BOEM Pacific Region's Offshore Renewable Energy Program*

Tracy Logan¹

Search and Discovery Article #80449 (2015)**
Posted June 22, 2015

*Adapted from oral presentation given at Pacific Section AAPG, SEG and SEPM Joint Technical Conference, Oxnard, California, May 3-5, 2015

Abstract

The Bureau of Ocean Energy Management, an agency in the Department of the Interior, oversees development of the nation's energy and mineral resources in the Federal waters offshore the United States known as the Outer Continental Shelf (OCS). In 2005, BOEM was granted new authority by the Energy Policy Act to issue leases, easements, and rights-of-way for renewable energy projects, cables transporting renewable energy, and the alternate use of existing facilities on the OCS. BOEM established a robust offshore renewable energy program, standing up Intergovernmental Renewable Energy Task Forces in thirteen states and working closely with stakeholders to insure the safe development and stewardship of the Nation's offshore renewable energy resources. Based in Camarillo, California, the BOEM Pacific OCS Region covers California, Oregon, Washington, and Hawaii. This presentation will provide an overview of activities occurring both nationally and within the Pacific Region, an overview of BOEM's four-step leasing process, and information on the Pacific Region's unique geologic and bathymetric characteristics and how they are being addressed by various types of offshore renewable energy technologies.

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Pacific Section AAPG 2015 Meeting



BOEM Pacific Region's Offshore Renewable Energy Program

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Bureau of Ocean Energy Management

Pacific OCS Region

May 5, 2015 • Oxnard, California





BOEM's Authority

Bureau within the Department of the Interior (DOI)

 Oversees development of nation's energy and mineral resources on the Outer Continental Shelf (OCS)

OCS Lands Act of 1953 as amended, including amendments per Energy Policy Act of 2005

- Oil/gas, marine minerals (e.g., sand and gravel)
- Renewable energy (leases, easements, rights-ofway)
- Alternate use of OCS facilities





BOEM's Jurisdiction

OCS jurisdictional boundary typically 3-200 nautical miles from coastline

BOEM has no jurisdiction within:

- National Park System
- National Wildlife Refuge System
- National Marine Sanctuary System
- Any National Monument





California







Pacific OCS Region

California

Interest in projects, but no formal lease requests

Oregon (Task Force established in 2010)

- WindFloat Pacific
- Pacific Marine Energy Center-South Energy Test Site (PMEC-SETS)

Washington

Little interest to date

Hawaii (Task Force established in 2011)

 Development is prospective, two unsolicited lease requests received in Jan 2015



BOEM's 4-Step Process

Planning and Analysis

- BOEM publishes Call for Information and Nominations
- BOEM identifies priority Wind Energy Areas (WEAs) offshore. WEAs are locations that appear most suitable for wind energy development, or
- Processes unsolicited application for lease
- BOEM may prepare an Environmental Assessment for Lease Issuance and Site Assessment Activities

Leasing

- BOEM determines whether Competitive Interest exists
- If Competitive Interest exists, BOEM notifies the public and developers of its intent to lease through Sale Notices before holding a lease sale
- •If Competitive Interest does not Exist, BOEM negotiates a lease (note: issuance may be combined with plan approval)

Site Assessment

- Lessee conducts site characterization studies
- Lessee submits Site Assessment Plan (SAP)
- BOEM conducts environmental and technical reviews of SAP, eventually deciding to approve, approve with modification, or disapprove the SAP
- If approved, Lessee assesses site (usually with meteorological tower(s) and/or buoy(s)

Construction and Operations

- Lessee may conduct additional site characterization
- Lessee submits Construction and Operations Plan (COP)
- •BOEM conducts environmental and technical reviews of COP, eventually deciding to approve, approve with modification, or disapprove the COP
- If approved, Lessee builds wind facility

Intergovernmental Task Force Engagement





Offshore Renewable Energy Technologies

Wind

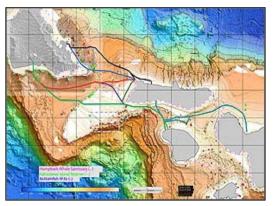




Ocean Current*

Wave*





Transmission

*BOEM is responsible for leasing areas of the OCS for ocean current and wave energy projects, and FERC regulates and issues licenses for construction and operation.





WindFloat Pacific Project

Principle Power, Inc.

Project Highlights:

5 turbines, 6 MW each

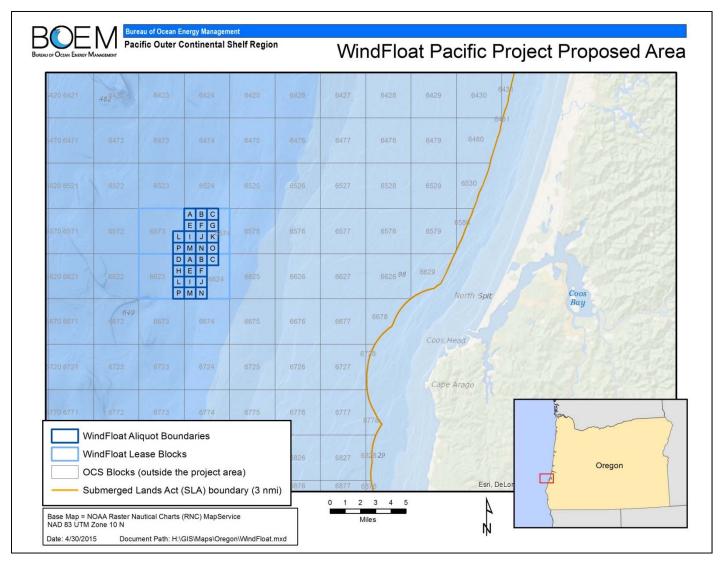


- Floating foundation in > 1,200 feet water depth
- ~16 nautical miles offshore Coos Bay, Oregon
- Department of Energy (DOE) awarded funding for project to demonstrate technology
- Proposed to be operational by the end of 2017





WindFloat Pacific Project







PMEC-SETS

Northwest National Marine Renewable Energy Center at Oregon State University

Project Highlights:

4 berths, 20 MW capacity

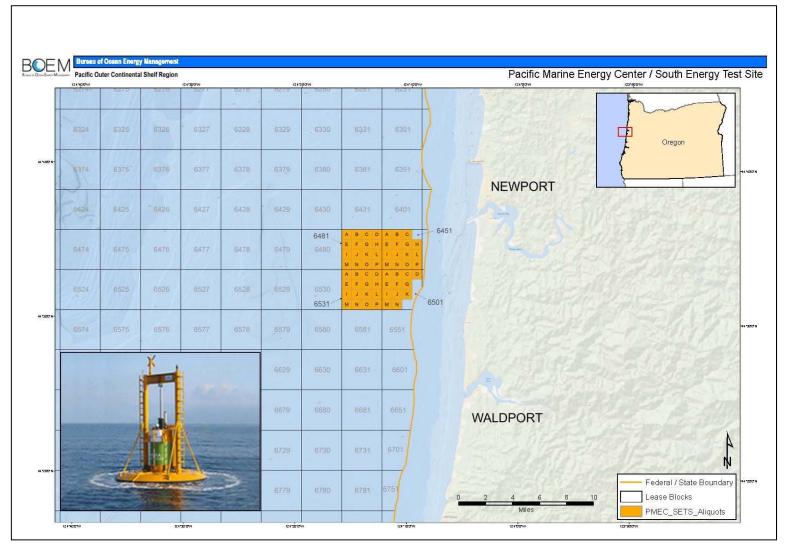


- Marine hydrokinetic research and testing facility
- Each test berth could test single or multiple devices
- Proposed to be operational in 2017
- ~5 nautical miles offshore Newport, Oregon





PMEC-SETS







Hawaii Unsolicited Lease Requests

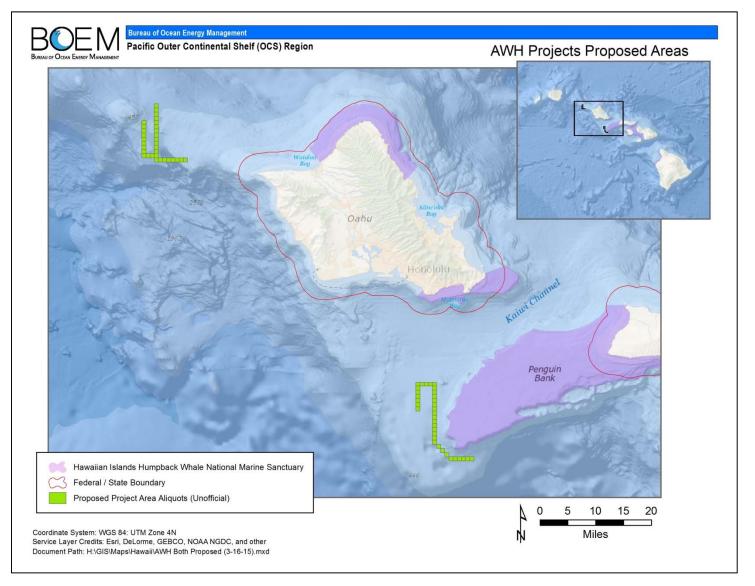
AW Hawaii Wind, LLC Project Highlights:

- 2 unsolicited lease requests
- Oahu NW Project ~12 miles NW of Kaena Point
- Oahu South Project ~17 miles South of Pearl Harbor
- Each project proposes 408 MW of renewable energy generated by 51 floating 8 MW wind turbines
- Next steps: Task Force Meeting and Request for Interest





Hawaii Unsolicited Lease Requests







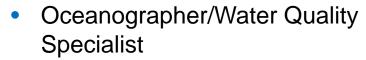
Pacific Region Environmental Expertise













 Invertebrate Zoologist/Benthic Specialist



- Fish/Fisheries Specialist
- Geologist
- Social Scientist
- Geophysicist
- Petroleum Engineer











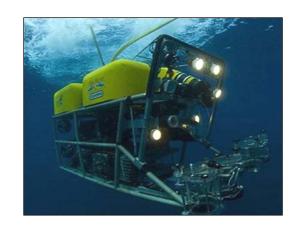
Pacific Region Studies

Perspective on Pacific Region Studies, 1973-2014

~ 310 studies completed at > \$142 M

35 Ongoing Studies	~ \$20 M
20 renewable energy	~ \$13 M
9 conventional energy	~ \$ 3 M
6 both energy programs	~ \$ 4 M









Pacific OCS Region Contact Information



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