

Offshore Wind Energy Basics: Navigating Offshore Wind Energy Decision-Making Processes

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Webinar Logistics

- Webinar will be recorded and posted to the National Renewable Energy Laboratory (NREL) YouTube channel and WINDEXchange website
- Panel and question-and-answer session will follow the presentation
- Pose questions in the Q&A function during and at the end of the presentation.



Photo by Gary Norton, U.S. Department of Energy 41165

What Will We Cover?

- Introduction to offshore wind energy
- Offshore wind energy development at the federal, state, and local level
- Expert panel – State, Local, and Federal Decision-Making Process.

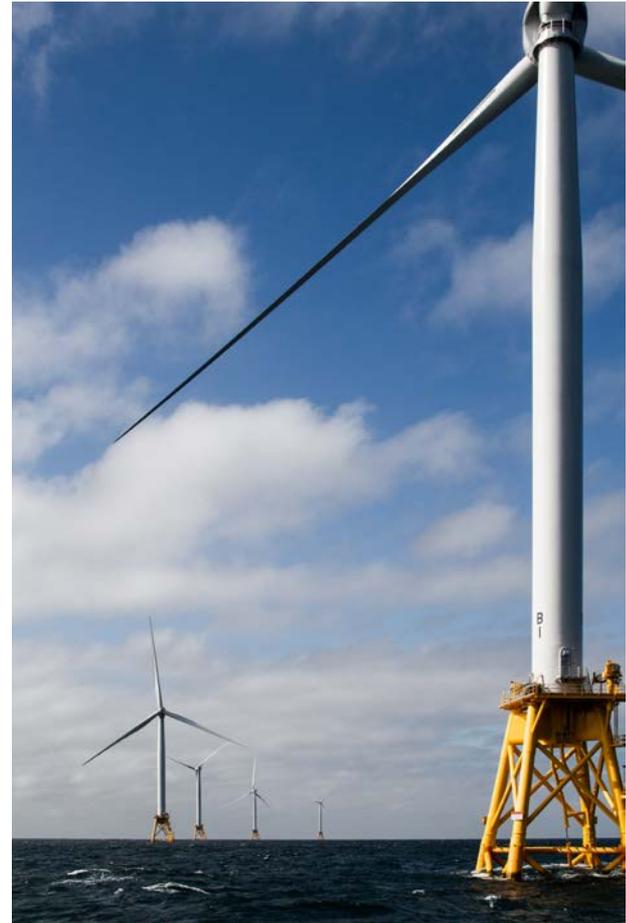
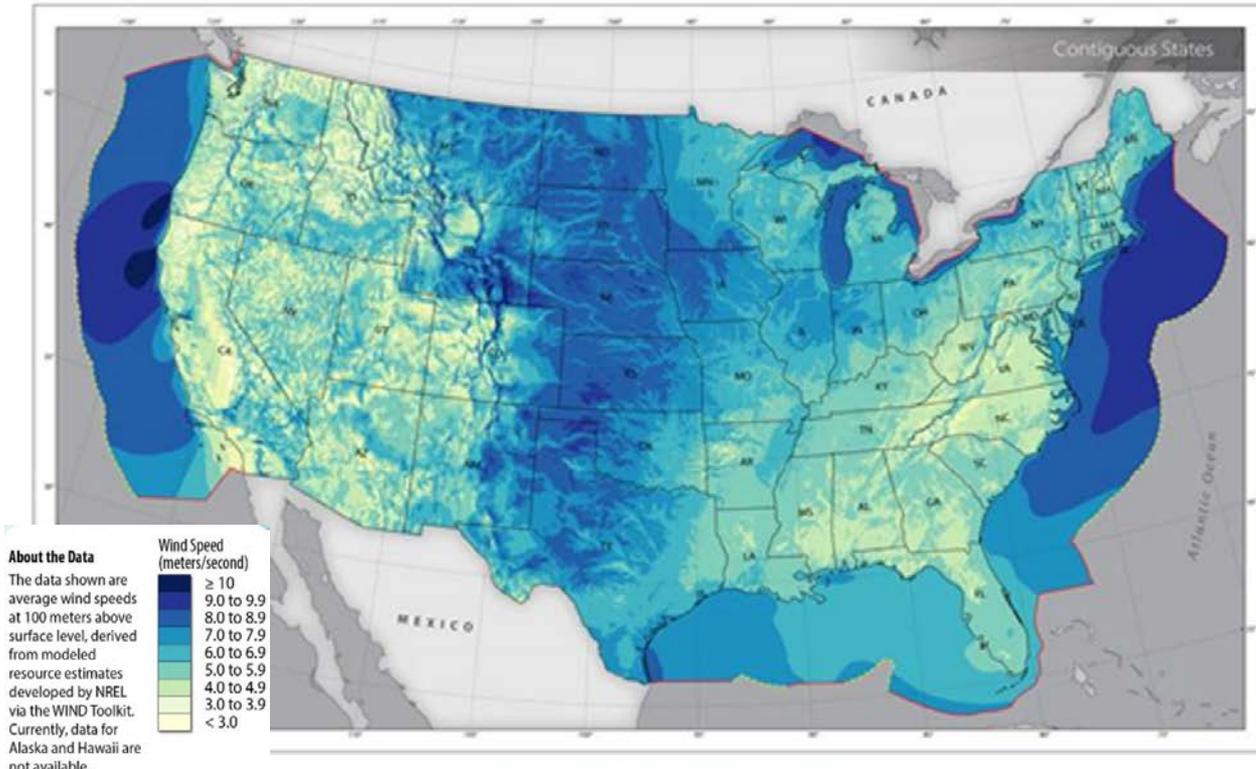


Photo by Gary Norton, NREL 41184

Introduction to Offshore Wind Energy

Why Pursue Offshore Wind Energy?



Graphic by NREL

Offshore means:

- ✓ Generation close to the energy users (80% of the U.S. population lives in coastal states)
- ✓ Stronger, more consistent wind resources
- ✓ Larger-scale projects are possible
- ✓ Economic benefits and workforce development
- ✓ Revitalization of ports and domestic manufacturing.

U.S. Planned Projects

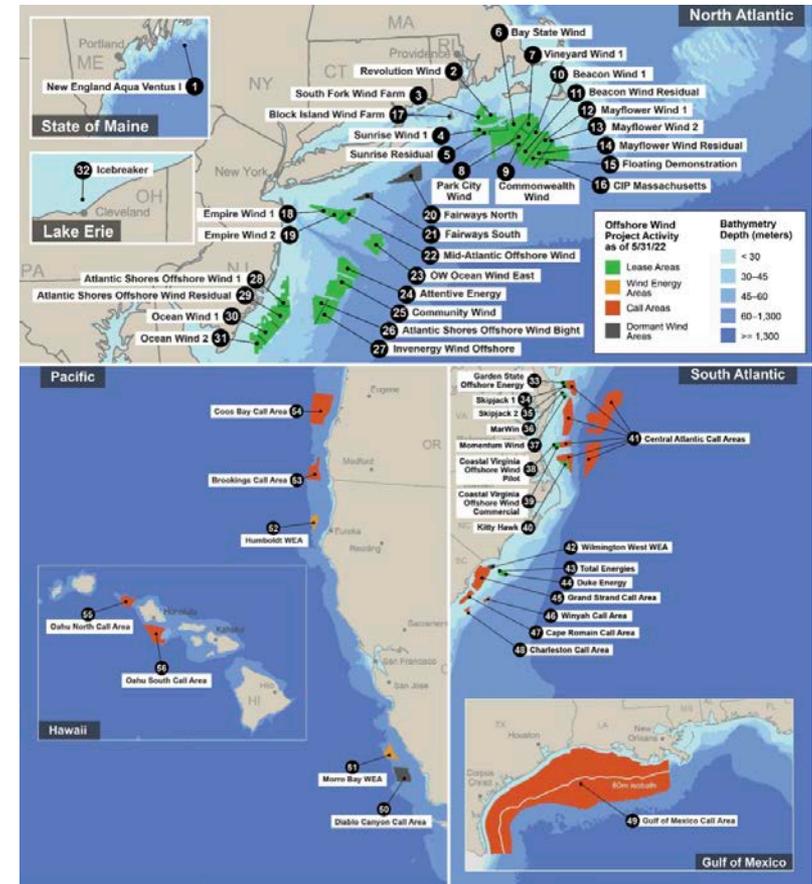
- Offshore wind Call Areas are being defined in all four major bodies of water: the Atlantic, Pacific, Gulf of Mexico, and Great Lakes.
- There are 42 MW of operational offshore wind energy projects in the United States.

Block Island Wind Farm

- Operating since 2016
- Capacity = 30 MW
- Five 6-MW Haliade 150 turbines
- Jacket substructures.

Coastal Virginia Offshore Wind

- Operating since 2020
- Capacity = 12 MW
- Two 6-MW SWT-6.0-154 turbines
- Monopile substructures.



Graphic by NREL

Biden Administration Offshore Wind Goals

- In March 2021, the Biden administration set a national target of installing **30 gigawatts of offshore wind energy by 2030**.¹
- The steps identified to support this target include:
 - Advancing U.S. wind energy projects to create well-paying, unionized jobs
 - Investing in American infrastructure to strengthen the domestic supply chain
 - Supporting critical research and development and data sharing.¹

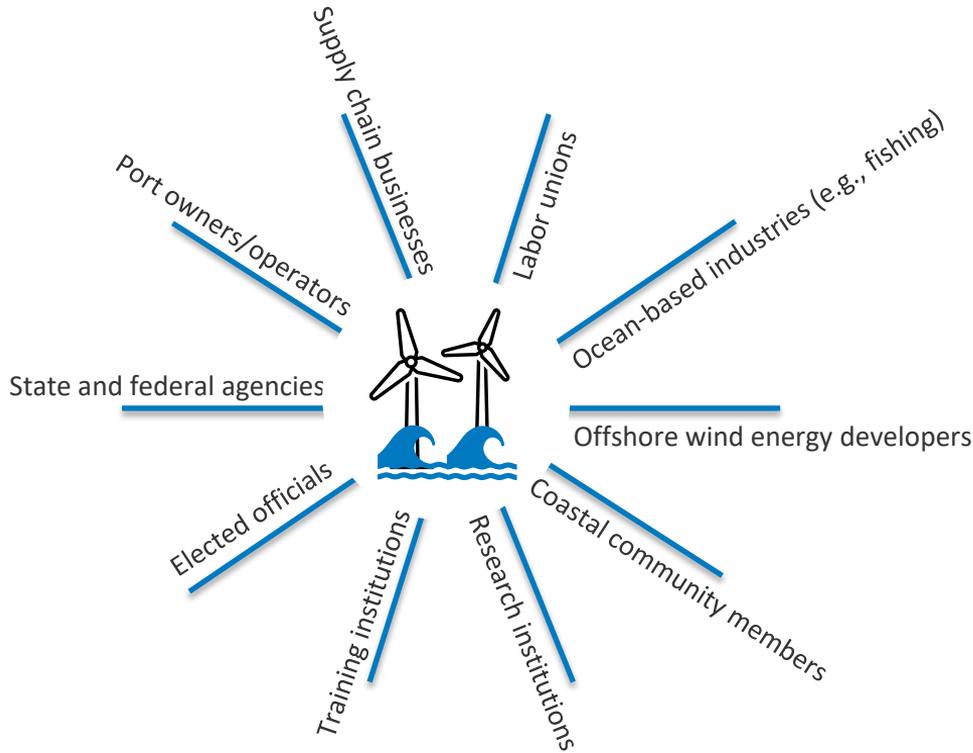


Photo from Siemens AG 27871

¹ The White House. 2021. "FACT SHEET: Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs." March 29, 2021. <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/>.

Offshore Wind Energy Development at the Federal, State, and Local Level

Diversity of Stakeholders



Indigenous Nations
have unique legal and cultural status
and an important role in offshore wind
development that is **distinct** from
stakeholders².

² Graphic and Text Source: Adapted from NYSERDA. 2021. "Guiding Principles for Offshore Wind Stakeholder Engagement", p6. October 2021.
<https://www.nyserdera.ny.gov/all-programs/offshore-wind/focus-areas/connecting-with-new-yorkers>

Federal Role in Offshore Wind Energy Development

- The Bureau of Ocean Energy Management (BOEM) is responsible for issuing leases, easements, and rights-of-ways for renewable energy projects in federal waters.
- Unlike other energy sources, the federal government (BOEM) leads siting and planning for offshore wind.
- BOEM's jurisdiction covers federal waters/submerged lands referred to as the Outer Continental Shelf (3 nautical miles offshore in most areas).
- BOEM's process covers four phases: planning, leasing, site assessment, and construction and operations.

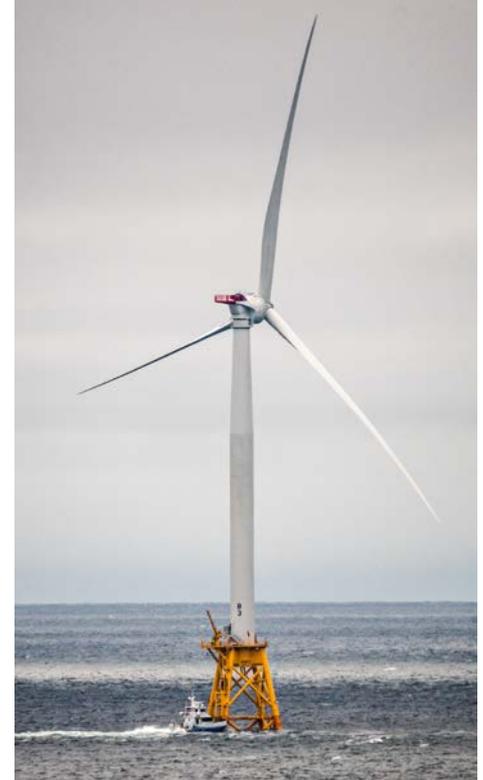


Photo by Dennis Schroeder, NREL 40492

What You Should Know About Federal Processes

- **Request for Information**

- BOEM issues a request for information to determine commercial interest in a potential lease area

- **Leases and Grants**

- Commercial lease: commercial energy production and sale
- Limited lease: activities that support energy production but do not produce electricity for retail sale
- Research lease: research use only.

- **Federal Environmental Review**

- Federal environmental assessment: determines if a federal action has the potential to cause significant environmental effects
- Federal environmental impact statement: issued when federal actions are determined to have a significant impact to the human environment.

- **Plans**

- Site assessment plan: used to determine resource potential
- Construction and operations plan or general activities plan: outlines how the lessee will conduct construction and operations of the development.

Where Can You Engage in Federal Processes?

- **Planning and Analysis**
 - Wind energy area selection public meeting
 - Public comment periods for notice of intent and notice of availability for the environmental assessment process.
- **Leasing**
 - Public comment period during the lease sale notice
- **Construction and Operations**
 - Public comments and meetings during the Environmental Impact Statement notice of intent and notice of record process
- **Ongoing Engagement**
 - Intergovernmental task forces: mechanisms to coordinate with governments and public institutions
 - Stakeholder announcements
 - Open comments.



States with BOEM Intergovernmental Task Forces

Graphic by NREL

State Role in Offshore Wind Energy Development



Photo by Dennis Schroeder, NREL 40460

- Most states only have authority over waters up to 3 nautical miles from the coast; in some cases, it is up to 9 nautical miles.
- States are involved in determining consistency in federal processes (under the Coastal Zone Management Act).
- States may play a role in permitting and siting for some offshore wind energy infrastructure, like export cables, if it is on state property or in state waters.
- Ways for states to encourage offshore wind energy development include:
 - Establishing deployment goals
 - Issuing solicitations for projects in federal leasing areas, in partnership with BOEM
 - Creating laws or policies that support offshore wind energy development
 - Developing critical supply chain infrastructure like port facilities.
- Offshore wind energy policies in 8 states have called for deploying at least 39,322 MW of offshore wind energy capacity by 2040, as of mid-2022.³

³ Musial, W., Spitsen, P., Duffy, P., Beiter, P., Marquis, M., Hammond, R., and Shields, M. 2022. *Offshore Wind Market Report: 2022 Edition*. U.S. Department of Energy. <https://www.energy.gov/sites/default/files/2022-09/offshore-wind-market-report-2022-v2.pdf>

Example of State Actions: New Jersey



2009	Conducted an ecological baseline study to identify suitable areas for offshore wind energy development in federal waters
2010	Passed the Offshore Wind Economic Development Act (OWEDA)
2018	Set a goal of obtaining 3,500 MW of offshore wind energy by 2030
2019	Awarded an offshore wind solicitation to Ørsted's 1,100-MW Ocean Wind project
2019	Set a new goal of obtaining 7,500 MW of offshore wind energy by 2035
2020	Invested in the New Jersey Wind Port to support the construction of offshore wind projects
2020	Released the New Jersey Offshore Wind Strategic Plan
2021	Awarded second offshore wind solicitation to the 1,510-MW Atlantic Shores project and the 1,148-MW Ocean Wind II project
2022	Set a new goal of reaching 11,000 MW of offshore wind energy by 2040. ⁴

⁴New Jersey Department of Environmental Protection. 2022. "New Jersey Offshore Wind Energy."
<https://njdep.maps.arcgis.com/apps/Cascade/index.html?appid=958095ed50354f81b65b3b50d467b3f9>.

Where Can You Engage in State Processes?



Photo by Dennis Schroeder, NREL 59235

- Opportunities to engage in state processes differ depending on the state, but some examples include:
 - Participating in state processes through public meetings and/or public comment periods
 - Attending events and programs hosted by states, such as webinars or in-person information sessions
 - Joining state task forces or councils on offshore wind energy, if states seek to include members of the public
 - Engaging in states' offshore wind supply chain projects or activities, such as the planning of port facilities or workforce programs.

Local Role in Offshore Wind Energy Development

- “Upland” areas (i.e., the landward of the mean high-water mark) are a mix of public and private ownership
- Municipalities may be required to approve cable landings, interconnections, and substations
- Municipalities that host related infrastructure or have another specific connection to the industry’s development may also be formally invited to provide input into state and federal processes (e.g., participation in intergovernmental task forces).



Block Island Wind Farm cable landing site. *Photo by René Meyer, Block Island Times*

Importance of Public Engagement and Equity in Decision Making

- Public input opportunities are required in many parts of the regulatory process (e.g., National Environmental Policy Act, state consistency review processes)
- Early and meaningful public engagement can lead to better outcomes as it can help to:
 - Identify best-available information and knowledge related to siting and other aspects of project development
 - Illuminate possible conflicts and areas that are more suitable for development
 - Lead to more acceptable and equitable outcomes.



Public Engagement Considerations in Offshore Wind Energy Regulatory Process

- Multiple jurisdictions and decision-makers to track
- Multiple projects unfolding within the same region
- Extended timelines for project development
- Technical content may be new and may change as technology evolves.



Photo by Werner Slocum, NREL 70787

Expert Panel

Panel Bios: Karen Baker



Karen J. Baker is the Chief of the Bureau of Ocean Energy Management (BOEM)'s Office of Renewable Energy Programs (OREP). She oversees the responsible development of renewable energy resources on the Outer Continental Shelf through conscientious planning, stakeholder engagement, comprehensive environmental analysis, and sound technical review. With more than 25 years combined private industry and Department of Defense civilian experience, Baker has served in a variety of leadership positions in strategic planning, energy and environmental policy, and public affairs. She earned a Bachelor of Science in Marketing from the University of Maryland (1990), a Master of Science in Environmental Sciences and Policy from Johns Hopkins University (2003), and a Master of Science in National Security Strategy from the National War College (2010).

Panel Bios: Kris Ohleth



Kris Ohleth has worked in the offshore wind sector for nearly 20 years. Holding senior positions with offshore wind developers, NGOs, and state agencies, she has gained critical insights into the policy and regulations that shape offshore wind activities at the state, regional, and federal levels. Ohleth has extensive experience working with offshore wind stakeholders and has expert knowledge of such engagements, having worked on offshore wind and ocean policy issues for nearly two decades. In her current role as the Director of the Special Initiative on Offshore Wind, she leads the organization to develop strategies to support the responsible and sustainable development of the offshore wind industry. Originally from New Jersey, Ohleth is a Rutgers University graduate and holds a Master's degree from the University of Rhode Island.

Panel Bios: Jennifer McCann



Jennifer McCann is the director of U.S. Coastal Programs at the URI Graduate School of Oceanography, Coastal Resources Center and Rhode Island Sea Grant. In part because of her leadership in siting the Block Island Wind Farm through the Ocean SAMP process, McCann serves as the National Sea Grant Offshore Wind Energy Liaison to build Sea Grant's capacity on this topic. McCann leads research and provides technical support on blue economy related topics to government decision makers, the private sector and the public both locally and abroad.

Q&A



Photo by Dennis Schroeder, NREL 40389

Thank You!

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NREL/PR-5000-84082

This work was authored by the National Renewable Energy Laboratory, operated by Alliance for Sustainable Energy, LLC, for the U.S. Department of Energy (DOE) under Contract No. DE-AC36-08GO28308. Funding provided by the Wind Energy Technologies Office. The views expressed in the article do not necessarily represent the views of the DOE or the U.S. Government. The U.S. Government retains and the publisher, by accepting the article for publication, acknowledges that the U.S. Government retains a nonexclusive, paid-up, irrevocable, worldwide license to publish or reproduce the published form of this work, or allow others to do so, for U.S. Government purposes.

