

Outer Continental Shelf (OCS) Wind Energy Update

Casey Reeves Project Manager
Bureau of Ocean Energy Management



Bureau of Ocean Energy Management

- Bureau within the Department of the Interior
- Sister bureau to the Bureau of Safety and Environmental Enforcement (BSEE)
- Oversees development of the nation's oil and gas, renewable energy, and other mineral and energy resources on the OCS



Applicable Laws and Executive Orders (partial list)

- National Environmental Policy Act
- Endangered Species Act
- Marine Mammal Protection Act
- Magnuson-Stevens Fishery Conservation and Management Act
- Marine Protection, Research, & Sanctuaries Act
- National Marine Sanctuaries Act
- Coastal Zone Management Act
- Clean Air Act
- Clean Water Act
- Ports and Waterways Safety Act
- Marking of Obstructions
- Rivers and Harbors Appropriation Act
- Resource Conservation and Recovery Act
- National Historic Preservation Act
- Archaeological and Historical Preservation Act
- American Indian Religious Freedom Act
- Federal Aviation Act
- Federal Power Act
- E.O. 13007 (Indian Sacred Sites)
- E.O. 13186 (Migratory Birds)
- E.O. 13547 (Stewardship of the Oceans, Our Coasts & the Great Lakes)
- Outer Continental Shelf Lands Act
- Energy Policy Act

BOEM's Staged Offshore Wind Authorization Process

Planning and Analysis

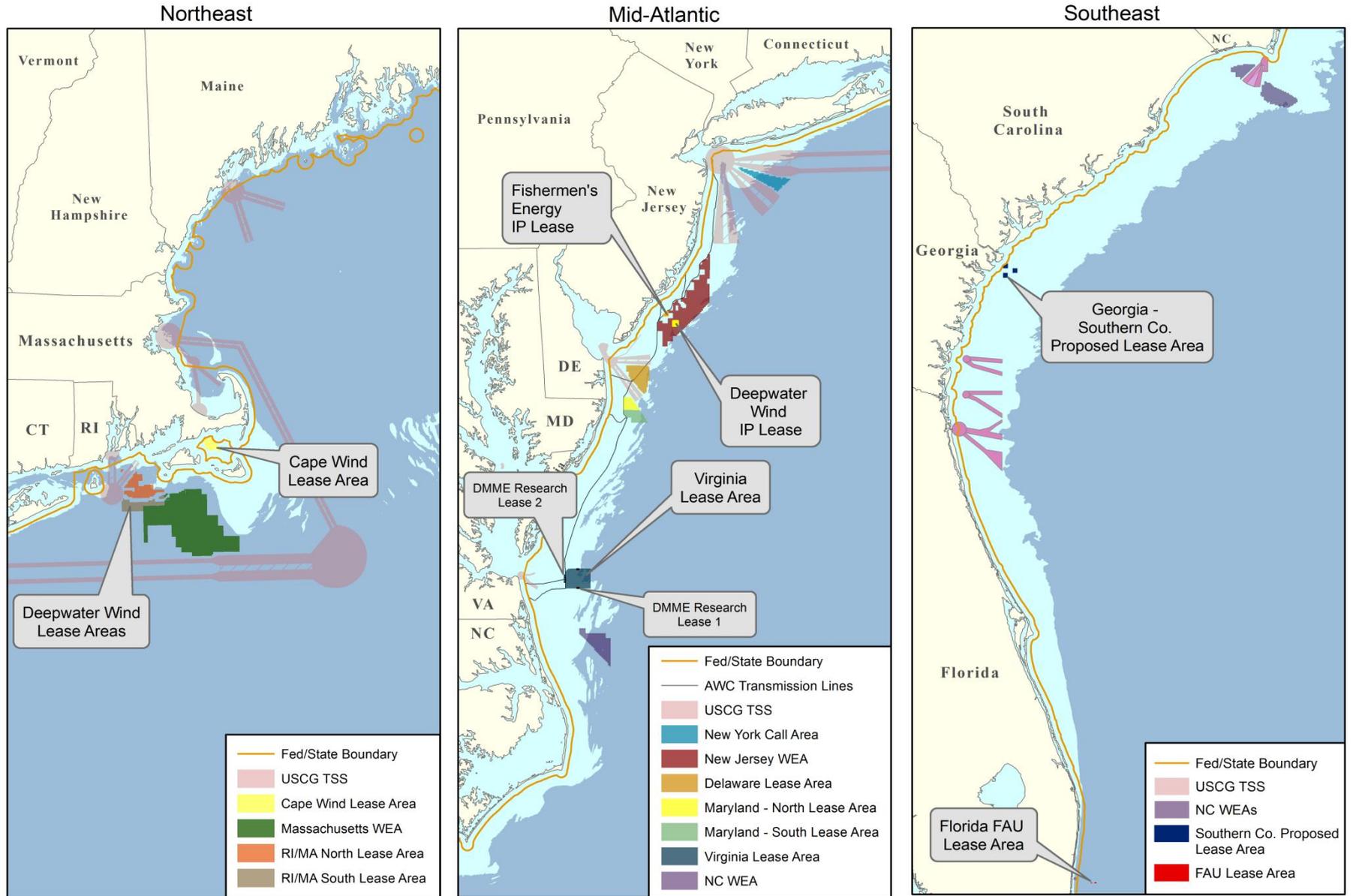
Leasing

Site Assessment

Construction and Operations



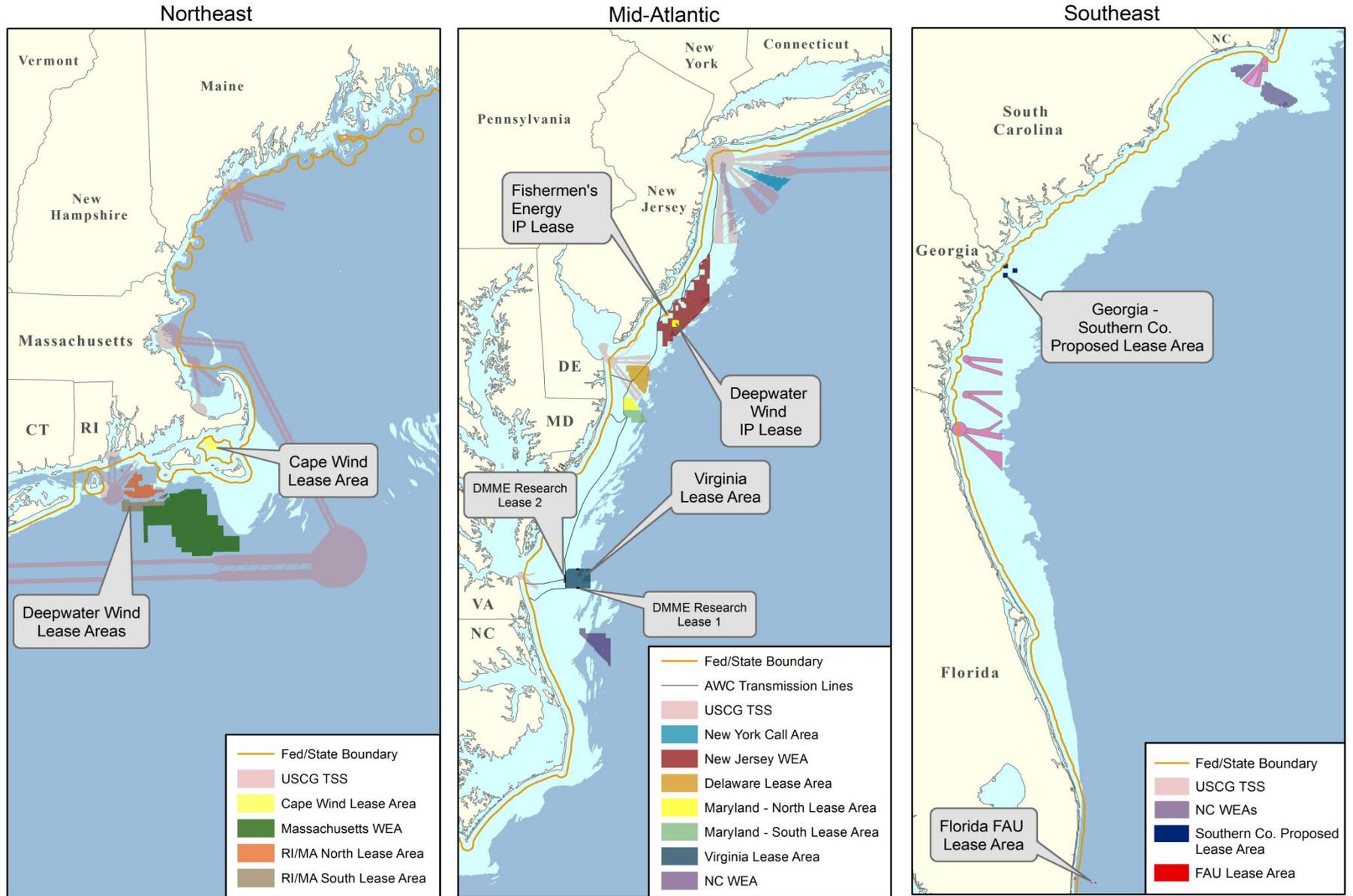
Atlantic OCS Renewable Energy - Massachusetts to Florida



Vessel Traffic

- Coordination with Coast Guard since 2009
- Feedback from the maritime community has informed every Wind Energy Area (WEA) from Massachusetts to North Carolina
- Automatic Identification System (AIS) data first acquired in 2009/2010
 - Analysis of the data was conducted to inform development of the WEAs
 - AIS data now includes 2009-2011
- Ongoing coordination with vessel operators, particularly in the Mid-Atlantic

Atlantic OCS Renewable Energy - Massachusetts to Florida



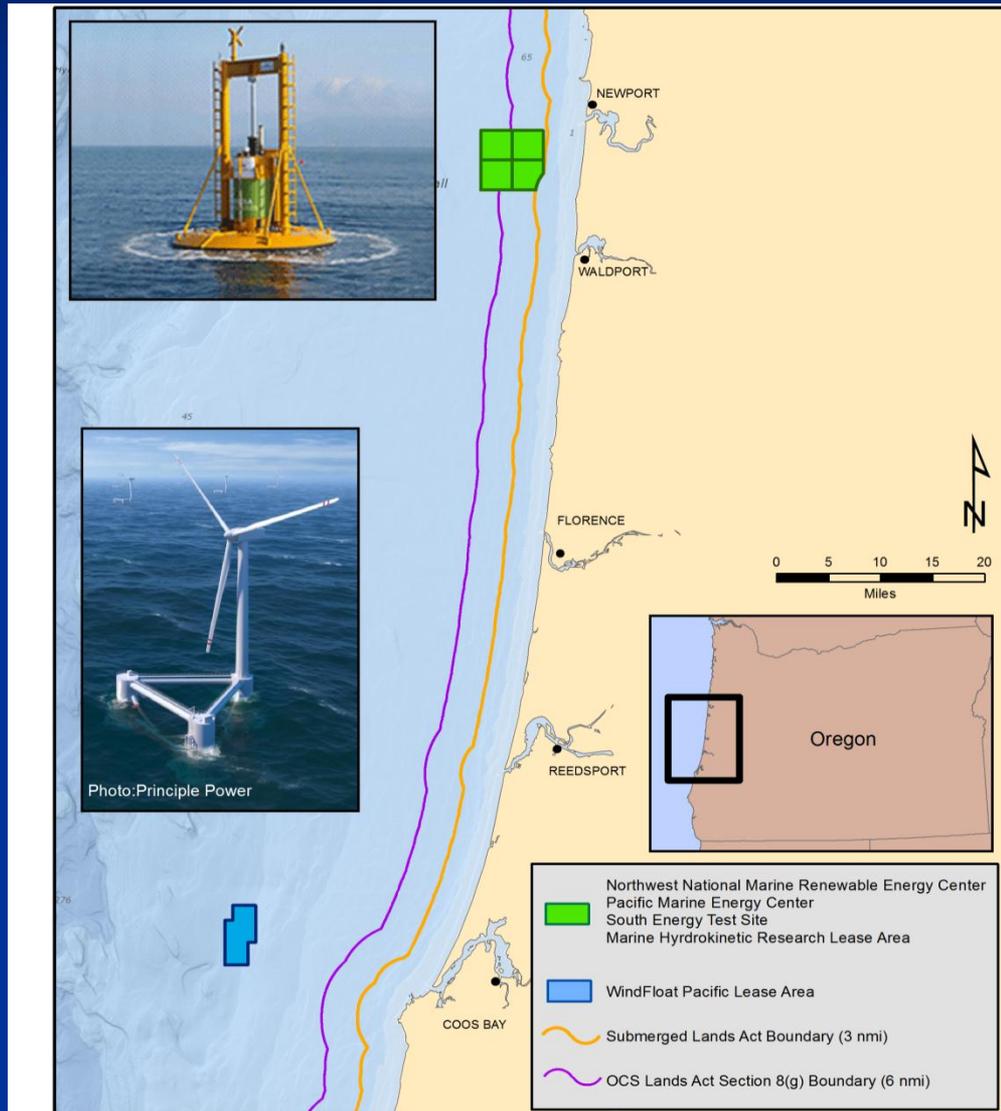
Leasing and Potential Leasing

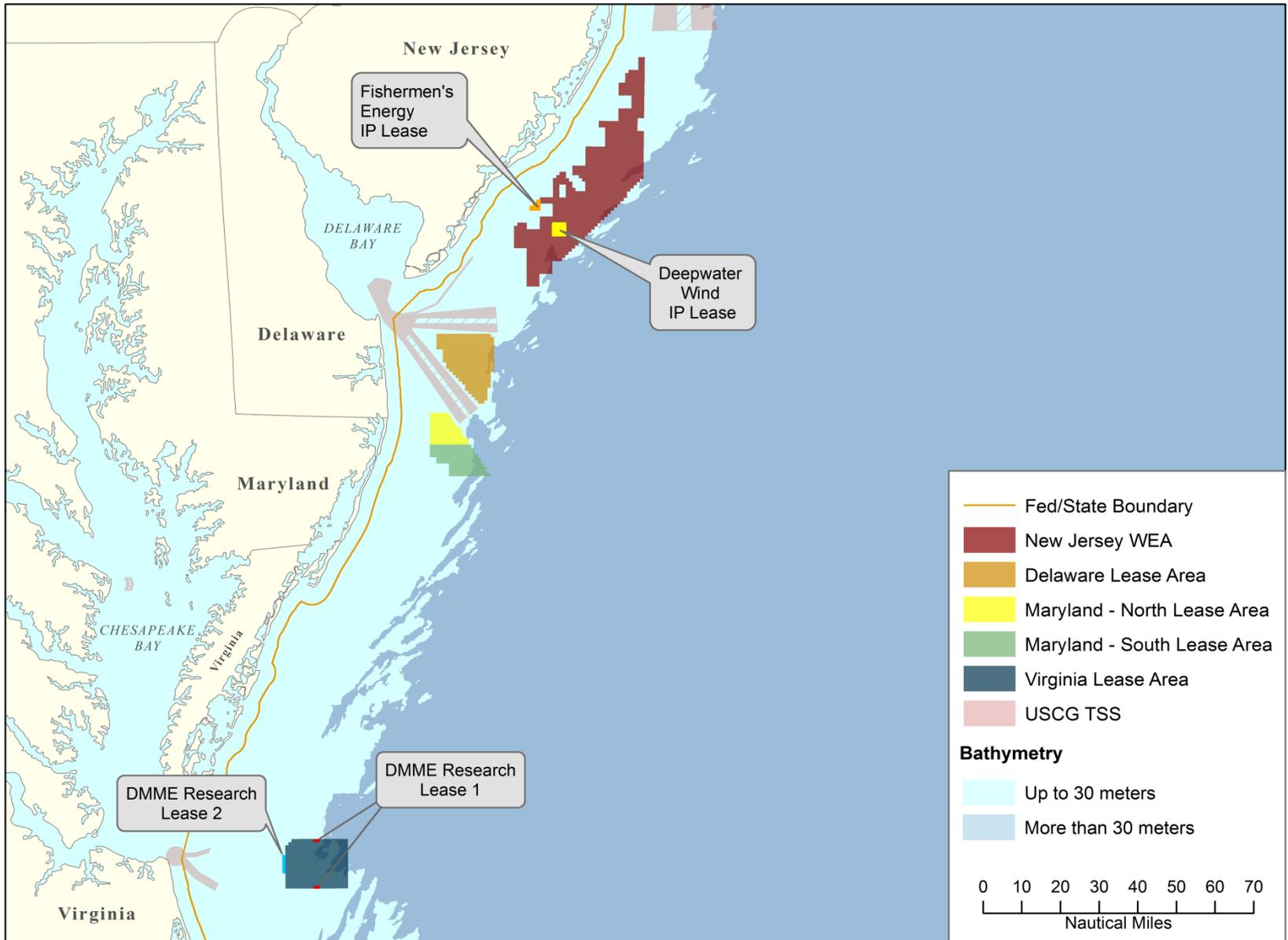
- Effective Dates
 - Rhode Island – October 2013
 - Delaware – November 2012
 - Virginia – November 2013
 - Maryland – September 2014
- New Jersey, Massachusetts - Proposed Sales
- North Carolina Wind Energy Areas - Environmental Assessment

OCS Acreage Leased (or proposed)

| Lease Area | # of OCS Blocks | Acres |
|---|-----------------|---------|
| Cape Wind (468 MW - nameplate capacity) | 5.17 | 29,425 |
| Rhode Island (2 leases) | 28.94 | 164,749 |
| Delaware | 16.94 | 96,430 |
| Virginia | 19.81 | 112,798 |
| Maryland (2 leases) | 14 | 79,706 |
| New Jersey WEA (2 leases proposed) | 60.38 | 343,732 |
| Massachusetts WEA (4 leases proposed) | 130.5 | 742,974 |
| North Carolina WEA (3 leases proposed) | 55.5 | 307,590 |

Pacific OCS Renewable Energy Activities





Map ID: PACB-2014-1042

After Lease Issuance

- Site Assessment – from 1 to 5 years
 - Wind resource Assessment – meteorological and ocean conditions
 - Site Characterization Surveys – bottom and sub-bottom characterization, area activities, species activity, cultural resources
- Construction and Operations Plan (COP)
 - Describes proposed location of turbines, service platforms and cabling and support activities, and schedule of activities
 - Subject to environmental analysis – from 12 to 24 months
- COP approval
 - Could result in additional terms and conditions on operator activity
 - Begins a 25 year operational term

After COP Approval

- Additional survey and data analysis that leads to
 - Facility Design Report (FDR)
 - Site specific engineering data for facilities
 - Fabrication and Installation Report (FIR)
 - Methodology for fabrication, construction, and installation of turbines, service platforms and cabling
- FDR and FIR must be consistent with COP environmental analysis
- After FDR/FIR review construction can begin if BOEM has no objections or after BOEMs objections have been resolved.



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BOEM's Maryland wind energy auction complete. Learn more...

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Western Gulf of Mexico Lease Sale Yields \$110 Million in High Bids on More Than 400,000 Acres

Interior Auctions 80,000 Acres Offshore Maryland for Wind Energy Development, Advances President's Climate Action Plan

BOEM to Modernize Financial Assurance and Risk Management to Better Address Potential Costs, Liability of Offshore Energy Development

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Offshore Commercial Wind Energy Development in New Jersey: As part of President Obama's Climate Action Plan, Secretary of the Interior Sally Jewell and BOEM Acting Director Walter Cruickshank announced the proposed sale of leases for nearly 344,000 acres.

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BOEM, North Carolina Ink Agreement on Evaluating Sand Resources: Under the two-year cooperative agreement totaling \$200,000, North Carolina will evaluate and consolidate existing geological and geophysical data offshore North Carolina to help plan for future coastal resilience.

[Read More](#)



Read the new issue of Ocean Science on mapping.

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Renewable Energy

In 2009, President Barack Obama announced the final regulations for the Outer Continental Shelf (OCS) Renewable Energy Program, which was authorized by the Energy Policy Act of 2005 (EPAct). These regulations provide a framework for issuing leases, easements and rights-of-way for OCS activities that support production and transmission of energy from sources other than oil and natural gas. Department of the Interior's Bureau of Ocean Energy Management (BOEM) is responsible for offshore renewable energy development on the OCS from three general sources: offshore wind energy, ocean wave energy, and current wave energy.

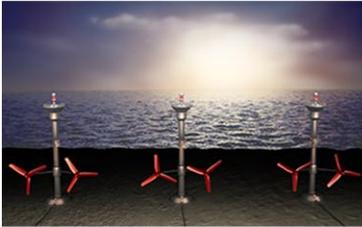


Illustration of tidal energy

- **Offshore Wind Energy.** Wind turbines have been installed offshore a number of countries to harness the energy of the moving air over the oceans and convert it to electricity. Offshore winds tend to flow at higher sustained speeds than onshore winds, making turbines more efficient.
- **Ocean Wave Energy (Hydrokinetic).** There is tremendous energy in ocean waves. Wave power devices extract energy directly from the surface motion of ocean waves. A variety of technologies have been proposed to capture that energy, and some of the more promising designs are undergoing demonstration testing. The Northwestern Coast of the United States has especially high potential for wave energy development, and is one of only a few areas in the world with abundant available wave power resources.
- **Ocean Current Energy (Hydrokinetic).** Ocean currents contain an enormous amount of energy that can be captured and converted to a usable form. Some of the ocean currents on the OCS are the Gulf Stream, Florida Straits Current, and California Current. Submerged water turbines, similar to wind turbines, may be deployed on the OCS in the coming years to extract energy from ocean currents.

For more information about renewable energy, click on the links below.

- [Offshore Renewable Energy Guide](#)
- [Regulatory Framework and Guidelines](#)
- [Lease and Grant Information](#)
- [Stakeholder Engagement](#)
- [State Activities](#)
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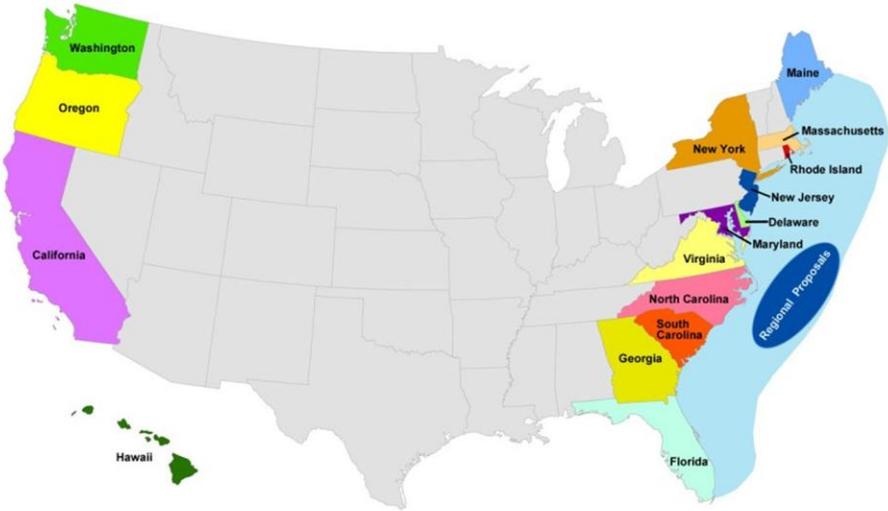

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State Activities

BOEM has seen very strong interest in offshore renewable energy projects on the Outer Continental Shelf (OCS). BOEM is working closely with several states regarding offshore energy development and is in the process of coordinating federal-state task forces in certain coastal states. A summary of the status of activity in the different states can be found below:



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Thank you!

More information at:

www.boem.gov

→ “Renewable Energy Programs”

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