy research activities on the OCS.

A lease does not grant the lessee the right to construct any facility; rather, the lease grants the right to develop plans for use of the area for BOEM's review and potential approval – a Site Assessment Plan (SAP) and a Construction

and Operations Plan (COP). Activities proposed in a plan are subject to BOEM's approval after thorough environmental and technical reviews are conducted.

The process may result in a lease, but BOEM also issues grants for some renewable energy projects. BOEM also issues two types of grants associated with renewable energy projects:

- **Right-of-Way (ROW)** — A ROW grant authorizes the installation of cables, pipelines, and associated facilities that involve the transportation or transmission of electricity or other energy produced from a renewable energy project that is not located on the OCS.
- **Right-of-Use (RUE)** — A RUE grant authorizes the construction and maintenance of facilities or installations that support the production, transportation, or transmission of electricity or other energy produced from a renewable energy project in the OCS.

### Planning and Analysis

The planning and analysis phase seeks to identify suitable areas for wind energy leasing consideration through collaborative, consultative, and analytical processes that engage stakeholders, tribes, and state and federal government agencies. This is the phase when BOEM conducts environmental compliance reviews and consultations with tribes, states, and natural resource agencies. The process begins with a Call for Information and Nominations published by BOEM in the *Federal Register*.

Based on the information gathered, BOEM will identify priority Wind Energy Areas (WEAs) offshore. WEAs are locations that appear most suitable for wind energy development. Factors vary from region to region, but include considerations such as wind potential and areas with the fewest conflicts (such as with protected resources, oil and gas development, military activities, or fishing). Additionally, parties may seek to develop wind outside of a WEA, in which case, BOEM will process unsolicited lease applications, as applicable. For either, BOEM will prepare an Environmental Assessment for Lease Issuance and Site Assessment.

### Competitive vs. Non-Competitive Leasing

The leasing phase results in the issuance of a commercial wind energy lease. Leases may be issued either through a competitive or noncompetitive process.

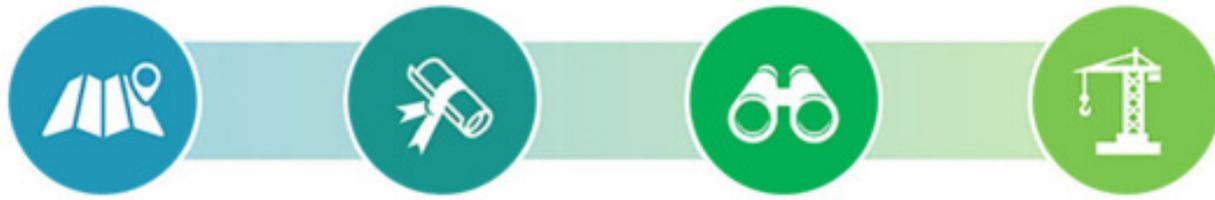
The Energy Policy Act of 2005 requires that BOEM issue leases and grants on a competitive basis unless it determines that there is no competitive interest in the proposed lease or grant.<sup>7</sup> When only one developer has indicated interest in developing a given site, BOEM may issue a lease or grant non-competitively.<sup>8</sup> If multiple developers express interest in leasing a given site, then BOEM proceeds with a competitive leasing process, which may ultimately result in a lease sale where developers can bid against each other to win the lease or grant.

When BOEM determines that a Competitive Interest exists, BOEM notifies the public and developers of its intent to lease through Sale Notices before holding a lease sale. First, BOEM publishes a Proposed Sale Notice (PSN) in the *Federal Register* giving interested parties 60 days to comment. The PSN will describe the areas BOEM intends to offer for leasing, the proposed conditions of a lease sale, the proposed auction format of the lease sale, and the official lease form. Additionally, the PSN will describe the criteria and process BOEM will use to evaluate bids in the lease sale. If BOEM elects to go ahead with the Lease Sale, it publishes a Final Sale Notice 30 days before the sale, which provides the final version of the information in the PSN, including what the minimum bid is. The Lease Sale is an auction in which entities submit bids (and bid deposits). Companies must qualify by submitting their legal, financial, and technical qualifications in the application, and BOEM will determine whether they are eligible.

Once granted, a commercial lease gives the Lessee the exclusive right to seek BOEM approval for the development of the leasehold. The lease does not grant the Lessee the right to construct any facilities; rather, the lease grants the right to use the lease area to develop its plans, which must be approved by BOEM before the Lessee can move on to the next stage of the process. The approximate timing of these plans is shown in the chart.

### Site Assessment

The site assessment phase includes the submission of a Site Assessment Plan (SAP), which is a detailed proposal for how the Lessee will assess the viability of the leasehold. The SAP describes the Lessee's plan to evaluate the geophysical and archaeological data of the area to assess the potential impacts of the project. The SAP describes how the Lessee will conduct resource assessment activities, such as the installation of meteorological towers or buoys, and technology testing during the site assessment phase of the commercial lease. BOEM must approve the SAP



Planning & Analysis	Leasing	Site Assessment	Construction & Operations
~2 YEARS	~1-2 YEARS	UP TO 5 YEARS	~2 YEARS (+25)
<ul style="list-style-type: none"> <li>• Intergovernmental Task Force</li> <li>• Request for Information or Call for Information and Nominations</li> <li>• Area Identification</li> <li>• Environmental Reviews</li> </ul>	<ul style="list-style-type: none"> <li>• Publish Leasing Notices</li> <li>• Conduct Auction or Negotiate Lease Terms</li> <li>• Issue Lease(s)</li> </ul>	<ul style="list-style-type: none"> <li>• Site Characterization</li> <li>• Site Assessment Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Construction and Operations Plan</li> <li>• Facility Design Report and Fabrication and Installation Report</li> <li>• Decommissioning</li> <li>• Environmental and Technical Reviews</li> </ul>

before the Lessee may conduct any “site assessment” activities on the leasehold, such as site characterization surveys or avian, marine mammal, and archeological studies.

Once submitted, BOEM conducts environmental and technical reviews of the SAP, eventually deciding to approve, approve with modification, or disapprove the SAP. When the SAP is approved, the Lessee performs additional assessment of the site, which usually includes using meteorological towers and/or buoys. Meteorological towers are used throughout the life of a project, whereas buoys are generally temporary and are deployed for a few years at a time.

### Construction and Operation

The construction and operations phase begins with the submission of a Construction and Operations Plan (COP), which is a detailed plan for the construction and operation of a wind energy project on the lease. The COP describes how the Lessee will construct and operate a commercial wind project on a commercial lease, including a description of all planned facilities as well as a description of proposed construction activities, commercial operations, and conceptual decommissioning plans. A Lessee may conduct additional site characterization during this phase. BOEM must approve the COP before the Lessee can install facilities or conduct commercial activities described in the COP.

Upon receiving the COP, BOEM will conduct environmental and technical reviews of the plan to decide whether to approve, approve with modification, or disapprove the COP. If approved, the Lessee is authorized

to build the wind facility. Prior to the end of the lease term, the developer must submit a plan to decommission facilities.

When a Right-of-Way, rather than a lease, is issued, the grantee must prepare a General Activities Plan (GAP), not a COP. The GAP describes how the grantee will construct and operate renewable energy facilities on a limited lease or ROW/RUE grant. The GAP includes a description of construction activities for all planned facilities, associated activities, and conceptual decommissioning plans. BOEM must approve the GAP before the lessee can install facilities or conduct activities described in the GAP. 🐦

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### Endnotes

1. 43 U.S.C. §§ 1331 – 1356b.
2. In general, the EEZ extends to 200 nautical miles from shore. Pres. Proc. No. 5030 (March 10, 1983), 48 Fed. Reg. 10605 (March 14, 1983).
3. 43 U.S.C. § 1337; Pub. L. 109-58.
4. For additional information on BOEM’s renewable energy regulatory framework and associated guidelines, see <http://www.boem.gov/National-and-Regional-Guidelines-for-Renewable-Energy-Activities/>.
5. Louisiana Exec. Ord. No. JBE-2020-18.
6. The lease also gives the Lessee the right to obtain easements without competition in order to install gathering, transmission, and distribution cables; pipelines; and appurtenances on the OCS as necessary for the full enjoyment of the lease. 30 C.F.R. § 585.200(b).
7. Regulations found at 30 C.F.R. 585.200 to 585.221 describe the process in detail.
8. See 30 C.F.R. § 585.230.