

Ocean Wind 1 Update

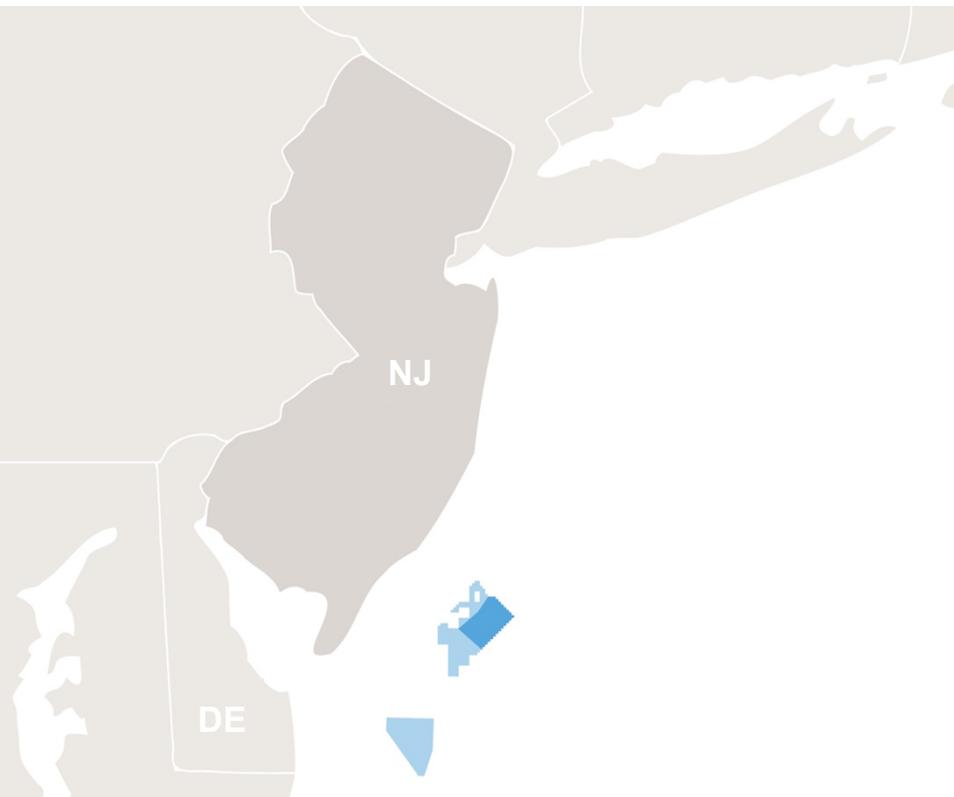
MAFMC Meeting
April 5, 2022

Ocean Wind
An Ørsted & PSEG project



Ocean Wind 1

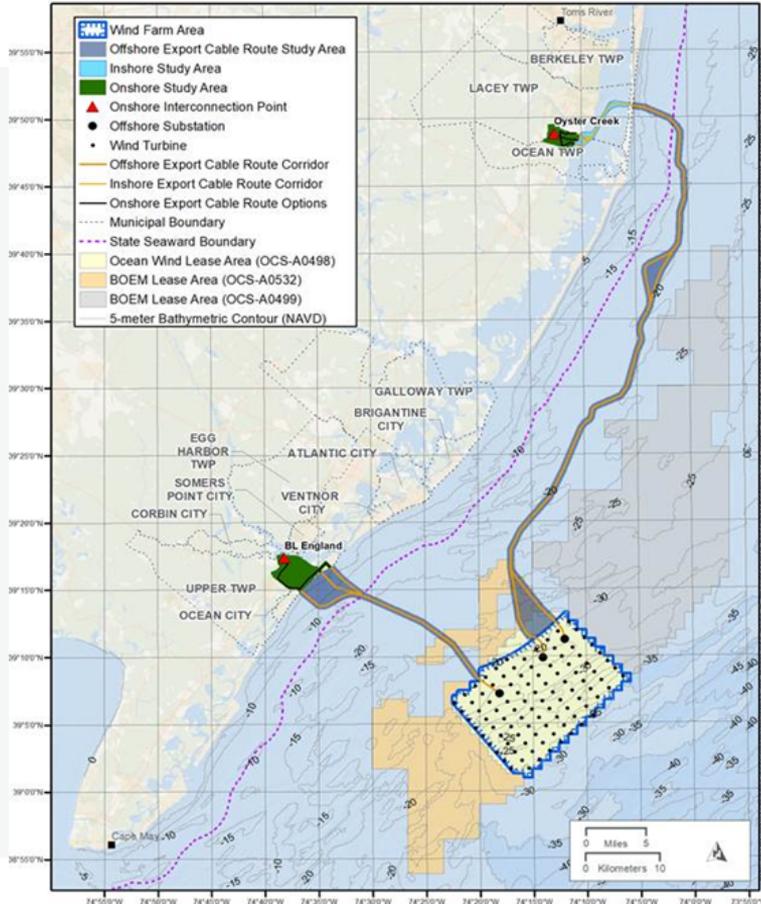
Awarded by the NJ BPU in June 2019



Project overview

- Ocean Wind is a 75/25 Joint Venture with PSEG.
- Located 15 -27 miles off the coast of Southern New Jersey.
- 1,100 MW – one of the largest planned offshore wind farm in the U.S. to date.
- Enough power for over 500,000 average homes.
- Commercial operations expected by end of 2024.
- Notice of Intent (NOI) issued March 30, 2021.
- Draft Environmental Impact Statement scheduled June 2022.
- Final Environmental Impact Statement scheduled March 2023.

Project Route Overview



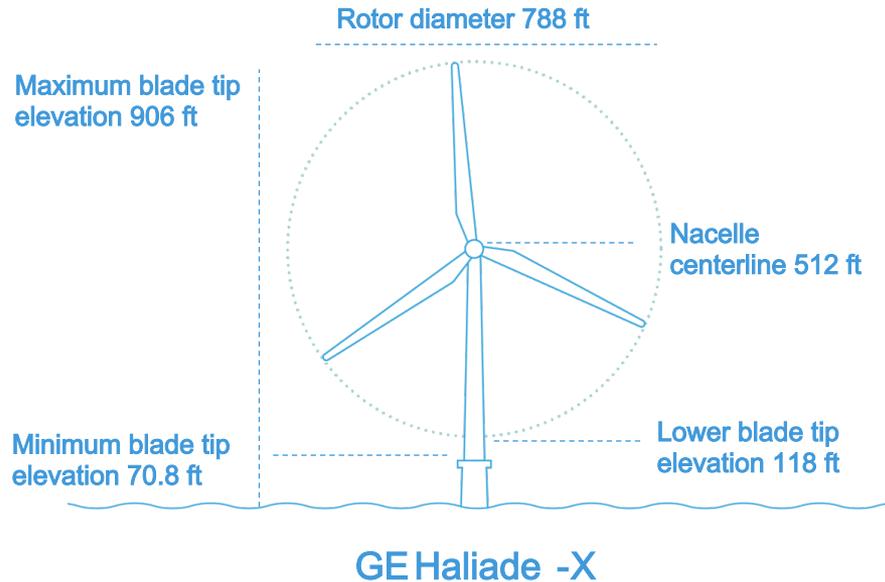
Offshore Project Description:

- Up to 98 turbines and three offshore substations located in federal waters.
- Up to three offshore export cables buried under the seabed floor within two cable corridors.
- Northern cables cross Island Beach State Park and will be installed underground using trenchless technology to minimize disturbance on the barrier island.

Onshore Project Description:

- Project requires two points of interconnection.
 - Oyster Creek (Lacey Township) ~800 MW.
 - BL England (Upper Township) ~400 MW.
- Onshore cable routes were developed to utilize existing, disturbed rights of way. Majority of cables will be buried.
- Routes developed in discussion with local township officials.
- Several indicative routes were developed and will continue to be refined.

Ocean Wind 1 Wind turbine



Windfarm Lighting Ocean Wind 1

Aircraft Lighting

- Aircraft warning lights will be located on the top of each turbine.
- Ocean Wind intends to incorporate an Aircraft Detection and Lighting System (ADLS). This system activates the aircraft warning lights only when an aircraft is within the vicinity of the wind farm during low light and night conditions.
- During the operational phase, it is estimated the lights would be active for a total of only a few hours spread over a one-year period.
- The use of ADLS is contingent on BOEM approval and compliant with Federal Aviation Administration (FAA) guidelines.

Navigation Safety Lighting

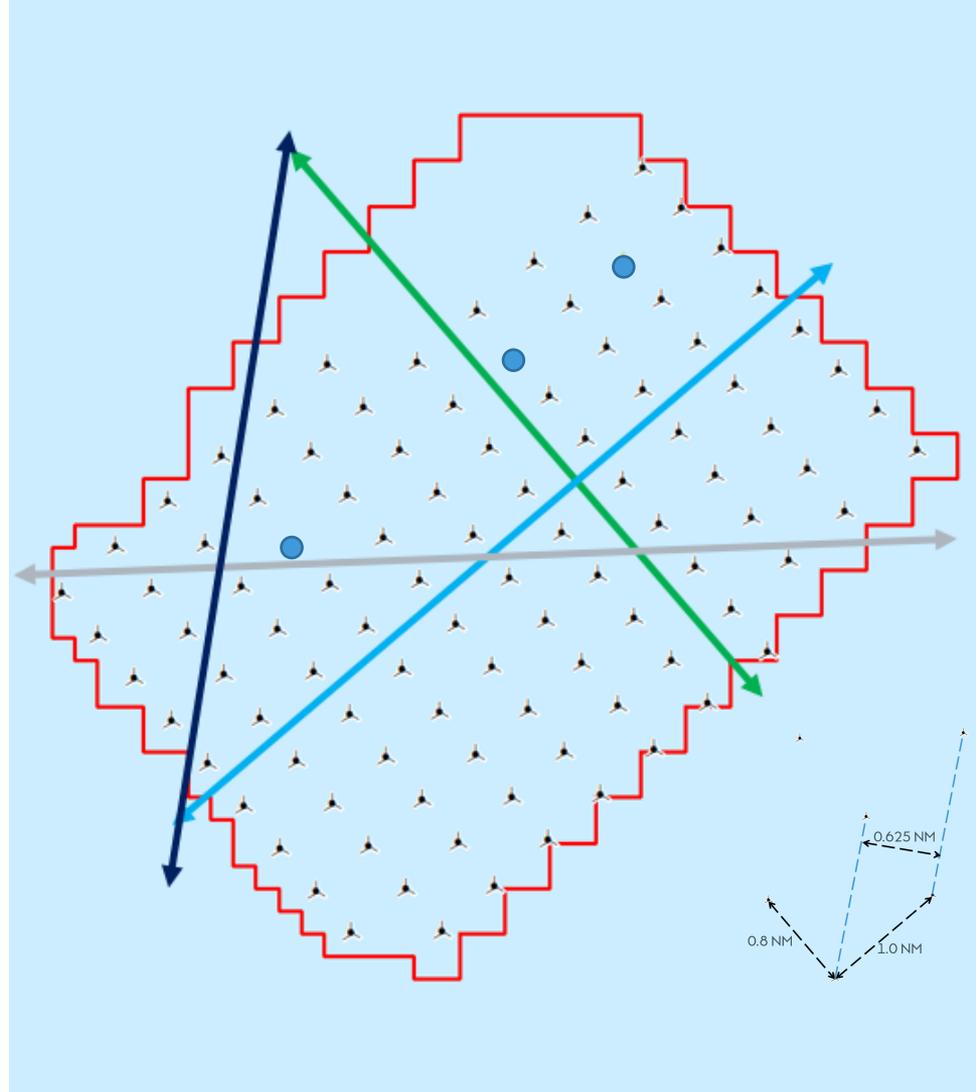
- For marine navigation purposes, the structures will be lit in accordance with USCG offshore structure Private Aids to Navigation marking guidance. The structures will be equipped with continuous amber flashing lights.
- Navigation lights on the corner towers will have a nominal range of 5nm. Lights on other towers will be of lower intensity.



Ocean Wind 1

Vessel navigation

- Grid layout with turbine spacing 1nm x 0.8nm
 - Clear lines of transit:
NW – SE, NE – SW, E – W, N – S
- Turbine spacing provides for vessels moving through and fishing within the array
- Consistent turbine marking and lighting to aid navigation and safety operations in accordance with U.S. Coast Guard guidelines
- Navigational Safety Risk Assessment included in the federal permit application

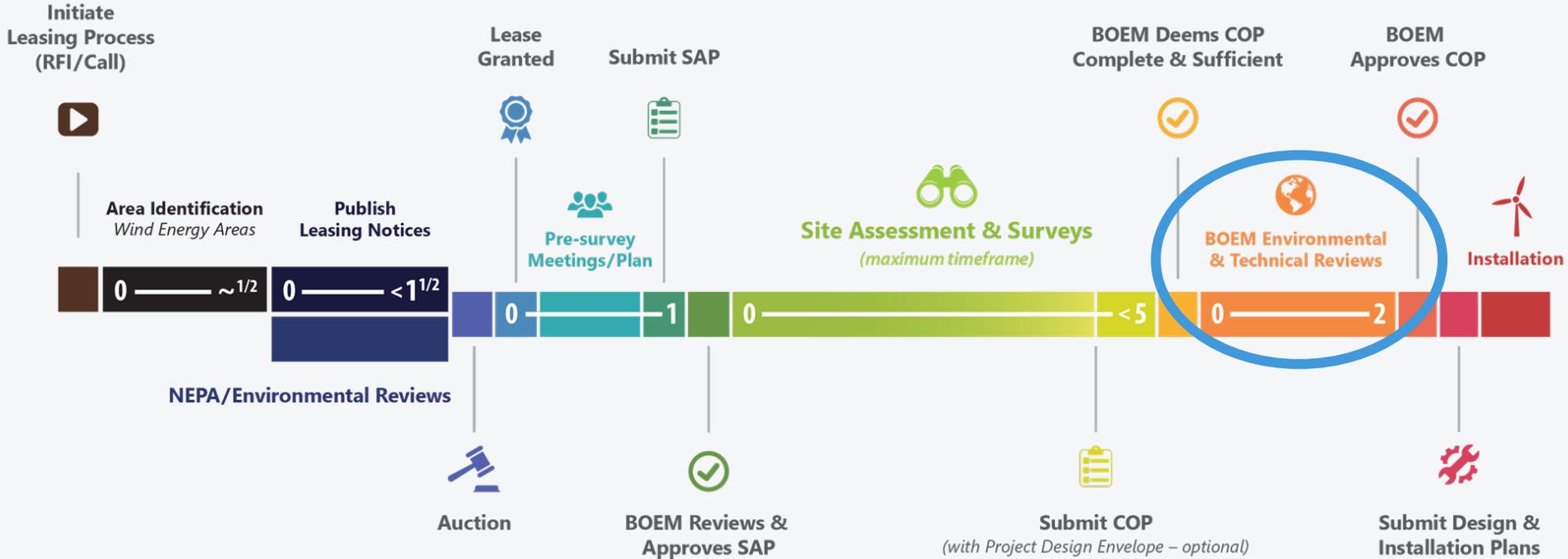


Operations and Maintenance Facility

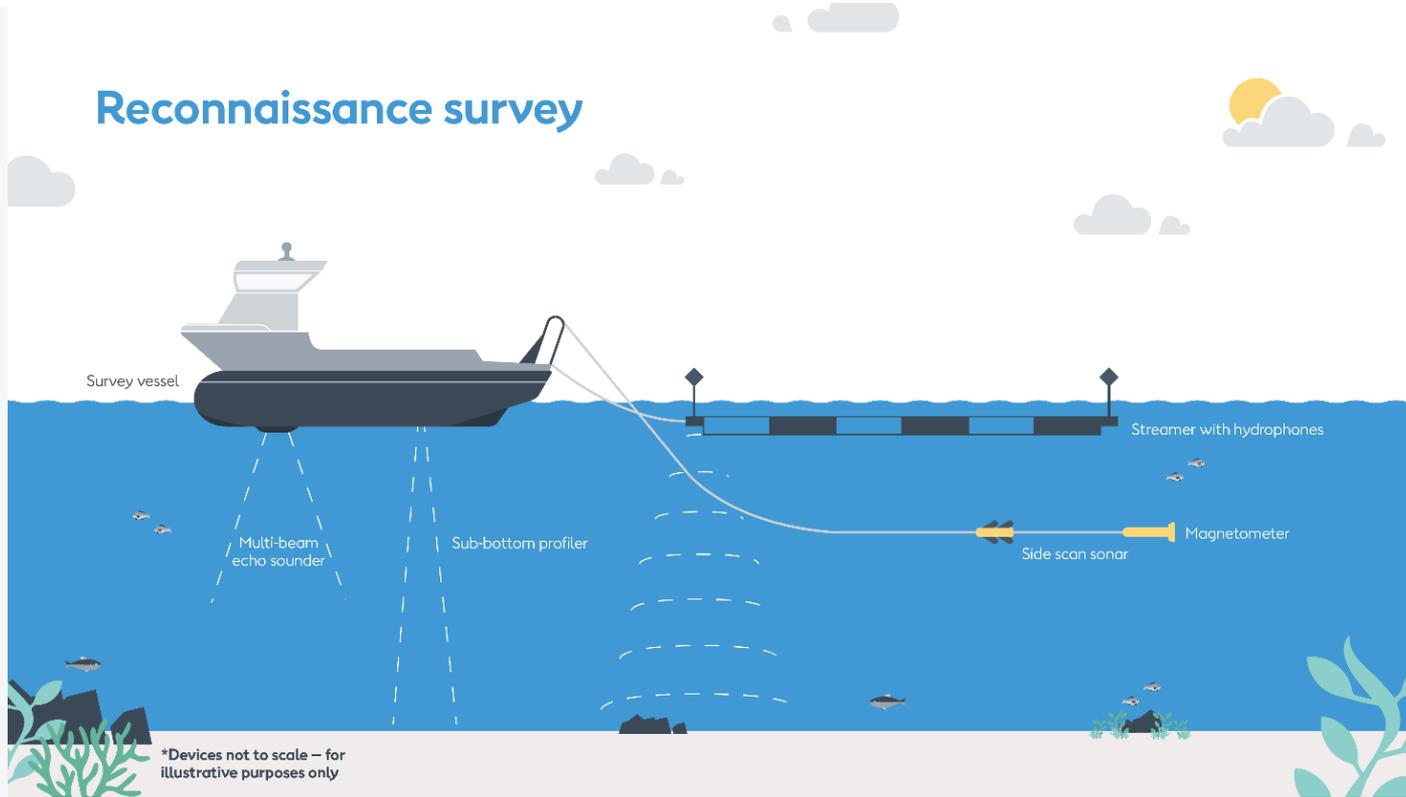
- Located in Atlantic City
- Will include office, warehouse and harbor facilities
- Will serve as a hub for the maintenance operations of multiple offshore wind projects
- Will employ approximately 69 full-time employee positions, including:
 - Wind turbine technician
 - Operations planner
 - High voltage engineers
 - Health and safety manager
 - Site assistant
 - Warehouse coordinator



Federal Offshore Wind Process:

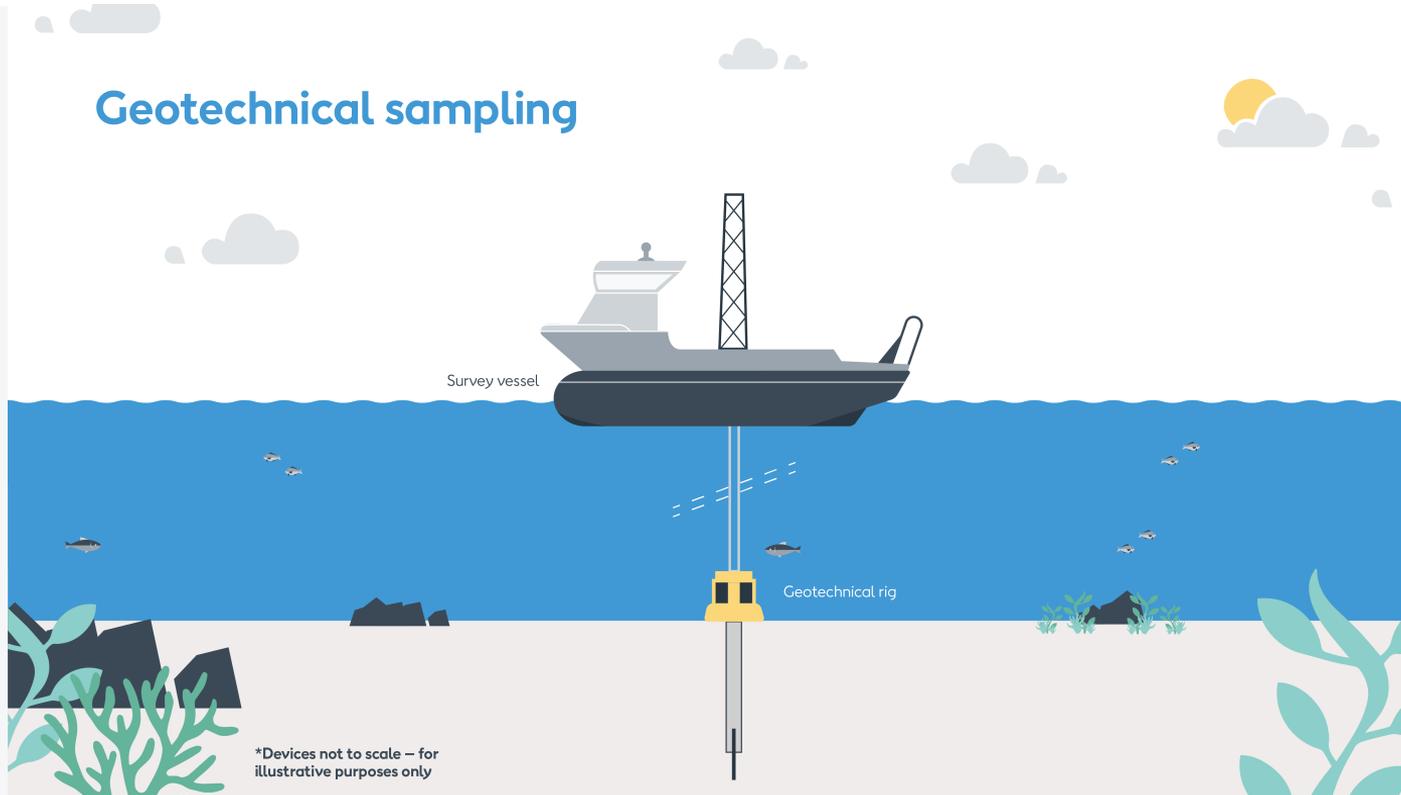


Reconnaissance survey



Between 2019 – 2020, the geophysical survey effort has covered over 6,000 miles of survey lines.

Geotechnical sampling



*Devices not to scale – for illustrative purposes only

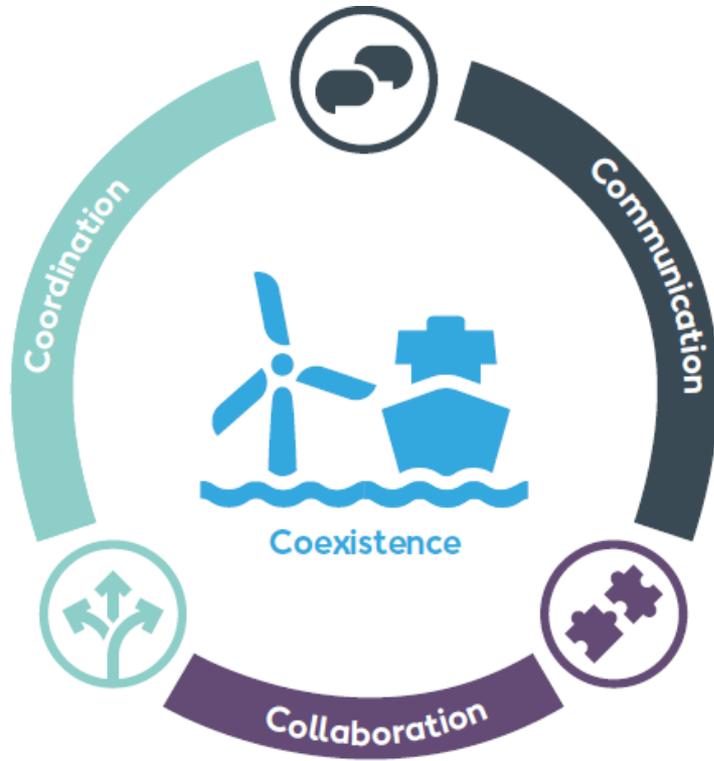
Fisheries Monitoring Plan

- Ocean Wind is partnering with researchers at Rutgers University and Monmouth University to execute the fisheries monitoring activities.
- Multidisciplinary sampling approach plan includes:
 - **Trawl Survey** using NEAMAP protocols on the FV Darana R.
 - **eDNA sampling** to evaluate biodiversity and community composition.
 - **Surf clam survey** will occur on the FV Joey D using a modified clam dredge designed to sample in windfarms.
 - **Multi-method survey for structure-oriented fish species** such as black sea bass, tautog, mahi mahi, and others on the FV Dana Christine II.
 - 1) Chevron Traps, 2) Rod and Reel, and 3) Baited Remote Underwater Video (BRUV's).
 - **Acoustic telemetry monitoring** for summer flounder, black sea bass, clearnose skate, smooth dogfish and horseshoe crabs.
 - **Pelagic fish sampling** using multi-beam echosounders mounted on a glider and towed cameras.
 - **Oceanographic data** (e.g., stratification, temperature) will be considered in the analysis of all fisheries monitoring data.

Benthic Monitoring Plan

- Potential effects to Benthic Habitats will be monitored pre -, during, and post -construction.
- The scientific monitoring plan is under review with BOEM, NMFS, and NJDEP
- The proposed benthic habitat monitoring plan includes:
 - An ROV equipped with a high-resolution video camera will be used to survey novel surfaces (foundations, scour protection, and cable protection layers) and evaluate species composition, epifaunal biomass, and successional development. Presence and distribution of non -native species will be investigated.
 - An optical survey will be used to evaluate changes in the sediment composition and benthic function of the soft -sediment habitats around wind turbine foundations. Sampling will occur at multiple distances from the randomly selected foundations (BAG design).
 - An optical survey and grab samples will be used to evaluate changes in sediment type, benthic function, and infaunal biomass in areas with sand ridge habitats where inter -array cables will be installed.
 - An optical survey will be used to investigate changes in benthic function over time as a function of distance from the export cable (BAG design). Sampling locations will be stratified based on the type of habitat.
 - In the nearshore, a drop camera survey will be used to measure changes in SAV percent cover over time, and as a function of distance from the export cable (BAG design).

Fisheries Communication and Outreach Plan



- Keeping the fishing industry informed about Ørsted activities that may affect fishing.
- Collaborating with fishermen to find ways to minimize and mitigate potential impacts of offshore wind development on fishing and identify ways our two industries can work together.
- Striving to resolve any conflicts with individual fishermen quickly and fairly.
- Identifying the best ways to communicate with the fishing community and having an “open door policy” to listen to their concerns.

The Plan in action

Communication opportunities

- Contact your local Fisheries Liaison or Fisheries Representative
 - Kara Gross, 857 -330 -7699
 - Rodney Avila, 857 -332 -4479
 - Erling Berg, 609 -602 -1183
 - Walt Kubiak, 609 -602 -1221
 - Kenny Ochse, 732 -616 -0619
- Reach out at any time to ask questions or voice concerns
- Visit our website:
<https://us.orsted.com/mariners>
 - Find the most recent Mariners Briefings
 - Complete our online survey
 - Access Gear Loss Claim documents
 - Sign up for our distribution list



Mitigation measures

- Mariners Briefings
 - Distributed twice a week to inform mariners of Project vessel activities
- Fisheries Liaison Officers
 - Will be deployed on offshore geophysical vessels to spot fishing gear and communicate with fishing vessels to reduce conflicts at sea
- Gear Loss Claim
- Navigation Safety Fund
- Bridge navigation simulators

Thank you

Permitting Contacts:

- Katharine Perry: Permit Manager
KAPER@orsted.com
- Greg DeCelles: Senior Fisheries Specialist
GREDE@orsted.com
- Nathan Rebeck: Environmental Manager
NATRE@orsted.com

Marine Affairs Contacts:

- Ross Pearsall: Fisheries Relations Manager
ROSPE@orsted.com
- Kara Gross: Mid-Atlantic Fisheries Liaison
KARGR@orsted.com

