



Implementing Safeguards for New Jersey Offshore Wind Projects to Address Impacts to Marine Life

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Roadmap

- What is OffShore Wind?
- New Jersey's Plans to Implement Offshore Wind
- What Risks are Posed to Marine Life?
- Federal and State Legal Framework for Offshore Wind
- Proposal for Implementing Safeguards to Protect Marine Life

What is Offshore Wind?

- Offshore wind energy is the clean and renewable energy obtained by taking advantage of the force of the wind that is produced on the high seas, where it reaches a higher and more constant speed than on land due to the absence of barriers.
- The wind turbine turns the kinetic energy into electricity, and that electricity is transported through underwater cables where it passes through a substation that transforms it. Power lines then carry it to the houses and buildings on land.

New Jersey Offshore Wind Project



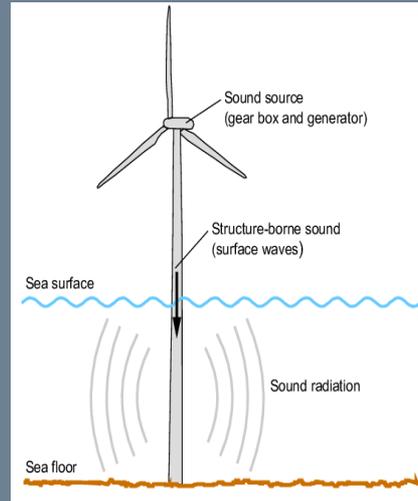
“Offshore wind is a once-in-a-generation opportunity that allows us to protect our environment while significantly expanding and securing the state’s economy for the immediate and long term.”

– Governor Phil Murphy

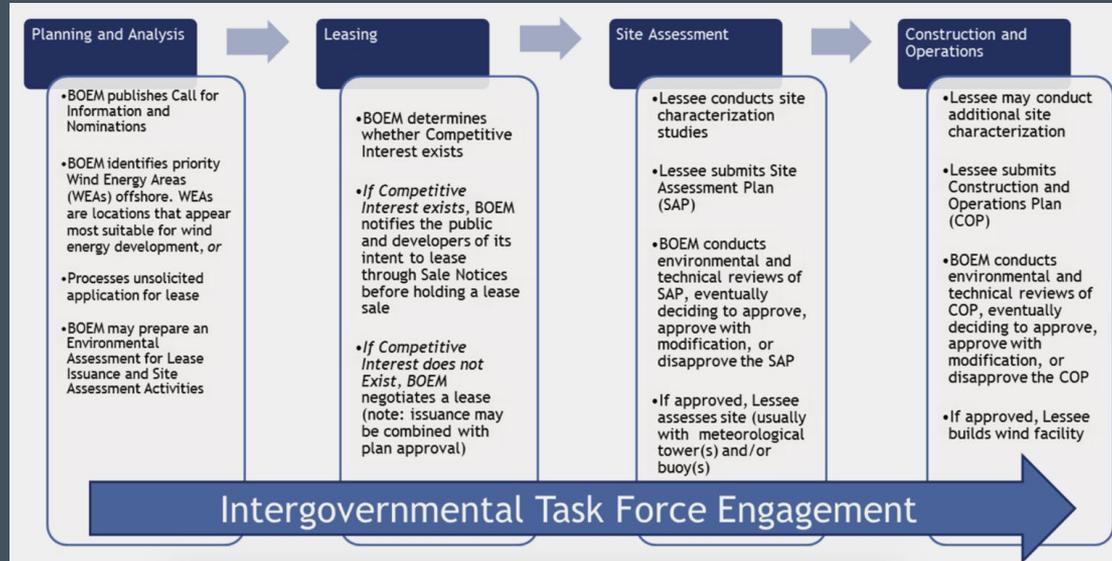


- ❖ Preconstruction includes geosurveys that use high-energy acoustic sources to transmit sound, creating an image of the seafloor.
- ❖ Construction requires a variety of sound-generating activities, including seismic exploration, excavation with explosives, dredging, ship and/or barge operations, and pile driving

- ❖ Excessive noise can affect animal behaviour, particularly those that are more sensitive to sound, that rely on their use of vocalization for communication and those that use echolocation for navigation, such as cetaceans.

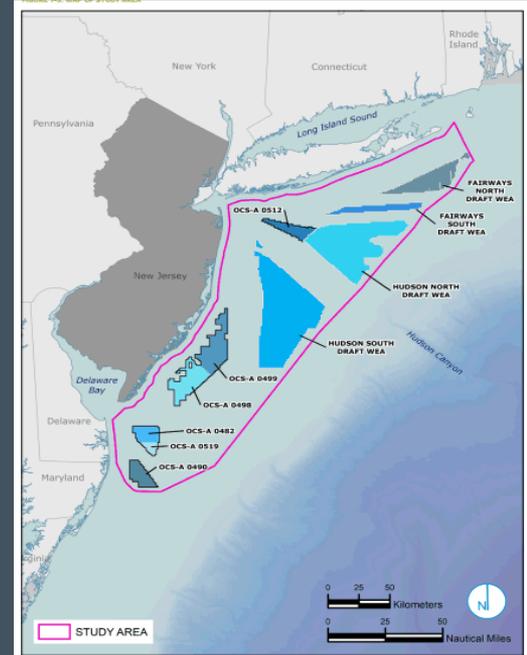


Legal Framework for Offshore Wind



Legal Framework for Offshore Wind

- Endangered Species Act
- Magnuson–Stevens Fisheries Conservation and Management Act (MSA)
- U.S. Fish and Wildlife Service (FWS)
- National Marine Fisheries Service (NMFS)
- Offshore Wind Economic Development Act (OWEDA)



Quiet Offshore Wind Foundations



- Gravity-based Foundations
 - The concrete components are fabricated locally on land and then either transported by ship or floated out to the site of installation. Once offshore, the gravity-based foundation is filled with water and sand, sinking the base so that it sits firmly on a layer of gravel that has been prepared on the seabed

- Suction Bucket Foundations
 - Essentially giant upside-down steel buckets sunk directly onto the seabed. A suction pump then removes the water and air from inside the bucket, which creates a negative pressure environment inside and drives the foundation down into the seabed

