

# Working Together to Site Maine's Floating Offshore Wind Research Array

## State of Maine - Governor's Energy Office - December 2020

**Overview:** Maine is pursuing a federal lease for a research array in the Gulf of Maine. This state-led approach ensures the fishing industry and other interested stakeholders have a clear "seat at the table" to explore offshore wind, identify siting of a limited research project area, and develop and advance the key research questions needed to understand early as floating offshore wind expands.

Due to its deep waters, generating wind energy in the Gulf of Maine will likely come from floating offshore wind turbines, a technology that is still advancing and requires additional scientific study about potential effects on fisheries and the marine environment.

Governor Mills has directed the Governor's Energy Office to work directly with the fishing industry, and other interested stakeholders, including federal and state partners, to determine a specific location for the research array. The state is fully committed to engaging stakeholders, in particular and importantly commercial fishing interests who are an integral part of both the state's overall economy as well as the local economy in Maine's coastal communities.

**Project Status and Process:** The State has not identified a specific site for the proposed research array. The State is committed to working with the fishing industry and others to shape both site selection and development of the research framework through an iterative stakeholder engagement process from the early stages in order to best inform project decision-making. The commercial fishing industry and other ocean users, as along with research entities will have direct opportunities to engage and influence the state as it prepares its application to the federal government for the research array lease and afterwards over the months and years ahead. Through this initial engagement process, the State will develop specific coordinates for the lease boundaries to be included in the application, as well as a research framework. Specific site design within that area along with specific research questions and studies will be defined further along in the process, and in the same spirit of engagement.

**Research Themes:** The research framework will be developed with the fishing industry and other interested parties and will initially focus on the following general themes:

- a. Environment and ecological interactions with fish and wildlife;
- b. Co-existence with the fishing industry, including technology and operations to minimize impacts on fishing and fishing related activities from offshore wind;
- c. Navigation, including transiting through a floating array, search and rescue, as well as operations and maintenance logistics of a turbine array;
- d. Floating offshore wind technology research and demonstration, including mooring systems and other technical design innovations systems; and
- e. Workforce education and training to support creation and retention of construction, manufacturing and maintenance jobs for Maine workers in this industry.
- f. Other areas or issues that fishermen or others identify, as needed.

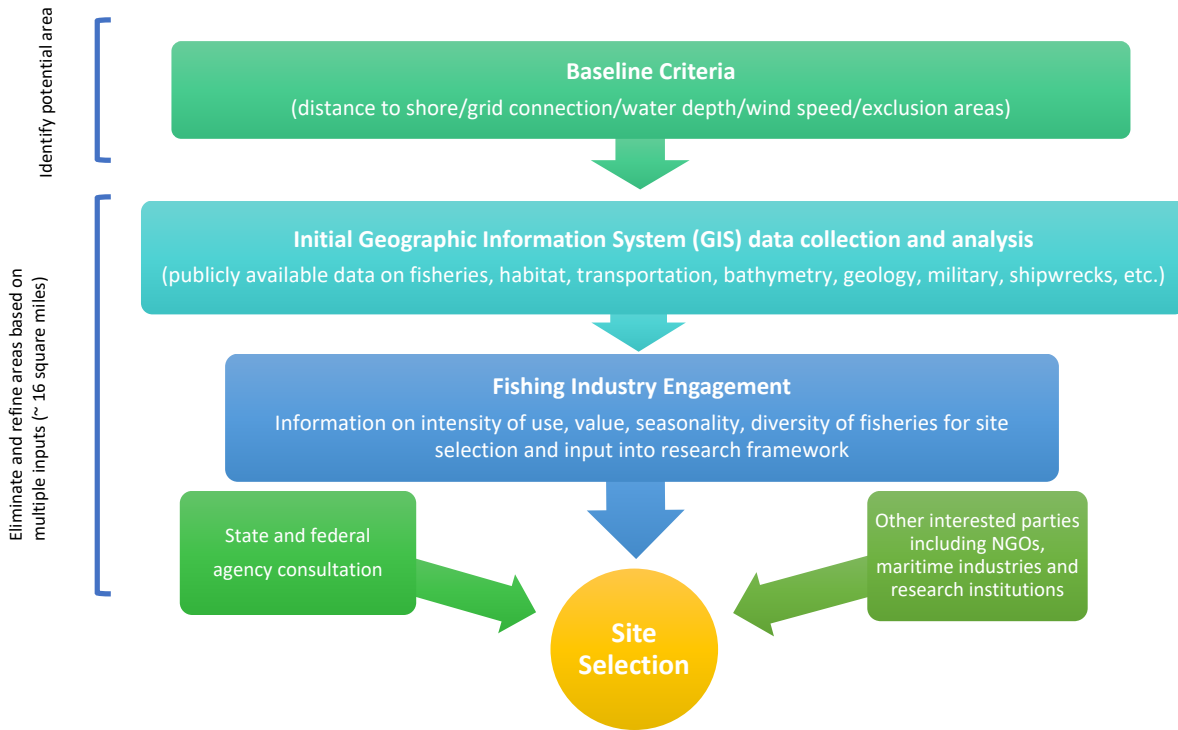
**Siting:** As envisioned, the research array would be located some 20 to 40 statute miles offshore into the Gulf of Maine, in an area that would allow a connection to the mainland electric grid in the southern half of the state. The research array is expected to contain a dozen or fewer floating wind turbines with MW per turbine likely ranging from 10 to 14 (specific turbine size will be determined at a later stage). By comparison, commercial offshore wind lease areas further south along the East Coast are often 150 square miles or more and can involve 100 or more turbines.

The State seeks to identify a specific research site for the proposed research array that does the following:

- Is technically appropriate (geology, wind speed, water depth)
- Minimizes potential impact on fishing activity
- Minimizes impacts on fisheries, habitat, and other marine life

- Avoids highly trafficked waters and other offshore activities
- Limits visibility from the coastline
- Is proximate to potential electric grid interconnection points
- Balances economic factors of a project of this scale

The process through which Maine will identify a site for the research array will consider a variety of inputs to move from broad, potential research areas to a specific area that will be submitted in the federal application.



### 1. Initial Identification of Potential Areas:

The State reviewed data available through the Northeast Ocean Data Portal ([northeastoceandata.org](http://northeastoceandata.org)) and Marine Cadastre ([marinecadastre.gov](http://marinecadastre.gov)) to identify an area, as a starting point, to be refined based on stakeholder input. This broad area was identified based on the following parameters (in no particular order):

- Near potential high voltage electric grid connection sites and proximity to electric load (Maine Yankee or Wyman Station; the cabling and interconnection decision will be at a later point in the planning process)
- At least 20 statute miles from shoreline to reduce inshore fishing conflicts and visual impacts
- Not more than 40 statute miles from shoreline due to economic considerations given the small scale of this project
- Minimum depth of 150 feet (no max depth limitations within this area); minimum water depth is for technical considerations
- Mud/gravel bottom to accommodate anchoring
- Minimize conflict with known fishing grounds
- Avoid highly trafficked areas (shipping traffic/navigation lanes)

Data layers reviewed included:

- NOAA Navigational Charts
- Marine transportation/AIS

- Vessel Monitoring System (VMS) data for federal fisheries 2011-14, 2015-16
- Fishing Grounds of the Gulf of Maine
- DOD exclusion areas
- Protected species distribution
- Bathymetry
- Substrate (low resolution)

The state recognizes that there are significant known data gaps:

- Lobster fishery: fishing and transit
- Benthic substrate
- High resolution bathymetry
- Other non-VMS fishing activity
- Better characterization of fishing activity (within federal VMS)
- Economic activities analysis

Other components will be considered where data is available:

- *Ecological concerns*: whale activity, seal activity, bird migration, bird foraging, endangered/threatened/rare birds
- *Geology*: bottom type
- *Obstructions*: shipwrecks, marine obstructions, military zones, and historical

2. Identification of Marine Users Most Heavily Affected: The State will use best available information and professional judgement to identify the marine resource users who are currently active in the potential areas (including Marine Patrol and other staff expertise, and available fishery-dependent reporting). Because of incomplete data, engagement from fishermen will be essential to accurately identify who is fishing where, when, how, and to what extent.
3. Stakeholder Feedback and Data Gathering:
  - In order to foster meaningful and transparent engagement, the State is asking key fishing organizations to help shape the process. The State is also working with the Consensus Building Institute (CBI) to facilitate discussions among fishermen and the State. CBI, a New England-based entity, has worked extensively with fishermen on other offshore wind projects and issues, with key staff in state. The State will engage with the fishing industry through a series of iterative conversations to further inform the site selection process. The work will culminate in a report that can guide decision-makers on initial decisions involving the research project site, research framework, and other relevant project issues.
  - Participants in all meetings will be encouraged to share their concerns and specific information on intensity of use in a particular area as well as research ideas.
  - Community leaders, NGOs, research institutions and other interested stakeholders will be consulted to inform available data and provide input on the research framework.
4. Additional Input and Considerations: The State will work with other state and federal partners regarding a broad range of ecological, environmental and other considerations to evaluate the potential areas and gather additional information.
5. Selection: The State will balance the technical and cost requirements of its final site selection with the information gathered regarding the potential impacts to other existing uses of the location, particularly commercial fishing, as well as any potential environmental impacts.
6. Next steps: Developing a successful application is only the first step in a multi-year process before a project is proposed, reviewed and approved. Subsequent stages will require additional work on technical specifications, operations and maintenance, and further refinement of the research plan, among other issues. The state commits to an ongoing collaborative effort, in concert with other marine users, to develop offshore wind in the Gulf of Maine in an informed and prudent manner.