



# Offshore Renewable Energy



ICF brings a full spectrum of services to support offshore renewable energy projects:

- Strategic Planning
- Siting and Transmission Assessments
- Policy Development
- Economic Modeling
- National Environmental Policy Act (NEPA)/Environmental Impact Assessment
- Public Outreach and Education

Regulators, planners, and energy industry professionals currently face the great challenge of developing alternative offshore energy resources and successfully integrating them into energy supply grids. The economics of these projects are complex, and the challenges of obtaining public support and permits are considerable. ICF International has been a key advisor to both private- and public-sector clients in all facets of the energy industry for more than 30 years. We bring this experience and an array of technical expertise to support clients throughout the regulatory process to successfully develop offshore renewable energy projects.

## Our Approach

ICF offers broad expertise in strategic planning, economic analysis, public outreach, policy development, siting and transmission assessments, and environmental impact assessments. Our staff includes scientists, economists, and analysts with up-to-date knowledge on current and future trends in offshore renewable energy development, along with an understanding of the economic and environmental impact of these projects. Most importantly, we can assemble multidisciplinary teams that can help our clients be successful.

## Featured Solutions

### [Overview of Technology Trends and Analysis of Environmental Effects of Alternative Energy Uses on the Outer Continental Shelf \(OCS\)](#)

ICF is currently supporting the U.S. Department of the Interior Minerals Management Service (MMS) as it develops and implements a new OCS Alternative Energy program. For wind, wave, ocean current, and solar alternative energy sources on the OCS, we have completed the following:

- Overview of current and future trends in technology and an analysis of the best geographic locations for siting these projects
- Survey of strategies and outreach tools that have been successfully used to gain public acceptance of offshore alternative energy projects
- Compilation of a synthesis report of existing information on the potential environmental impacts of alternative energy projects
- Identification of technical, regulatory, and technology experts to attend workshops to be held by MMS and facilitated by ICF
- Development of a Web-assisted, searchable database that houses a comprehensive library of existing information on the environmental effects of offshore renewable projects

### [Development Plan for Offshore Wind Energy](#)

ICF developed a business plan for the Massachusetts Technology Collaborative's (MTC's) Offshore Wind Collaborative (OWC). Sponsored by General Electric, the U.S. Department of Energy, and the MTC, the OWC is a network of organizations intended to foster development of deep offshore wind energy. The OWC will address policy, engineering, environmental, and other issues that may affect the future development of deep offshore wind energy. ICF conducted the OWC development process via focus groups, stakeholder meetings, and steering committees. Participants included representatives from wind energy equipment manufacturers, wind project developers, electric power utilities and marketers, environmental groups, government authorities with jurisdiction over offshore wind development, and marine fishery and navigation interests.

## Featured Solutions (continued)

### Mid-Atlantic Wind Plant Valuation

For a wind project developer, ICF developed a market assessment to support negotiations for construction of a wind plant. Using IPM®, ICF's proprietary modeling tool, we analyzed renewable portfolio standards, green power demand, multipollutant legislation, production tax credits, and accelerated depreciation, all of which drive the value of new wind plants. Renewable energy credit prices and power price projections were developed to estimate annual cash flows and net present value of the facility.

### Value Assessment of a Proposed Wind Plant

ICF analyzed the rate of return for a private developer of wind energy plants in Ireland. Our analysis examined the value of renewable energy premiums in evolving Irish electricity markets, including the shift toward an all-Ireland market as well as a competitive domestic market in Ireland.

### Assessment of Green Power and Emissions Markets

In support of a European independent power producer interested in the market potential for renewable energy generation in Europe, ICF prepared a study that examined the European Commission's new directive on green power as well as the European Union Member State's domestic policies for Tradable Green Certificates. ICF also prepared an analysis of the potential for obtaining a green price premium over the prevailing wholesale power market price in Italy for a new wind power project.

### Upgrading the OCS Economic Impact Models for the Gulf of Mexico and Alaska OCSs

ICF developed a model of the regional economic impacts of offshore oil and gas exploration and drilling for the MMS. The model needed to be applicable to all offshore regions in the country, with emphasis on its applicability for the Gulf of Mexico and Alaska OCSs; this was a challenge because of significant differences in the offshore activities in these two regions, driven in part by weather conditions.

### Offshore Energy NEPA Support

ICF has assisted various clients to successfully complete NEPA reviews for complex offshore energy projects. We completed the Environmental Impact Statement (EIS) for the U.S. Department of Energy that looked at the expansion of the Strategic Petroleum Reserve, which included onshore and offshore facilities in the Gulf of Mexico and three states. We are also working with the U.S. Coast Guard on multiple EISs to determine impacts to the marine environment from construction and operation of deep water ports. Studies have included examination of physical, biotic, and human environments and potential impacts resulting from construction and operation of the projects. Ports were proposed off the coasts of Texas, Florida, and Louisiana.

### Educating the Public About Renewable Energy

ICF developed and managed a statewide Renewable Energy Consumer Education campaign for the California Energy Commission. The program goals were to develop an understanding of consumer attitudes, perceptions, knowledge, and level of awareness concerning renewable energy; raise consumer awareness of renewable energy; increase consumer knowledge about the benefits and mechanics of purchasing renewable energy technologies; and increase renewable energy technology purchases. As part of this comprehensive marketing campaign, ICF created the Renewable Energy Alliance to bring together and leverage partnerships among local, state, and national nonprofit and public- and private-sector organizations connected to renewable energy in California.

### Green Power Partnership

ICF has provided ongoing support to the U.S. Environmental Protection Agency's Green Power Partnership since its inception in 2001. The partnership is a program that promotes voluntary purchases of renewably generated electricity products by U.S. organizations including Fortune 500 companies, government institutions, colleges and universities, and trade associations.

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## About ICF International

ICF International (NASDAQ: ICFI) partners with government and commercial clients to deliver consulting services and technology solutions in the energy, environment, transportation, social programs, defense, and homeland security markets. The firm combines passion for its work with industry expertise and innovative analytics to produce compelling results throughout the entire program life cycle, from analysis and design through implementation and improvement. Since 1969, ICF has been serving government at all levels, major corporations, and multilateral institutions. More than 2,000 employees serve these clients worldwide. ICF's Web site is [www.icfi.com](http://www.icfi.com).

For more information, please visit [www.icfi.com/energy](http://www.icfi.com/energy) or contact:

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