TESTIMONY BEFORE THE ENERGY, UTILITIES AND TECHNOLOGY COMMITTEE

"An Act To Prohibit Offshore Wind Energy Development"
L.D. 101

"An Act To Establish a Moratorium on Offshore Wind Power Projects in Maine's Territorial Waters"
LD 1619

Senator Lawrence, Representative Berry, and Members of the Joint Standing Committee on Energy, Utilities and Technology (EUT): My name is Habib Dagher and I am the Executive Director of the University of Maine's Advanced Structures and Composites Center. It is the largest university-based research center in Maine, with 260 full and part-time employees. I have four children who were born and raised in Maine, went to UMaine, and we think they had the best education possible. Over the 35 years that I have worked at UMaine, I have been committed to develop technologies that create Maine jobs, and many have resulted in spinoff companies in Maine.

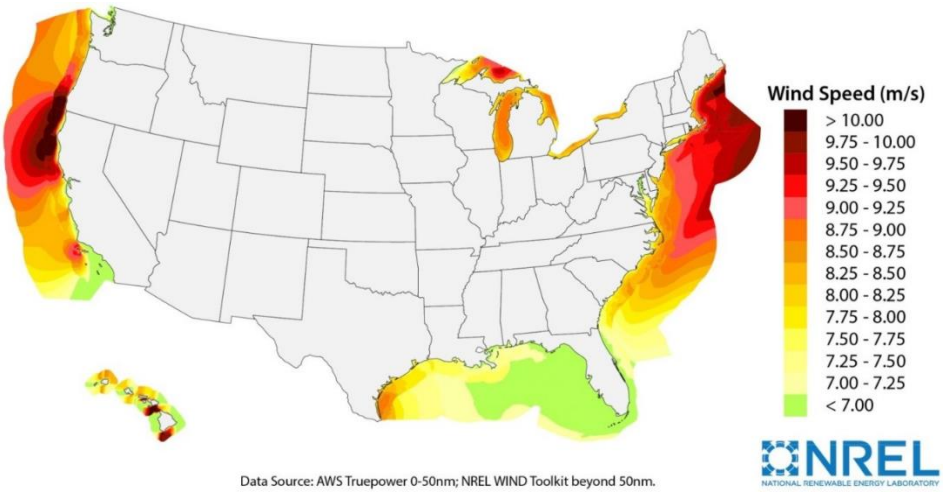
The Center through our grants and contracts has financially sponsored 2,600 student interns, who get paid to work on research projects which transforms their education. This includes dozens who have worked on offshore wind and some are now leaders in the industry.

I testify "not for nor against" L.D. 1619.

I testify "against" L.D. 101.

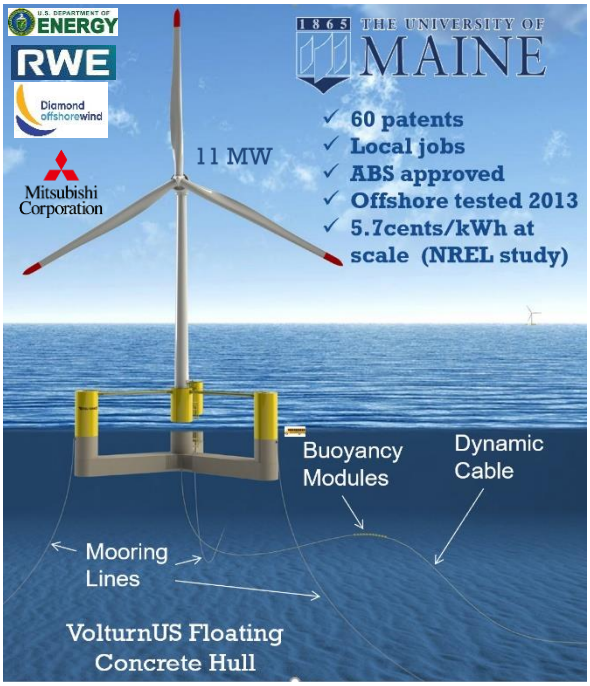
1. **How we got here:** Back in 2008, when heating oil and gasoline prices reached $4/gallon, the average family in Maine was spending about $10,000 per year on energy costs, 90% of that on heating oil and gasoline. Over the past many years, Mainers spent $4-$6 billion per year on fossil fuels, and most of these dollars leave our state. UMaine has worked hard on finding ways to keep our energy dollars in Maine by generating our energy needs for heating and transportation here in the state. We looked at all energy options that we have, and determined that offshore wind is our largest untapped resource.

2. **The Offshore Wind Resource**: Maine has one of the best offshore wind resources in the US. The Gulf of Maine (GOM) has nearly 156 GW of offshore wind capacity within 50 miles of the coast. If we harnessed just 3% of that resource, that is 3% of the GOM area, we can electrify heating and transportation. The only thing is that we have very deep waters off our coast, and we need to float the turbines.



3. **UMaine Technology Developed to Create Maine jobs, Protect the Environment.** For over a decade, the university has worked on the development of floating wind turbine technology, called VolturnUS, so that we can build a Maine Floating offshore wind industry, create Maine jobs, reduce our dangerous reliance on fossil fuels, and protect the environment. Starting in 2008, we have built the leading floating offshore wind research team in the US.

4. **Technology Works and Attracted $150 Million in Investment**. UMaine has now over 60 patents issued on the VolturnUS technology, and it works:



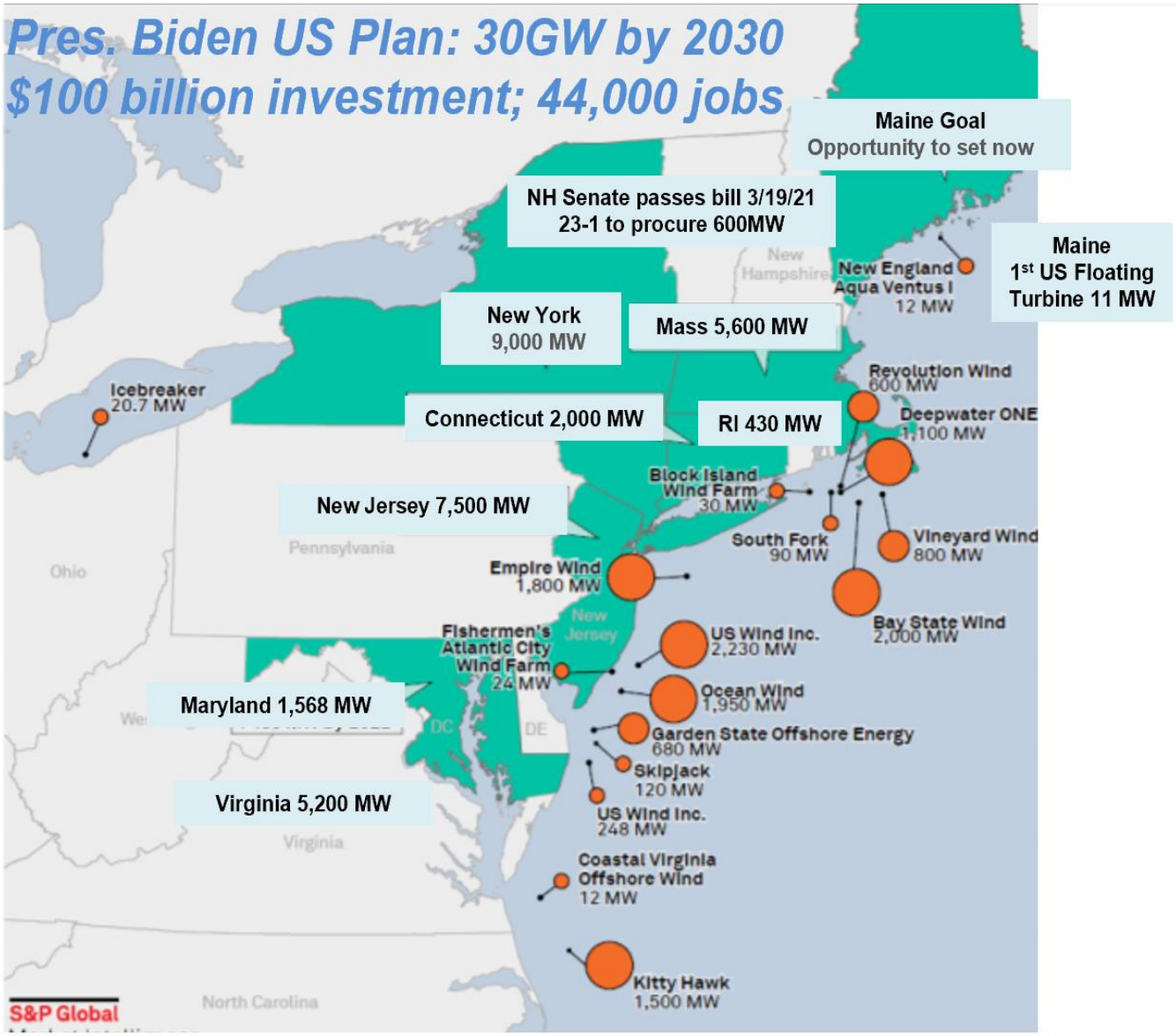
   a. In 2013, we deployed a 1:8 scale version of the hull off Castine with nearly 50 sensors on board. In a 500-year return period storm, which has 70 ft waves peak to trough, it pitched off vertical less than 7 degrees. The testing proved our numerical predictions.

   b. The technology was independently approved by the American Bureau of Shipping (ABS) engineers and independent engineering firms.

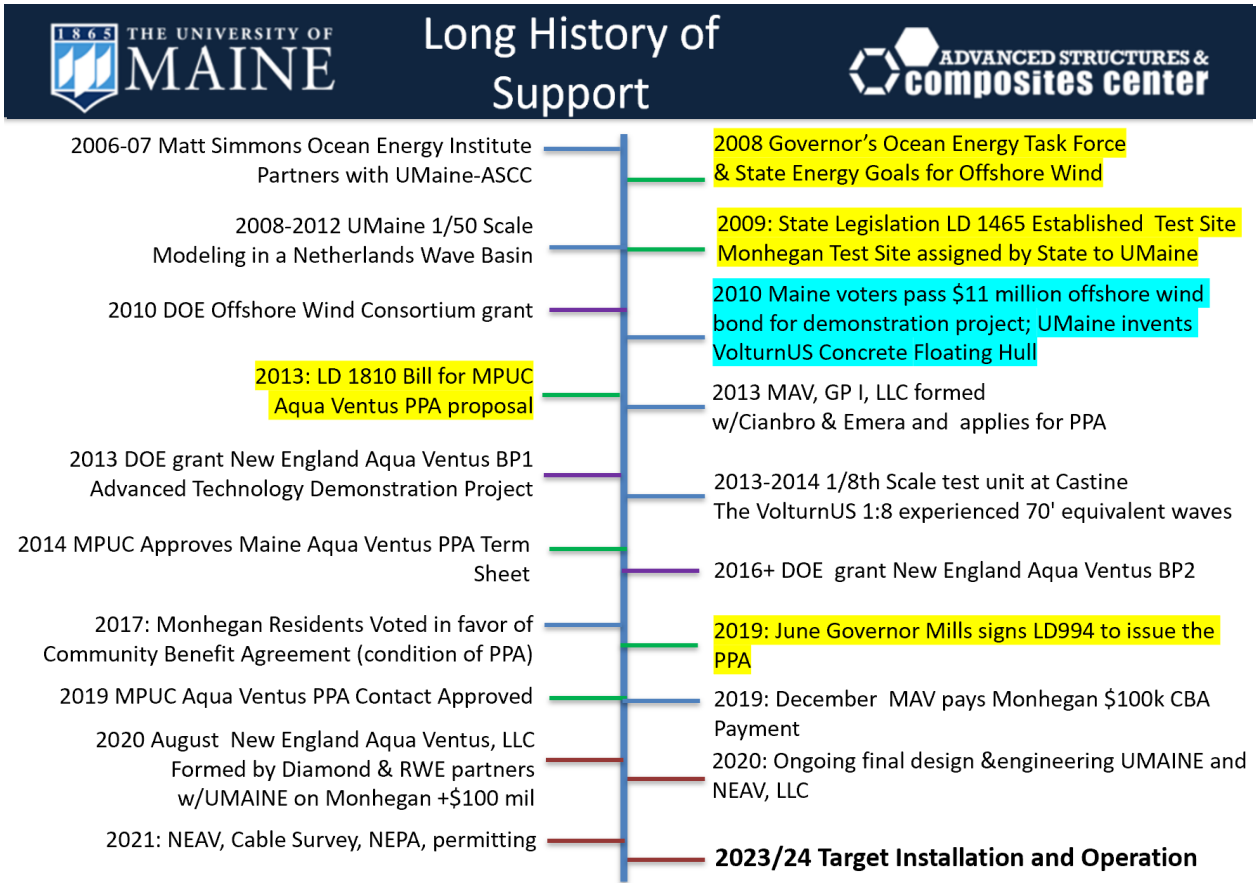
   c. The US Dept. of Energy decided to invest $50 million in our technology, and build the first full-scale floating hull in the US. This demonstration project is called New England Aqua Ventus. It consists of a single, 11 MW class floating turbine, to be located off Monhegan Island.

   d. Numerous private companies competed to build the Aqua Ventus project and we chose two of the best in the World: RWE and Diamond Generating Corporation, a subsidiary of Mitsubishi. Each of these two companies committed to invest $50 million in the demonstration project, with a total of $100 million. This is the largest commercialization opportunity ever to come out of the University of Maine research.

5. **We are not alone – 30GW by 2030:** There is an international race to develop floating wind turbines and Maine has the opportunity to lead the race in the US. We are not alone in developing offshore wind, but we could be first in the US to develop a floating wind industry.



6. **Long History of Bipartisan Support and Mainers have Voted:** There has been a long history of bipartisan support for offshore wind in Maine, like there has been in other east coast states. Back in 2009, the Maine Legislature passed LD 1465 which established the Monhegan Test Site which was assigned to the State to UMaine. In 2010, Maine voters passed an $11 million bond to support UMaine offshore wind research and the demonstration project.



7. **We Need to Work Together, Stay the Course.**
The governor's approach is right: *"Crawl Before you Walk, Walk Before You Run"***.** We are now at the test and commercialization stage, without doing Aqua Ventus and the follow Research Array, we will not demonstrate commercial viability. The opportunity is to draw billions of dollars of investment into Maine and create thousands of jobs.

We know offshore wind and fishing can coexist. We have a lot of respect for everybody who earns their living on the water. They're part of the DNA of the state of Maine and our goal is to be able to work together to benefit all of Maine. Let's roll up our sleeves and find answers.