



Offshore Wind and Commercial Fishing

2021 | CO-EXISTENCE FAQs

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COVER PHOTO: Dominion Energy's Coastal Virginia Offshore Wind Farm.
Photo courtesy of Ørsted.

Can offshore wind co-exist with commercial fishing and marine species?

- Yes. There are limited impacts to marine ecosystems or seafood supply from offshore wind. While the Bureau of Ocean Energy Management (BOEM) recently found in the [Vineyard Wind Supplement to the Draft Environmental Impact Statement](#) that offshore wind would likely result in some impacts, it also stated that those impacts are expected to be local and to not alter the overall character of finfish, invertebrates, and essential fish habitat (EFH) in the geographic area analyzed.
- While BOEM did identify potential impacts to commercial fishing, two of the three drivers BOEM identified – changes in distribution and availability of fish due to climate change and reduced stock levels due to fishing related mortality – are not caused by offshore wind. BOEM also acknowledged there are ways to mitigate impacts that are related to the deployment of offshore wind.
- Although offshore wind lease areas encompass hundreds of square kilometers (tens of thousands of acres), wind turbine structures take up only a small portion of that area. With turbine spacing and layouts coordinated with BOEM and the U.S. Coast Guard, leasing areas can continue to be used for many of the same purposes for which they were originally used, such as commercial and recreational fishing, recreational boating, and tourism-related trips.

In the recent analysis of the cumulative impacts from a 22 GW buildout of offshore wind along the Atlantic Coast, BOEM found impacts to benthic resources, fish and invertebrates, marine mammals, sea turtles, coastal habitat, air quality, water quality, birds, and bats to be in many cases negligible to minor, and in no cases were the impacts higher than moderate. Moderate means the viability of the resource is not affected and the impacts can likely be reduced through mitigation.

Is the offshore wind industry willing to work with the fisheries and maritime industries? Has that engagement led to any adjustments to offshore wind projects?

- Absolutely. Offshore wind project developers have actively participated in BOEM's thorough and nearly decade-long offshore wind area identification process. This process has included significant engagement with the commercial fishing community. More details on how and when to provide comments on offshore wind projects can be found in the [Offshore Wind Public Participation Guide](#).
- Offshore wind developers also reach out to the public, having collectively held thousands of meetings with fishermen, mariners, and coastal communities to date. The offshore wind industry continually looks for ways to expand engagement.
- Data collection and analysis, including with respect to commercial fishing, is central to each stage of BOEM's lengthy leasing and permitting process.
- Feedback makes a difference. Both BOEM and developers have adjusted plans in response to commercial fishing and other stakeholder input.
- Some examples of commercial fishing input influencing agency and industry approaches include:
 - » BOEM's original effort to identify wind energy areas off the coast of Massachusetts resulted in identification of ~7,628 square kilometers (km²) (~1,884,920 acres). Based on concerns raised by fishing interests, BOEM made the planning area approximately 50% smaller than originally proposed.

- » In February 2012, BOEM announced the identification of the Rhode Island/Massachusetts Wind Energy Area (RI/MA WEA) and after considering fishing community input, portions of the RI/MA Call Area that were identified as “high value” fishing grounds were removed from the RI/MA WEA.
- » Before finalizing a lease area off the coast of New York in 2016, BOEM removed multiple portions of the lease area totaling about 1,780 acres due sensitive habitat in the Cholera Bank.
- Feedback from the fishing industry on project layouts, cable routes, and cable burial/landing techniques can be among the most critical for development because it most directly affects the viability of projects. Examples of commercial fishing input influencing industry approaches include:
 - » Offshore wind developers holding leases in the adjacent RI/MA lease areas proactively agreed to 1x1 nautical mile uniform grid layouts throughout all of the lease areas to respond to concerns from commercial fishermen regarding safe navigation and to further facilitate safe search and rescue, even though doing so resulted in significant economic cost to each developer.
 - » Developers have directly engaged fishermen to understand the historical fisheries and traditional fishing practices within their project areas. These efforts have provided developers with additional fisheries’ context and operational details to inform their project layouts, minimize fisheries impacts, and promote successful coexistence of both industries.
 - » The Responsible Offshore Development Alliance (RODA) [Joint Industry Task Force](#), a body created to improve communications between the commercial fishing and offshore wind industries, with a specific focus on promoting coexistence between offshore wind energy development and commercial fishing practices, recently conducted a [survey](#) of fishermen on navigational aids (e.g., lighting and marking technology) that could be incorporated in offshore wind farms to address the fishing industry’s safety concerns. The developers [analyzed](#) the survey data and are discussing next steps, including how to work with U.S. Coast Guard as navigational aid policies and standards are developed, and to begin conversations with NOAA’s National Ocean Service and the Office of Coast Survey regarding opportunities to incorporate the results into nautical chart layers that fishermen can access for free.

Will vessels be able to transit through wind farms? Can turbine spacing between wind turbines facilitate transit of commercial fishing vessels through wind farms?

- Yes. Neither [BOEM](#) nor the [Coast Guard](#) will prohibit vessels, including commercial fishing vessels, from transiting through (or fishing within) lease areas.
- As a part of the BOEM permitting process, developers have to submit a [navigation safety risk assessment](#) (NSRA) as a part of their construction and operations plan (COP), which is then reviewed by the Coast Guard and BOEM to ensure compatibility with safe navigation.
- The Coast Guard has also been conducting multiple [port access route studies](#) (PARS) to inform their recommendations to ensure safe travel into, out of, and between ports.
- Both NSRAs and PARS consider (1) existing vessel traffic routes; (2) vessel types and sizes; (3) vessel maneuverability (including emergency requirements and collision avoidance); (4) vessel density; (5) the potential need for course alterations and multiple options to safely transit; and (5) spacing needed to allow for passing, overtaking and avoiding other vessels.
- The Coast Guard, the experts on vessel navigation safety, [found](#) in its Massachusetts/Rhode Island Port

Access Route Study that the 1x1 nautical mile turbine spacing and uniform grid layout proposed by offshore wind developers across the adjacent Rhode Island/Massachusetts lease areas protects safe navigation, due to the 200 transit lane options it provides through the lease areas, including for commercial fishing vessels. The Coast Guard found the additional 2-4 nm transit lanes proposed by some commercial fishing interests to be less safe for navigation, because the additional lanes could funnel traffic into the corridors, increasing the chance of accidents.

- Developers, the Coast Guard, and BOEM will analyze additional lease areas based on the specific vessel traffic and lease area characteristics to identify what turbine spacing and layouts provide for safe navigation in other areas off the coast.

How is the offshore wind industry collaborating with other ocean users?

- Developers support data collection and science including: collection of baseline data to provide an understanding of the potential impacts from offshore wind; continued monitoring of fisheries prior to, during, and post-construction, resulting in the collection of long term data-sets that will broaden the understanding of cumulative impacts; and engagement on NOAA surveys to prevent offshore wind projects from impacting quota determination processes. Examples of developer-supported data include:
 - » Several developers are actively performing seasonal surveys of their project areas. These seasonal surveys include trawl surveys, plankton surveys, drop camera surveys of benthic communities, and lobster surveys. Fishermen are often part of the execution of these surveys, by helping to plan gear deployments using historical fishing knowledge or help to deploy gear used in these surveys.
 - » Developers have agreed to make their data publicly available. Real-time data sharing has also been extended to make metocean data buoy (e.g., winds, waves, currents, sea temperature, etc.) available through federal data systems (e.g., NOAA Integrated Ocean Observing System Regional Associations) that fishermen can access.

What other research is being done on U.S. offshore wind?

- In addition to responding to existing data, the offshore wind industry is investing significant dollars and time in research to further improve its understanding of potential development impacts and opportunities to mitigate harm, including through collaboration with the commercial fishing industry through the [Responsible Offshore Science Alliance](#) (ROSA), academic institutions, and state and federal regulators.
- Developers co-founded and invested in ROSA the [Responsible Offshore Science Alliance](#) (ROSA). ROSA is a first-of-its-kind effort in cross-sectoral partnership for the New England and Mid-Atlantic regions formed by fishermen and offshore wind leaders, in collaboration with federal and state scientists, academic institutions and resource managers, to enhance scientific understanding necessary to support the coexistence of wind energy development and sustainable fisheries. ROSA was designed and built together with developers and leaders in the fishing industry and uses federal cooperative science models with which fishermen are familiar and involved.
- Cooperative science that is built between the offshore wind and fishing industry will help to provide more data and research to further investigate and monitor these potential impacts. Organizations, such as ROSA, are innovative approaches to cooperative research that bring together the government, offshore wind, fishing, and academic communities to build the science infrastructure necessary to study these impacts before the first utility scale projects are constructed

How do developers engage and communicate with the fishing industry?

- Developers have hired dedicated and knowledgeable fisheries scientists, longtime and respected fishermen, and the heads of fishing associations and organizations to engage in two-way communication with fishing interests. Such communications include:
 - » The offshore wind developers have created charts (both paper and electronic) that include the features requested by fishermen to facilitate mutual understanding of offshore utilization.
 - » The offshore wind developers use email, text, social media, listservs and regular mail to inform fishermen of opportunities to submit comments to permitting processes, solicit engagement in working groups and councils, and inform fishermen of ongoing offshore development activities.
 - » Fisheries liaisons conduct regular, in-person meetings at fishing ports near the offshore wind projects to collect input from, and provide information to, fishermen.
 - » Survey vessels are typically staffed with local fishermen, or fisheries' experts (e.g., former fisheries observers) acting as industry representatives to facilitate active communication during offshore activities with nearby fishing vessels. These experts communicate directly with fishing vessels on the water and send back data to onshore teams to help with developers' survey planning and/or adjustments to survey tracks. Fishermen are also hired as scouts to identify gear deployed in lease areas to minimize gear interactions with survey vessels.

What are some of the benefits of offshore wind to the grid and the environment?

- Offshore wind is clean, renewable, and reliable and will provide significant benefits to consumers and the power grid, all while having low environmental impacts and helping reduce greenhouse gas emissions.
- Approximately 50% of the U.S. population lives within 50 miles of the coast and 80% live within 200 miles. Offshore wind provides a cost-effective and reliable way to generate significant amounts of electricity close to consumers.
- Winds offshore are generally stronger and more consistent than their land-based counterparts. Offshore wind turbines are also larger than land-based turbines. Together, this means that offshore wind generates significantly more electricity per turbine than land-based turbines, meaning offshore wind is a good match for the load profile of coastal states, (i.e., offshore wind is blowing when cities/ states need the power most).
- Offshore wind's expected [capacity factors](#) of 40-50% compare favorably with other generation types, including fossil fuel generation.
- Offshore wind development can help mitigate the impact of climate change, the largest threat facing our ocean ecosystems and coastal communities vulnerable to the rise of sea levels.

Will offshore wind bring economic benefits to other ocean industries, such as U.S. maritime vessel operators?

- Yes. Offshore wind energy development in the U.S. will not only allow existing vessels to thrive but also will support the growth of the domestic shipping industry and provide an economic lifeline to U.S. mariners and vessels struggling as oil prices and demand have declined, resulting in some decline in the oil industry's opportunities for job growth. In fact, the skillsets of oil and gas vessel operators and workers are easily transferable to the offshore wind industry, and the offshore wind industry is ready to employ workers who find themselves displaced as a result.

- The U.S. offshore wind industry supports and will comply with the Jones Act, which requires that U.S.-flagged vessels transport merchandise, such as wind turbine blades, between two U.S. “points.” U.S.-flagged vessels are built in the U.S., registered in the U.S., and primarily crewed by Americans.
- U.S. “points” are considered to include U.S. ports, offshore wind turbines, and jack-up installation vessels fixed to the sea floor. A wind turbine component loaded in the U.S. — one point — and transported to an offshore wind project — a second point — must be done on a U.S.-flagged vessel.
- The industry has already announced hundreds of millions of dollars in investments in U.S. built vessels to serve the industry, with some of those vessels already in the water.
- Offshore wind will mean business for the maritime industry — at least 18 different kinds of vessels are needed to construct and maintain an offshore wind farm.
- 16 of those vessel types are available in the Jones Act fleet. There are two types of heavy-lift installation vessels, floating and jack-up, that are not available in the Jones Act fleet.
- Tugs, barges, crew transfer vessels, feeder barges, and more are all U.S. ships that offshore wind will put to work.
- Despite strong support for the Jones Act, the U.S. offshore wind industry is concerned with the proposed expansion of the Act to cover construction activities at sea, not just transportation. This expansion would require offshore wind developers to use U.S.-flagged vessels for heavy lift installation activities, but there currently are no U.S.-flagged heavy-lift installation vessels that can erect the current generation of turbines. While the language includes a waiver process, that process is uncertain and unworkable.

Will offshore wind bring economic benefits to the fishing industry?

- Yes. In addition to funding data and science research, workforce development opportunities are already materializing for the fishing industry. These opportunities include:
 - » Chartering fishing vessels and the hiring of crews to conduct science and data collection and to scout for potential gear conflicts before geological surveys.
 - » Hiring fishermen to work as onboard fishing liaisons during the geological surveys to further scout for potential conflicts and to communicate directly with other ocean users.
 - » Creating opportunities to engage in offshore wind job training programs. In fact, several programs are underway to ensure fishing vessels can be used throughout the life of offshore wind projects, where appropriate to the task.
- Offshore wind developers have also made significant [commitments](#) to port development and local supply chains. These will result in the increased use of shoreside facilities and economic stimulus for ports that will advance competition and economic benefits for all marine users.

For more information on this topic, please reach out to Laura Morton, AWEA Senior Director of Policy and Regulatory Affairs, Offshore Wind: LMorton@awea.org.



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Prepared By
American Clean Power Association
1501 M St. NW, Suite 900
Washington, DC 20005
CleanPower.org