POWER-US report makes case for U.S. investment in collaborative offshore wind energy research and innovation

Report by Massachusetts higher education initiative outlines opportunity, suggests blueprint for large-scale research endeavors while stewarding resources

BOSTON (December 20, 2018)—The U.S. could tap into a vast offshore wind energy resource and better steward its marine environment by galvanizing large-scale research and fostering public-private partnerships, according to a report by the Partnership for Offshore Wind Energy Research (POWER-US). The report draws lessons from past industry-transforming initiatives and concludes that similar approaches can be taken to greatly expand the ability of the wind energy industry to generate power and jobs for the U.S. economy.

The report, “Reaching Convergence in U.S. Offshore Wind Energy Research: A Multidisciplinary Framework for Innovation,” is the result of a two-year initiative convened by the Massachusetts Research Partnership in Offshore Wind (MRP) -- a partnership of several academic and research institutions. The initiative included nine major workshops and numerous discussions with industry leaders and university researchers across the U.S. and globally. The POWER-US initiative and other efforts across the country are precursors to the collaborative approach needed to transform the wind energy industry.

“We have the potential to become a world leader in offshore wind energy generation and innovation if we put our resources behind the effort and work together to make it happen,” said Fara Courtney, strategic advisor for POWER-US.

The report notes that public investment in research and strong connections between academia and industry have helped advance offshore wind energy in Europe. It describes how large scale public support and the convening of complementary expertise were critical to the success of other large-scale U.S. scientific and engineering initiatives, such as earthquake simulation, oceanography and materials manufacturing.

The report builds upon these examples and proposes a research and development framework that will enable the U.S. offshore wind industry to grow and achieve long term sustainability.
The emphasis on “convergence” highlights the importance of a collaborative approach, bringing together expertise from a wide range of disciplines, including engineering, atmospheric science, logistics, economics, environmental science, and local communities and the marine industry, including fisheries.

Other themes explored by the report include balancing near-term deployment needs with innovation for the long-term; moving state of the art technology and knowledge into standard practice; long-term infrastructure planning; the elements of resilient design; and advancing the public interest in the context of U.S. energy needs, environmental obligations, and the economy.


Members of the MRP include the University of Massachusetts Amherst, University of Massachusetts Boston, University of Massachusetts Dartmouth, University of Massachusetts Lowell, Bristol Community College, Northeastern University, Tufts University, and the Woods Hole Oceanographic Institution. The MRP’s work was supported by funding from the Massachusetts Clean Energy Center.

**QUOTES:**

"Hats off to Massachusetts and the Partnership for Offshore Wind Energy Research (POWER-US) for coming together to address the most critical issues facing the development offshore wind energy, at a time when the nascent U.S. industry is boldly facing a groundswell of new technical challenges. POWER-US is an exemplary model of extraordinary cooperation among America’s leading academic institutions, which have banded together with eastern states and industry to help the nation fulfill over 10,000 MW of near-term clean energy commitments for offshore wind. I am so impressed with the teamwork and collaborations that have emerged to make POWER-US one of the most relevant academic unions I have ever seen." – **Walter Musial, Principal Engineer and Manager of Offshore Wind, National Renewable Energy Laboratory**

“The Offshore Wind Research Framework reflects the type of interdisciplinary and comprehensive approach that is essential to advancing offshore wind over the next decade and beyond. MassCEC is pleased to support this effort and looks forward to continued collaboration with the Massachusetts Research Partnership and POWER-US as part of a national network for offshore wind research and innovation.” – **Stephen Pike, CEO, Massachusetts Clean Energy Center**

“Through the recently launched [National Offshore Wind Research and Development Consortium](http://nationaloffshorewind.org), NYSERDA will work with our consortium partners to leverage the expertise and research capacity of many institutions, organizations and partnerships such as the POWER-US network. The approaches and concepts recommended by the Offshore Wind Research Framework for networking, data, systems-level thinking and strategic research provide a valuable complement to our efforts to reduce the cost and risk of offshore wind development.
throughout the U.S.” – Alicia Barton, President and CEO, New York State Energy Research and Development Authority

“In Massachusetts, we created a 1600 MW market for offshore wind energy and are working to double that. Together with our neighboring states, who are working to create their own markets, we need to make sure that we fully realize the economic development potential of this new industry in the long run. Investing in job creation, research, education and infrastructure are essential to the future success of U.S. offshore wind.” – Patricia Haddad, Speaker Pro Tempore, Massachusetts House of Representatives

“Now that the U.S. offshore wind industry is rapidly hitting its stride, with record-breaking lease sales and projects advancing all along the Atlantic coast, the Business Network for Offshore Wind appreciates the long-term view and commitment represented by the POWER-US report. We look forward to partnering with U.S. research and educational institutions to drive American innovation and workforce development in support of a robust offshore wind sector.” – Liz Burdock, CEO & President, Business Network for Offshore Wind