

## **Environmental Studies Program: Ongoing Study**

**Study Area(s):** Southern California, Central California, Northern California, Washington-Oregon, Hawaii

**Administered By:** Pacific OCS Region

**Title:** Understanding and Mitigating the Effects of Marine Renewable Energy Technologies on the Coastal and Marine Environment in the Pacific OCS Region (NSL #PC-14-05)

**BOEM Information Need(s) to be Addressed:** The purpose of this study is to research the effects of marine renewable technologies, including offshore floating wind and marine hydrokinetic (MHK) devices, on the coastal and marine environments, and to develop effective mitigation strategies to reduce or avoid potential impacts from renewable technologies in the Pacific Region. With the Energy Policy Act of 2005 (EPAAct) authorization to regulate OCS renewable energy, new program considerations for BOEM include the regulation of a newly emerging offshore industry that will involve the deployment of prototype technology with uncertain environmental and engineering implications. As such, the safety and protection of the environment from these newly emerging industries are generally unknown, and the study of emerging technologies and monitoring renewable energy projects of opportunity in the Pacific Region shall provide effective analysis, mitigation, and management of those sources.

In order for BOEM to make better decisions on renewable energy project siting, installation, and operations, the bureau needs to monitor and observe the operations in the field for environmental impacts and develop mitigation measures to ensure safe and environmentally sound projects. Environmental monitoring data of offshore renewable energy projects and applications will be used by BOEM to evaluate mitigation measures and project conditions of future OCS renewable energy projects and operations. Information from the renewable energy monitoring studies will help decision-makers develop more feasible and scientifically defensible regulatory oversight of projects and mitigation measures to ensure the safety and protection of the coastal and marine environment.

**Total BOEM Cost:** \$544,961

**Period of Performance:** FY 2015–2020

**Conducting Organization(s):** ICF Jones & Stokes, Inc.

**Principal Investigator(s):** [Leo Lentsch](#)

**BOEM Contact(s):** [Mark Eckenrode](#)

### **Description:**

**Background:** With the passage of the EPAAct and amendments to the Outer Continental Shelf Lands Act (OCSLA), the Secretary of Interior was granted authority to regulate the production, transportation, or transmission of renewable energy sources on the OCS. An integral part of implementing the EPAAct and OCSLA requires BOEM to conduct

NEPA environmental reviews and to prepare environmental documents, such as environmental impact statements and environmental assessments on renewable energy projects. In order to conduct these environmental evaluations, BOEM requires environmental data regarding the potential environmental impacts associated with offshore renewable energy technologies and facilities to assist Pacific Region decision-makers prior to issuance of leases and rights-of-way. The environmental documents developed for those projects will require site and resource-specific environmental mitigation measures and associated permit conditions that will ensure that OCS renewable energy projects proceed in an environmentally sound and timely manner.

**Objectives:** The study objectives are to research, observe, sample, and/or monitor offshore renewable energy applications and technologies in the Pacific Region to determine potential environmental effects on the coastal and marine environment. Additional objectives will be the evaluation of the technologies and commensurate impacts to develop technology specific mitigation measures, best management practices, and project conditions to ensure safe and environmentally sound renewable energy applications. The study will provide BOEM with the needed information and ability to comply with BOEM regulations, NEPA requirements, and other bureau requirements.

**Methods:** Methodology may consist of actual site monitoring to determine the environmental effects of various renewable energy device technologies and applications. Additional research may include, but not be limited to, infrastructure surveys, technology reviews, oceanographic and sediment modeling, summary of knowledge reviews, and other types of analysis as directed from BOEM. All Pacific OCS Region areas may be reviewed or studied as appropriate including sites on the Pacific Coast of the U.S. and Hawaii. The type of data collected will be determined by Pacific Region environmental managers and scientists in consultation with ICF as specified by the particular project and resource being studied.

**Current Status:** For Task Order 2, the contractor, ICF, is developing the Offshore Floating Wind Environmental Sensitivity Analysis (OFWESA) database, guidance manual, and final report deliverables, in addition to developing an instructional webinar for presentation to Regional Analysts. Task Order 3 was developed and submitted to ESP for concurrence and approval in FY 2017; upon review, ESP did not provide concurrence and ultimate approval for that Task Order. FY 2018 funds for the contract with ICF were reallocated to FY 2019 to allow for more adequate funding to address high priority needs in FY 2019. A final Task Order will be developed for FY 2019.

*Contract Period:* March 4, 2015–March 3, 2020

*Task Order 1 (Completed):* Determining the Infrastructure Needs to Support Offshore Floating Wind and MHK Facilities on the Pacific West Coast  
Period of Performance: March 4, 2015–March 3, 2016

*Task Order 2 (Ongoing):* Environmental Sensitivity and Associated Risk to Habitats and Species on the Pacific West Coast and Hawaii with Offshore Floating Wind Technologies  
Period of Performance: September 9, 2016– July 25, 2018

**Publications Completed:**

Porter, A. and S. Phillips. 2016. Determining the Infrastructure Needs to Support Offshore Floating Wind and Marine Hydrokinetic Facilities on the Pacific West Coast and Hawaii. US Department of the Interior, Bureau of Ocean Energy Management, Pacific OCS Region, Camarillo, CA. OCS Study BOEM 2016-011. 238 p.

**Affiliated WWW Sites:**

<https://marinecadastre.gov/espis/#/search/study/100089>

<https://www.boem.gov/CORE-Phillips/>

**Revised Date:** July 13, 2018