

Massachusetts Opportunities for Offshore Wind Businesses

A. The Advantages of Massachusetts

Massachusetts has set an ambitious agenda aimed at becoming a national hub for offshore wind development. Adjacent to the largest offshore wind energy areas along the East Coast, Massachusetts is home to a robust venture capital community, hosts a concentration of world-class research and technology institutions, and possesses the nation's most highly skilled workforce, including a strong maritime industry sector. Specific advantages include:

1. Massachusetts has developed nation-leading policies to support and incentivize offshore wind development in the federal waters just off its coast, including nation-leading greenhouse gas emissions reduction targets, an aggressive Renewable Portfolio Standard, and requirements for utilities to enter into long-term contracts for renewable energy.
2. Massachusetts is home to a significant brain trust in renewable energy development – including two of the nation's leading academic institutions on wind research: the University of Massachusetts (UMASS) Amherst and the Massachusetts Institute for Technology, as well as the world's largest nonprofit oceanography center, the Woods Hole Oceanographic Institute, and a leading ocean research institution in UMASS Dartmouth's School for Marine Science and Technology.
3. Massachusetts is home to Cape Wind, which is expected to be America's first commercial offshore wind project. The project has received federal and state permits, and power purchase agreements for 77.5% of its generated power. As the project nears construction, Massachusetts is beginning to experience an accelerated migration of offshore wind industry talent, technology, capital, and manufacturing to the state.
4. Massachusetts has the largest offshore wind planning area of any state along the East Coast, totaling almost 1,200 square miles. The Massachusetts Offshore Wind Energy Area has attracted expression of interest from ten US and European offshore wind development companies including Arcadia Offshore Massachusetts, Condor Wind Energy, Deepwater Wind New England, Energy Management Inc., enXco Development Corporation, Fishermen's Energy, Iberdrola Renewables, Neptune Wind, Offshore MW, and US Mainstream Renewable Power Offshore. Additionally, Massachusetts is partnering with Rhode Island on the "Area of Mutual Interest," which spans 260 square miles.
5. Massachusetts is a leader in ocean planning. In 2010, the state released the Massachusetts Ocean Management Plan, the nation's first comprehensive plan to protect critical marine resources and set standards for the development of community and commercial-scale offshore wind energy. In partnership with the Bureau of Ocean Energy Management, the Commonwealth has led a Task Force on Offshore Renewable Energy since 2009 (see below). Further, Massachusetts is conducting science-based surveys of marine mammals,

avifauna, and benthic habitat in order to support the responsible siting of offshore wind projects.

Looking beyond these policies and planning efforts, Massachusetts is poised to help establish the infrastructure and workforce that will build and operate its offshore wind energy system:

1. Massachusetts is already the base for a growing national and international hub for offshore wind industry companies and is home to Siemens Offshore North America, Vestas Wind Systems Research & Development, Global Marine Energy, TPI Composites, Mass Tank, American Superconductor, Second Wind, and Hi-Def, among others.
2. Massachusetts is home to the Wind Technology Testing Center, the largest enclosed wind blade testing facility in the world, capable of testing wind blades the length of a football field. The project was made possible through funding from US Department of Energy and the Massachusetts Clean Energy Center.
3. Massachusetts is planning the construction of the New Bedford Marine Commerce Terminal, the first facility in the United States built specifically to support the assembly, construction, and deployment of offshore wind projects. Groundbreaking is expected to begin in the last quarter of 2012.
4. Massachusetts is partnering with the development community, industry and academia to drive down the cost of offshore wind through advanced technology demonstration projects, as well as monitoring and analysis of first generation projects as they are installed.

Further, Massachusetts is an excellent place to do business for companies in technology-oriented industries. Perhaps most notably, the state is a center for innovation and has helped incubate the computer, biotechnology, and clean energy industries. To serve growing companies, Massachusetts hosts a strong financial services sector that provides expertise, funding, and assistance to new enterprises. Because Massachusetts has a higher percentage of college graduates than any other state, companies can draw on a skilled, experienced, technical work-force with strengths in such key fields as machine tooling, marine technology, and engineering. The state offers an outstanding quality of life, which attracts talent from across the globe. Finally, Massachusetts offers direct flights to all East Coast cities and most European capitals.

Massachusetts-based private sector entities especially relevant to the offshore wind industry include the US Offshore Wind Collaborative (www.usowc.org), a nonprofit organization that facilitates information sharing among stakeholders interested in offshore wind development in the United States, especially along the Atlantic coast, and the New England Clean Energy Council (www.cleanenergycouncil.org), which provides services to and advocacy for the state's and the region's rapidly growing clean energy industry.

B. Government Policies Pertaining to Offshore Wind Power

The Massachusetts Executive Office of Energy and Environmental Affairs (EEA) leads the state's development of policy and legislation to incentivize renewable energy development in

Massachusetts and has been at the forefront of state planning efforts related to offshore wind energy development. EEA estimates that the Massachusetts Offshore Wind Energy Area has the potential to generate up to 4,000 megawatts of wind energy—enough electricity to power 1.7 million households and equal to the electricity currently generated by all the coal-fired power plants in Massachusetts. Specific policies overseen by EEA and other state agencies include the following.

Massachusetts Global Warming Solutions Act (GWSA)

In 2008, Massachusetts enacted the [Global Warming Solutions Act \(GWSA\)](#), establishing the most aggressive economy-wide greenhouse gas emissions reduction target in the country, with a goal to reduce GHG emissions to 25% below 1990 levels by 2020 and 80% below 1990 levels by 2050.

Massachusetts Green Communities Act

In 2008, Massachusetts enacted critical legislation that boosts energy efficiency and encourages municipal investment in renewable energy. The law includes a number of provisions that are making Massachusetts a national leader in clean energy technology, including the establishment of a program for utilities to enter into long-term contracts with renewable energy developers to facilitate financing for the projects and to lock in predictable prices for clean energy for customers.

Massachusetts Renewable Portfolio Standard (RPS)

The Massachusetts RPS requires that all electricity suppliers—regulated distribution utilities and competitive suppliers—obtain a percentage of the electricity they sell from generators that produce electricity using certain specified renewable technologies. There are several classes of the RPS program, with new wind projects—both on land and offshore—qualifying as RPS Class I resources. The Class I requirement is 7% in 2012 and will increase by 1% a year without limit, reaching 15% in 2020. The RPS is administered by the Massachusetts Department of Energy Resources. Once constructed, the power from an offshore wind project can be used to satisfy the state's RPS. Information about the RPS is available at www.mass.gov/energy/rps.

Massachusetts Ocean Management Plan

The Massachusetts Ocean Act of 2008 required the state's Secretary of Energy and Environmental Affairs to develop a comprehensive ocean management plan for the state by the end of 2009. That plan identified certain state waters that are eligible for offshore wind development and other state waters where such development is prohibited. To see the plan, go to <http://www.mass.gov/eea/ocean-coastal-management/mass-ocean-plan>.

BOEM Massachusetts Offshore Renewable Energy Task Force

In 2009, an intergovernmental Task Force was formed at the request of Massachusetts officials to consult the federal government and provide stakeholder input on the potential for offshore wind development in federal waters south of Massachusetts. The Task Force, which has held eight meetings, includes representatives from federal, state, and tribal governments, as well as elected officials from local communities on Cape Cod, the Islands, and the South Coast of

Massachusetts. Additionally, the Commonwealth established the Fisheries Working Group and the Habitat Working Group on Offshore Renewable Energy to help inform the federal offshore wind leasing process.

MassCEC Offshore Wind Activities

The Massachusetts Clean Energy Center (MassCEC) (www.masscec.com) is a quasi-public agency dedicated to building the clean energy industry in the state and increasing renewable energy electricity generation. It is funded by private funds and via a charge on ratepayers' electricity bills. MassCEC led the construction and management of the Wind Testing Technology Center and is involved in the construction of the New Bedford Marine Commerce Terminal. MassCEC's Offshore Wind and Marine Energy Program's approach reflects the emerging nature of the industries, regulatory regimes, and development climates. MassCEC has focused on supporting collaborative efforts to grow sustainable offshore renewable industries, supporting unique studies that advance the prospects for Massachusetts offshore renewable energy development. Examples of activities that MassCEC has supported include:

1. Seed funding to support establishment of the US Offshore Wind Collaborative;
2. Study to assess "Strategic Options for Investment in Transmission in Support of Offshore Wind Development in Massachusetts" <http://masscec.com/index.cfm/pid/11151/cdid/11695>;
3. Study of "Port and Infrastructure Analysis for Offshore Wind Energy Development" <http://masscec.com/index.cfm/page/Port-and-Infrastructure-Analysis-for-Offshore-Wind-Energy-Development/cdid/11693/pid/11170>;
4. Early stage environmental surveys of large whales, sea turtles and birds for the Massachusetts offshore wind energy area;
5. Match funding to support Massachusetts research institutions involved in DOE offshore wind energy research; and
6. Leadership to foster collaboration and guide regional offshore wind research by engaging like-minded public agencies and regional academic/research institutions.

An offshore wind project in Massachusetts is eligible for several incentives during its development phase. Those programs fall under the Commonwealth Wind program, which is administered by the MassCEC.

C. Government Policies Pertaining to Manufacturing and Service Activities Related to Offshore Wind

For offshore wind-related companies that are interested in exploring opportunities for public assistance in Massachusetts, there are two key agencies: MassCEC and the Massachusetts Office for Business Development (MOBD). Although most of the opportunities for special incentives reside at the MassCEC, it is desirable to work with both of these agencies. In addition, there are some special tax exemptions available to clean energy businesses.

MassCEC's Investments in Clean Technology Division

MassCEC strives to accelerate the success of clean energy companies in Massachusetts and build the clean energy workforce. Through its Investments in Clean Technology Division, it makes direct investments in clean energy companies and has several programs that may apply to offshore wind vessel-related companies, as well as other companies. To reach the Investments in Clean Technology Division of MassCEC, write to Info@MASSCEC.com.

The Division's most relevant programs are the following:

Investments in Job Creation: MassCEC provides support to clean energy companies that are expanding their operations in Massachusetts. Companies involved in the wind energy supply chain would potentially qualify for these investments. When considering possible support, key factors that MassCEC considers are the potential economic development impacts for Massachusetts and the number and nature of the jobs that will be created. The company's geographic location within the Commonwealth is also a consideration. The investment structure and amount depends on these factors. Applications are accepted on a rolling basis and a company needs to submit a business plan to apply. For more information, see <http://www.masscec.com/index.cfm/page/Investments-in-Job-Creation/cdid/11529/pid/11174>.

Investments in the Advancement of Technology: Primarily through venture capital equity investments of up to \$500,000, MassCEC supports early-stage Massachusetts clean energy companies involved in developing and commercializing clean energy technologies. Companies involved in the wind energy supply chain would potentially qualify for these investments. Applications are accepted on a rolling basis and a company needs to submit a business plan to apply. For more information, see <http://www.masscec.com/index.cfm/page/Investments-in-The-Advancement-of-Technology/cdid/11527/pid/11174>.

Massachusetts Office of Business Development (MOBD)

The mission of the Massachusetts Office of Business Development (MOBD) is to strengthen the Massachusetts economy by providing a highly responsive, pro-business climate that stimulates job growth and builds on the core economic strengths of every region. MOBD facilitates access to resources and incentive programs that help businesses thrive in Massachusetts. By providing guidance and expertise, MOBD creates a dynamic environment for business expansion and growth across the Commonwealth.

The MOBD team can connect projects to a range of relevant resources, including:

- Site selection
- Tax incentives
- Infrastructure support
- Permitting & regulatory assistance
- Workforce training & development

To learn more, visit MOBD's web site: www.mass.gov/mobd.