

**The Maine Offshore Energy
Demonstration Area Siting Initiative**

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Frequently Asked Questions

ONLINE, MORE INFORMATION:

Testing Ocean Energy In Maine:

<http://www.maine.gov/doc/initiatives/oceanenergy/oceanenergy.shtml>

Ocean Energy Task Force:

<http://www.maine.gov/spo/specialprojects/OETF/>

What Offshore Wind Turbines Look Like:

http://offshorewind.net/Other_Pages/Turbine-Foundations.html

KEY TERMS:

1. What is an “offshore wind energy demonstration area?” It is a specific area in state waters that is suitable for constructing and operating at least one wind energy demonstration project. The state envisions that demonstration projects will primarily involve the testing of new deepwater floating wind turbine technologies.
2. What is a demonstration project? A demonstration project can test new wind turbine innovations such as blade design, materials used in platform or support structures, or possible mooring or anchoring systems. One demonstration project can test two turbines. Each turbine structure may also include up to three meteorological towers and one submerged utility line. It can also test a wave energy demonstration project designed to complement the energy production of the turbine. A wave energy demonstration project can have two wave energy converters, a mooring or anchoring system, and an ocean sensor package.

MAINE’S APPROACH:

3. Why are these offshore wind energy demonstration areas being designated in state, not federal, waters? The state only has the authority to site demonstration areas within offshore waters under its jurisdiction, which extend out three miles from shore. Only the federal government can site test areas in federal waters, which begin at the state's three-mile limit and extend to a boundary 200 miles from shore. The federal government, however, has not begun this process. Since development of the Gulf of Maine’s significant wind resource could provide tremendous economic and environmental benefits to Maine, the state does not want to wait for the federal

government to act in order to begin encouraging the development of offshore wind power to meet our state's energy needs.

4. How many demonstration areas is the State designating? Under the current legislation the state must map and identify between one and five areas suitable for wind energy testing. It must also designate one of these demonstration areas as the Maine Offshore Wind Energy Research Center. Once these areas have been identified, the list can be modified in the future. Areas can be taken off the list and/or new areas can be added.
5. What is the difference between the "Maine Offshore Wind Energy Research Center" and all other offshore "wind energy demonstration areas"? Just one of the wind energy demonstration areas identified in Maine waters will be designated by the Department of Conservation (DOC) as the "Maine Offshore Wind Energy Research Center." This will be a research and development site only. Projects conducted here will be run by, or in cooperation with, the University of Maine System. If more than one demonstration area is designated, the additional sites would be for demonstration projects proposed by commercial companies.
6. What information will the state use to identify up to five offshore wind energy demonstration areas? The state will look at a number of factors in order to identify the areas most suitable for testing. Areas need to have the right wind conditions, currents, and depths. Areas that contain physical hazards or special legal restrictions won't be considered. These include areas known to contain unexploded ordnances or other unsafe discarded materials, underwater archeological sites, designated shipping lanes, as well as areas necessary to protect natural or cultural areas. Impacts on existing uses and coastal communities are also critical. The state wants to identify areas that have the least impact on fishing and other existing uses in state waters.

DESCRIPTION OF DEMONSTRATION AREAS, THEIR ESTABLISHMENT, USE, AND PERMANENCE

7. When will final demonstration areas be established? By Dec. 15, 2009, after the DOC has had an opportunity to consider public comments on a draft list, the department will publish the final list of wind energy demonstration areas.
8. Will existing uses be limited or excluded from part or all of a demonstration area or the Research Center? In general, existing uses can occur in demonstration areas so long as they do not take place inside the area each individual structure occupies (ocean, air, water, and bottom), the area that the submerged utility line occupies, and/or the established exclusion zone around these structures.
9. Will all structures have exclusion zones? State law does not require exclusion zones. Companies, however, are allowed to apply for an exclusion zone as part of the permitting process for test structures.
10. How large will an exclusion zone be? The size of this zone will likely reflect a balance among safety and operational factors, liability issues, and the needs of other resource users such as fishermen. Some commercial developers have estimated a 500-foot buffer

around each test structure.

11. What's the difference between what's tested in the "other" demonstration areas and what's tested in the Research Center site? Commercial developers will test the effectiveness of new structural designs and materials for harnessing wind and possibly wave energy, as well as the suitability of their technology to conditions in the Gulf of Maine. Some may also evaluate the site itself, assessing its actual, day-to-day, environmental conditions as well as their technology's impacts on human uses and the environment in that location. In the Research Center the testing will be more varied, in keeping with the university's research and educational mission.
12. How many wind turbines will there be in a demonstration area? The number of turbines will depend on several factors. Accepted testing practices within the industry generally require that wind turbines be located at least 1 mile apart. A demonstration area 2 square miles in area would likely have no more than two turbines, for instance, whereas an area 5 square miles in size could theoretically support five test turbines. But by law, each demonstration project is limited to two wind turbines, and wind power companies are limited to one demonstration project permit per demonstration area.
13. Are demonstration areas for the exclusive use of commercial energy developers? Legally, these sites are not for the exclusive use of commercial developers. In practice, however, few other entities (e.g. towns or non-profit groups) will have the financial capacity to conduct tests suitable to commercial-scale development.
14. Will demonstration areas be developed into commercial wind farms, or will demonstration areas be permanently set aside for demonstration projects purposes only? Demonstration areas are not set aside as permanent sites, and it is theoretically possible that demonstration sites could be developed commercially. Whether they will be will depends on a number of factors, including: the results of the testing, the project's economics, state and federal policies and regulations. If a company is interested in developing a demonstration area into a commercial site for energy production, it would have to go through a rigorous process to obtain necessary permits and leases. The Site Location of Development Law, the Natural Resources Protection Act, and the review of several pertinent authorities would all contribute to the review of any commercial proposal.
15. Can the Research Center be developed into a commercial wind farm? That's an unlikely outcome because Maine law requires that this site's purpose is research and development. In fact, project permits in the Research Center can be extended only if they can show that the extended project is consistent with the university's research and development objectives.

DESCRIPTION OF STRUCTURES & THEIR IMPACTS

16. How big are these wind turbines? Designs vary, but here are some random examples to consider. One platform design, for example, is about 0.4 acres, or 17,000 sq. feet. In general, from the ocean floor to the top of each structure, most turbine designs measure

around 425 feet. (In comparison, the top deck of the observation tower on the Penobscot Narrows Bridge in Bucksport is 437 feet above the river.) Widths of the turbines also vary. The blades themselves can stretch 180 feet to 200 feet across and sit about 82 feet above the water's surface. Again, each design is different. For more precise dimensions and photos of structures already in use, go to:

http://offshorewind.net/Other_Pages/Turbine-Foundations.html

17. How will structures and cables affect marine wildlife (in airspace, surface, water column, seafloor)? The impacts of ocean energy projects on fish, marine mammals, and birds and bats have not been extensively studied. All efforts will be made to minimize adverse impacts, first by identifying demonstration sites boundaries in a manner so as to exclude protected habitat areas (plus recommended buffers around these habitat areas), and second, by requiring that environmental impacts be monitored during the testing period.
18. Can demonstration projects be seen from shore? The state is conducting digital simulations for each candidate site to determine how visible structures will be from nearby local areas. In general, visibility depends on four factors – distance from shore, height and breadth of structure, elevation point of viewer, and weather conditions.
19. Can demonstration projects be heard from shore? Unlikely, but not impossible. Audibility depends on several factors, including weather conditions, distance from shore, existing noise levels and many others.

PERMITTING PROCESS

20. How does a company get permitted to erect a structure in a demonstration area? A company must apply for a general permit for an offshore wind energy demonstration project from the Department of Environmental Protection. Once it receives a permit, then it can apply for and receive a submerged lands lease from the Department of Conservation that covers the same time period as the permit. A permit application includes, among other materials: a site plan, a report on existing marine uses and resources, a fish and wildlife monitoring and response plan, a navigation safety plan, and a project removal plan. The applicant must also show that it consulted with affected state and federal agencies, lobster zone management councils, and adjacent municipalities. In addition, applications for a project within the Research Center must also provide written evidence of its affiliation with the University of Maine system. A permit will be granted within the 60-day review period if the application meets all of the requirements spelled out in the law.
21. How long can a permitted demonstration project remain in a demonstration area? In the Research Center permits are valid for either seven years from the date they were granted or five years from the date construction starts. In the other demonstration areas, permits are good for five years from the date they were granted or three years from the date their construction starts. Permits in both areas can also be extended one or more times, for up to three years in the Research Center and for up to six months in the other areas if the company has filed completed applications for all licenses and

permits required for a wind energy development* that is located, either partly or wholly, within its demonstration project's test area. A developer may receive more than one such six-month extension while the state permitting process proceeds. **(A wind energy development is not a demonstration project. Its turbines would produce electrical energy for the marketplace.)*

22. What happens to the structures after the test has concluded or the permit runs-out? All applicants for test permits must submit a "project removal plan" detailing how, at their own expense, they will remove the demonstration project out of the demonstration area. A permit will not be approved without a removal plan as well as certification that the applicant has the financial resources to carry out their plan. The removal process must be completed within a year of the permit's expiration or termination. In some instances the applicant may be allowed to conduct a partial removal if it can provide substantial evidence that it plans to continue beneficial use of the site or it can show that partial removal is adequate to avoid foreseeable adverse effects on natural resources and existing uses.

COMMUNITY INFLUENCE AND BENEFITS

23. How can communities participate in the state's identification of demonstration areas? The state is holding meetings in communities adjacent to possible demonstration area locations. These meetings will enable state agencies and the communities to learn about the potential impacts (both positive and negative) of locating demonstration areas in particular parts of the Maine coast. The information that the state gathers from these meetings will be used to identify those parts of the Maine coast that are best suited to serve as demonstration areas.
24. If a demonstration area is located near my community, how can we be involved in the permitting of demonstration projects in that area? Similar to other "general permitting processes," this one requires applicants to consult with, at minimum, the municipalities and Lobster Zone Councils adjacent to the demonstration areas. Applicants must provide Lobster Zone Councils at least 60 days and municipalities up to 30 days to review and comment on draft plans. When contacted by a permit applicant, communities should engage in the process as fully as possible. Applicants must then describe how they plan to or already have accommodated or responded to comments or recommendations made by these local agencies, or provide reasons why they did not adopt any of the recommendations made.
25. Will demonstration projects in demonstration areas generate electricity that can be used by anyone other than the permit holder? While the primary purpose of these structures is to test technology, there is no ban on production of electricity and some developers may elect to transmit power to the grid. A demonstration project may include a submerged power line sized to the project.

26. How can nearby communities benefit from these demonstration sites and the testing activities that occur there? There are a number of ways in which the community can benefit from these sites, including:

- Certain communities with suitable waterfront infrastructure could see an increase in the use of their waterfront and its associated services.
- The demonstration projects could create jobs (e.g., construction, boatbuilding, service sectors, etc.), depending on how individual test components are built, assembled, transported and serviced.
- Some communities may discover and exploit the unique tourism niche associated with these structures and the activity they create.
- Others may find ways to capitalize on interests they share with wind power companies, such as upgrades in utility infrastructure or attention to oceanic research questions.
- Many communities could find ways to benefit from getting in at the ground floor of a new industry, such as positioning themselves for future energy development or attracting affiliated businesses based on their proximity to an emerging industry.
- Still others may find a way to work with companies to realize other benefits.

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