

# Offshore Wind In Maine

Tapping into Maine's maritime heritage and natural wind resource to advance clean, domestic energy while strengthening coastal economies.

## Maine-Made Power



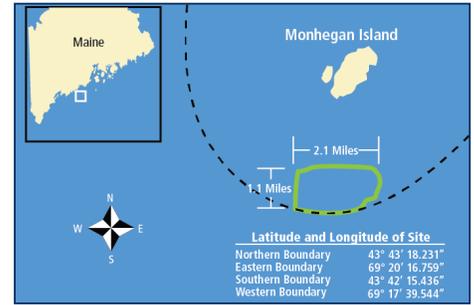
Maine's manufacturing heritage was built on local power. Successfully harnessing offshore wind will contribute to the transformation of Maine's energy sector to renewable sources, and keep our energy dollars in our state. Offshore wind is Maine's largest natural resource, with more than 156 GW off of our coast. The entire state of Maine uses 2.4 GW each year.

## Local Jobs



UMaine economist Todd Gabe estimates that the New England Aqua Ventus I project will produce nearly \$200 million in total economic output, supporting jobs during the construction period and ongoing operation and maintenance jobs during the project duration. Jobs range from construction workers and technicians to ship captains and professional engineers.

## Responsible Development



We are committed to responsible offshore development in a manner that includes involvement and guidance by local communities and marine users. MAV is committed to not developing a larger scale project within 10 miles of an inhabited island or peninsula along the coast of Maine.

## Why Offshore Wind?

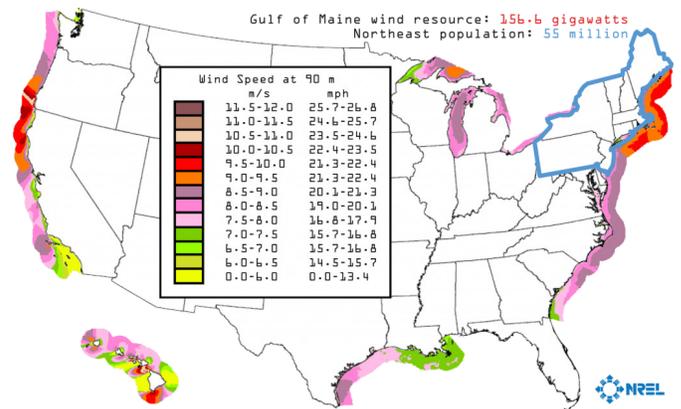
80% of U.S. electricity demands are located in coastal states, and the total U.S. offshore wind energy potential is more than twice what the entire country currently uses. Nearly 80% of the U.S. offshore wind resource is located in deepwater, which can be cost effectively harnessed using the University of Maine's VoltturnUS.

## Offshore wind in Maine will:

1. Start a new industry; create jobs in engineering, construction, manufacturing, maintenance, navigation, and other areas.
2. Reduce Maine's reliance on imported fossil fuels (nearly \$6 billion per year); keep more of our energy dollars in Maine.

For more than 10 years, UMaine has led development of the patented VoltturnUS floating concrete hull technology that can support wind turbines in water depths of 150 feet or more, and has the potential to significantly reduce the cost of offshore wind.

States to the south of us are working to build their offshore wind industries: MA, RI, NY, and MD have major projects in the works attracting billions of dollars in local investments.



The Gulf of Maine is home to more than 156 GW of clean, renewable energy and is located close to New England population centers.

## New England Aqua Ventus I

Maine Aqua Ventus I, GP, LLC, is leading a demonstration project called New England Aqua Ventus I, a 12 MW floating offshore wind pilot project to develop a clean, renewable energy source off Maine's shores.

This demonstration project will deploy two 6 MW turbines on VoltturnUS, the floating concrete semi-submersible hull designed by UMaine, south of Monhegan Island. Each floating hull/turbine is held in position by three marine mooring lines securely anchored to the seabed, with the electrical generation connected by subsea cable to the Maine power grid on shore.

### When will the project happen?

Maine Aqua Ventus has received \$10.7 million from the U.S. Department of Energy, and is eligible for additional federal funding after meeting project milestones, subject to progress reviews. The New England Aqua Ventus I demonstration project will likely be the first full-scale floating wind project in the Americas. Fabrication of the floating turbine platform will begin in 2019 and commercial operation slated for 2020.

Once installed, the turbines are expected to produce clean renewable energy for the duration of a 20-year power purchase agreement (PPA).



UMaine's patented VoltturnUS floating concrete hull technology that can support wind turbines in water depths of 150 feet or more, and has the potential to significantly reduce the cost of offshore wind.

### Where will construction take place?

The floating offshore wind turbine platforms and column segments will be fabricated and assembled at an existing industrial facility adjacent to the Penobscot River in Brewer. Turbine components will be assembled on the hull in Searsport and subsequently towed to the UMaine Deepwater Offshore Wind Test Site at Monhegan Island.

An interconnection alternate current (AC) cable will join the turbines, and then connect to a 34.5 kilovolt (kV) subsea power cable extending from the test site to a proposed onshore transition point. Several routes to the mainland are currently being evaluated.

### How was the Monhegan Island test site chosen?

The test site south of Monhegan Island was selected following an extensive public outreach process conducted by the State of Maine due to its distance from the mainland, strong and consistent winds, limited number of fishermen, and close proximity to an island with high energy costs. More than five years of ecological and environmental surveys have been conducted, making the test site one of the most extensively studied locations in the Gulf of Maine.

Since the selection and establishment of the test site, UMaine has continued its outreach with Mohegan and Midcoast Maine and other potentially affected industry and environmental stakeholders. With dozens of meetings, presentations, video conferences, and telephone conferences, as well as more than two years of weekly or monthly calls with the Monhegan Energy Task Force (METF) since its inception, UMaine has demonstrated its ongoing commitment to project communications.

In July 2016, Monhegan Island voted for the Monhegan Plantation to engage in negotiations with Maine Aqua Ventus on a community benefit package, a significant milestone and a requirement of the project's power purchase contract term sheet with the Maine Public Utilities Commission.

For more information about the test site visit: [umaine.edu/offshorewindtestsite](http://umaine.edu/offshorewindtestsite)

### How will environmental impacts be assessed?

New England Aqua Ventus I is a two turbine demonstration project that requires extensive and ongoing collaboration with state regulatory agencies including: Maine Department of Environmental Protection and Maine Department of Marine Resources, U.S. Fish and Wildlife, NOAA, U.S. Army Corps of Engineers, U.S. Coast Guard, and others.

The University of Maine, the State of Maine, and U.S. Department of Energy have funded multiple studies/surveys to characterize the baseline physical and ecological environment of the test site. Completed studies include partnering with the New Jersey Audubon Society to use radar to track birds and bats, vessel-based visual surveys conducted by Lubird Environmental, acoustic bat surveys conducted by Stantec, and a passive acoustic survey for songbirds at Lobster Cove, Monhegan Island, conducted by the University of Maine.

Ongoing ecological monitoring will be performed during operation for research and compliance.

### What comes after New England Aqua Ventus I?

Successful demonstration of the technology has the potential to lead to a 500 MW-scale project placed in U.S. federal waters. MAV is committed to not developing a larger scale project within 10 miles of an inhabited island or peninsula along the coast of Maine.

For more information, visit  
**MaineAquaVentus.com**  
or contact Josh Plourde at (207) 581-2117  
or by email at [jp@maine.edu](mailto:jp@maine.edu).