

SITING OFFSHORE ENERGY IN MAINE

WHAT:

The Maine Offshore Energy Demonstration Area Siting Initiative is working to establish *up to* five areas within Maine State Waters (3 Nautical Miles from shore, including Maine islands, see Figure 1) that will be conducive for the structural and operational demonstration of primarily offshore, floating wind turbine platforms, with some allowances for conventional, shallow water monopole structures as well, provided they will be used to test new construction materials and/or generation methods (See Figure 2).

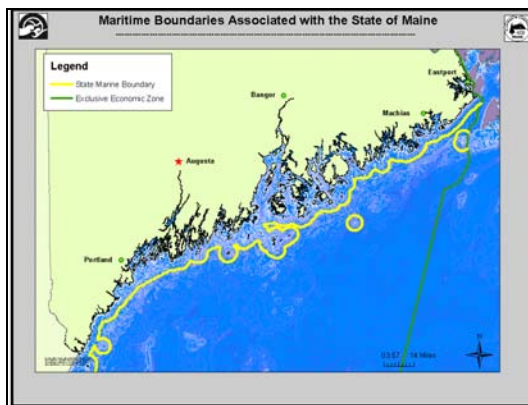


Figure 1. Maritime Boundaries Associated with Maine

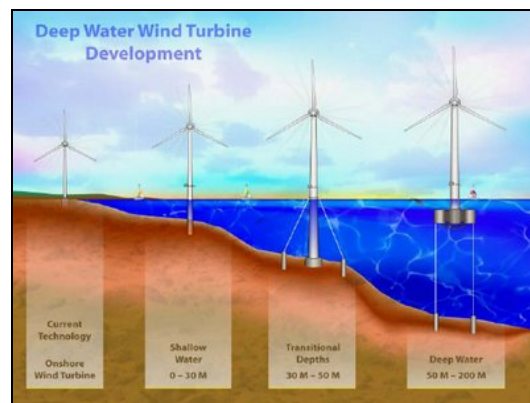


Figure 2. Evolution of Wind Energy Development (Schematic Courtesy of MIT)

The Initiative, established by unanimous vote of the legislature in June of 2009, directs the Maine Department of Conservation, together with the Maine State Planning Office and through consultation with Federal, State, Nongovernmental, and most importantly, public comment, to identify demonstration areas by December 15th, 2009. The process through which these areas will be identified is a three pronged approach (See Figure 3):

- Geographical Information Systems “Showstoppers”
- Human Use and Activities Input
- Environmental Considerations Input

GEOGRAPHICAL INFORMATION SYSTEMS “SHOWSTOPPERS”

An intensive Geographical Information Systems (GIS) data collection and analysis effort is currently being conducted in order to project and estimate potential impacts of possible areas on environmental, human, and geophysical concerns. The term “showstoppers” is used here to indicate the conditions that *must* (or in some case, must not) be present to facilitate the construction and operation of ocean

energy developments. The four key criteria used in the initial “Showstopper” analysis consisted of:

- Wind speed greater than 8.0 meters per second (approximately 17 miles per hour) on an annual average;
- Areas that primarily consist of ocean depths greater than 60 meters (approximately 200 feet of water);
- Areas that minimize conflicts with marine obstructions, dredge dumps, officially recognized shipping channels, and unexploded ordinances;
- Finally, to a lesser extent, proximity to existing undersea cables or areas that have historically been pre-permitted for an undersea cable by the United States Army Corps of Engineers.

Using GIS, these criteria were overlaid with a base map of the State of Maine and its waters in an attempt to isolate particular areas of interest. Preliminary findings suggested very broad segments covering large areas of Maine waters up and down the coast.

HUMAN USE AND ACTIVITIES INPUT

One of, if not the most critical step in the Initiative is gathering sufficient, accurate, and widespread feedback from user groups and the public in general that may have a concern, comment, or conflict with one of the possible areas created by the initial GIS analysis. In order to facilitate the even flow of information to and from critical user groups, the State is requesting and analyzing input and comments on all possible areas. Human uses and activities range from the shipping to recreational to commercial fishing industries. Through this interactive process, the Initiative hopes to gather information on what types of conflicts may materialize, what type of activity is occurring in the possible planning areas, and where the best spot within one of the areas would be for a testing and demonstration site for ocean energy. The principle behind this input is to narrow down (or eliminate all together) the larger scale areas identified in the first GIS phase.

ENVIRONMENTAL CONSIDERATIONS INPUT

The final prong of the siting Initiative is to take into account the environmental impacts that facilities such as those that are being proposed, may have on Maine’s wildlife, natural habitat, and scenic quality. The State has taken steps to gather input and advice from various experts on topics ranging from Birds, to Bats, to Marine Mammals, and get a general consensus on how to approach certain issues that have been identified as possibly being associated with ocean energy developments. Very little is known about the possible impacts to wildlife that these

structures may have, as there have never been any constructed in the Gulf of Maine, and only two worldwide. The idea behind a demonstration site is twofold:

- A) To Test the Structure and physical makeup of the development to ensure it can withstand the harsh environs of the Gulf of Maine and;
- B) To monitor stressors on wildlife, benthic effects, and possible marine mammals conflicts, along with a myriad of other topics about which to this point, nothing is known.

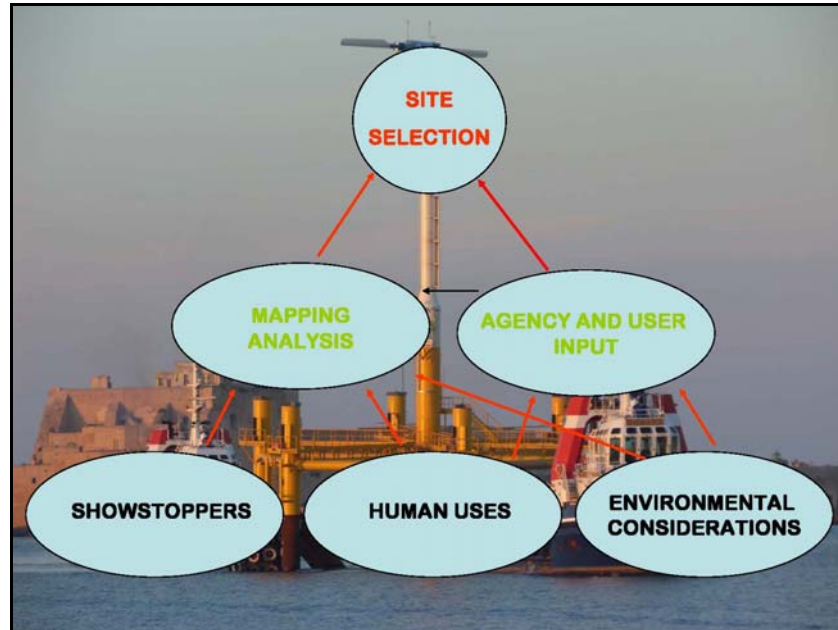


Figure 3. Siting Process Visualization (Photo Courtesy of the Blue H Group)

Through a combination of anthropogenic, environmental, and geophysical analyses, the State of Maine hopes to site these ocean energy testing and demonstration projects in areas with the fewest amount of conflicts, or at the very least, minimize what conflicts there will be. Adaptive Management will play a critical role in the duration of a project, or may affect how the project operates, once it is built. The Initiative has “budgeted” for considerable public comment after the three phases described above have been completed, which will also play a heavy role in the final decision on December 15th, 2009.