

Offshore Wind

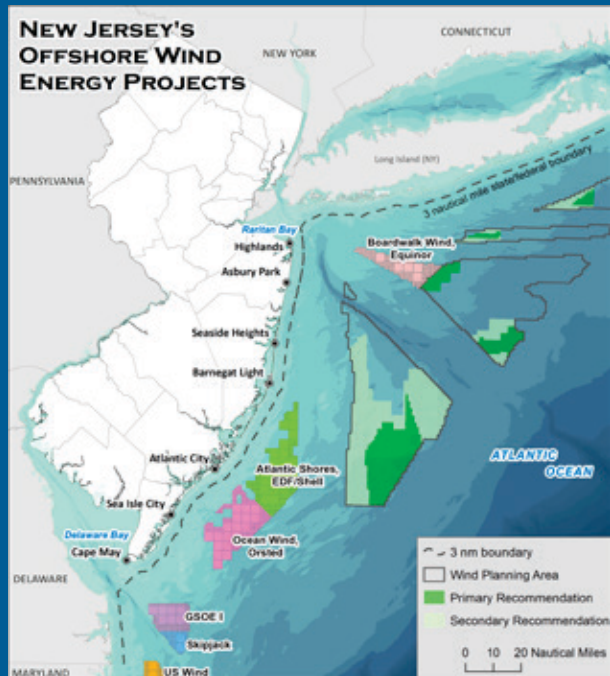
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Big things are coming to the waters off New Jersey...literally!

Construction could begin in the next few years on Ørsted's Ocean Wind project, one of the largest "farms" in the United States and a significant milestone toward New Jersey's clean energy goals.

The wind turbines and transmission cables will share the ocean with our valuable recreational and commercial fisheries, so the New Jersey Department of Environmental Protection (DEP) and the Division of Fish and Wildlife's Marine Fisheries Administration have been actively involved in every step of this project. New Jersey's fishing interests have informed state and federal decision-making throughout the process. The New Jersey DEP and Marine Fisheries Administration prioritizes communication and collaboration between developers, federal agencies and the fishing community because we recognize that the experts in how we use the ocean are the people who are out there day in and day out.

Ocean Wind is slated to be one of the largest wind farms in the world, with a capacity of 1.1 gigawatts. A gigawatt (GW) is a *billion* watts. This output could light up the entire City of Newark with power left over and is similar to a lightning strike or flipping on 10 million 100-watt lightbulbs. Those gigawatts are a big step toward Governor Phil Murphy's plan to achieve 50% clean energy by 2030 and 100% by 2050.



Three offshore wind projects are in development in federal waters off the coast of New Jersey, Ocean Wind by Ørsted, Atlantic Shores by EDF Renewables/Shell, and Boardwalk Wind by Equinor. The Bureau of Ocean Energy Management is identifying new wind energy areas in the NJ/NY Bight, with recommendations shown in green and light green.

Closeup of a 6-megawatt turbine from Block Island Wind.

Wind energy is the “cleanest” form of renewable energy. It’s not just a green choice, but a practical one. The winds blowing off our coast are some of the strongest and most consistent in the world. From the shoreline, our wide, gently sloping seafloor that makes up New Jersey’s continental shelf is ideal for wind farm construction. Our dense human population near the shore provides a ready market. Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Maryland and Virginia are all looking towards offshore wind, with a combined goal of producing more than 27.5 GW of power by 2035.

Ørsted will use more than 90 of the most powerful turbines available, the GE Haliade-X 12 MW. Soaring over 900 feet — taller than the Washington Monument — these are the most powerful offshore turbines available, with a generating capacity of 12 MW, vastly more than the capacity of the 1.5 MW turbines spinning over the ACUA in Atlantic City. The turbine foundations will be placed in 60 to 100 feet of water and will be connected to each other, to substations and to the mainland by cables buried 4 to 6 feet below the seafloor.

Ocean Wind may be operational by 2024. Ørsted, the developer of Ocean Wind, has stated that all fishing and vessel traffic will be permitted, but some closures during construction are unavoidable.

Ørsted is a Danish company behind more than 25% of the existing offshore wind farms, including the first, Vindeby. This 11-turbine pilot project demonstrated the viability of offshore wind power and that turbines could endure the harsh environment of the sea for more than 20 years. In 2017, Vindeby became the first offshore wind farm to be decommissioned, with much of its construction material recycled, including steel from the turbines and concrete from the foundations.

Equinor’s Boardwalk Wind and EDF/Shell’s Atlantic Shores are also in development in federal waters off New Jersey and New York. Equinor has similar start-up target dates to Ocean Wind; Atlantic Shores, a leaseholder off Atlantic City, proposes operation by the mid-2020s.

The New Jersey DEP has been looking into offshore wind since 2008 when the Ocean/Wind Power Ecological Baseline Studies were conducted to identify areas for wind development. This included a survey of whales, birds, turtles and fish. Results were used by the Bureau of Ocean Energy Management to select the existing offshore wind lease areas. Fish and Wildlife’s Marine Fisheries Administration, along with NOAA Fisheries, the U.S. Coast Guard and the U.S. Department of Defense, also reviewed the second wave of proposed wind energy areas in 2018, but they have not yet been finalized by the Bureau of Ocean Energy Management. As a follow-up to the Ocean/Wind Power Ecological Baseline Studies, the New Jersey Board of Public Utilities (BPU) modeled resources in a much larger area off New Jersey in 2019, the results of which will be included in the pending New Jersey Strategic Plan for Offshore Wind. Scientists from several universities in New Jersey, including the Rutgers Center for Ocean Observing Leadership, are also actively engaged in research.

Governor Murphy recognizes the importance of stakeholder involvement. Beginning in the summer of 2018, the Bureau of Ocean Energy Management and the Division of Fish and Wildlife’s Marine

A fishing vessel transits past a wind turbine near Block Island, Rhode Island.



Ørsted

Fisheries Administration held three stakeholder meetings in New Jersey on proposed areas for future offshore wind development. The first environmental and fisheries stakeholder roundtable meetings were held in March of 2019, followed by the launch of the Environmental Resources Offshore Wind Working Group. New Jersey natural resource councils are also involved, as the Marine Fisheries Council has met with the public, fishing industry representatives and various programs within the DEP that are responsible for permitting offshore wind activities.

Since fishing is a vital component of our heritage and economy, the New Jersey DEP has prioritized stewardship of our marine resources during the planning, construction, operation and decommissioning of proposed projects. For perspective, surf clams, ocean quahogs and scallops had a landings revenue of \$133 million in 2016, a value greater than all of our blueberries or tomatoes. Recreational fisheries were worth almost \$1.2 billion (2016 data) to the Garden State economy. Fish and Wildlife’s Marine Fisheries Administration has more than a dozen biologists, research scientists and managers involved in the review of offshore wind projects, with resource specialists who focus on surveys, marine fish and shellfish, habitats, recreational fisheries and commercial fisheries.

While the marine environment, resources and fisheries of New Jersey are unique, we can learn from the experiences of anglers at wind farms in Europe and off Rhode Island. Placing hard structures over sandy bottoms attracts settling invertebrates and reef-associated fish — and ultimately, anglers.

The New Jersey DEP is always looking for input from our fishing communities, including on the continued and future development of offshore wind. We encourage everyone to attend public meetings to learn more about the projects and to have their voices heard. When planning a fishing trip, stay up to date with mariner information from Ocean Wind, Atlantic Shores and Boardwalk Wind. (See links below). 

For more information, visit:

- NJ Offshore Wind from DEP: <https://www.nj.gov/dep/aqes/offshorewind.html>
- New Jersey Offshore Wind from BPU: <https://njcleanenergy.com/nj-offshore-wind>
- Ocean Wind by Ørsted: <https://oceanwind.com/About-Ocean-wind>
- Atlantic Shores by EDF/Shell: <https://www.equinor.com/en/what-we-do/boardwalk-wind.html>
- Boardwalk Wind by Equinor: <https://www.atlanticshoreswind.com/>