



OCEAN RENEWABLE ENERGY COALITION

The National Trade Association for Hydrokinetic and Marine Renewables

OREC COMMENTS ON SENATE BILL 630, THE MARINE AND HYDROKINETIC PROMOTION ACT OF 2011

Sean O'Neill, President

Thank you, Mr. Chairman. I thank you and your colleagues for devoting your time and resources to this important topic. The Ocean Renewable Energy Coalition is the national trade association for marine and hydrokinetic renewables, otherwise known as MHK, including wave, tidal, ocean thermal energy, and offshore wind. We're made up of 54 companies ranging from small technology and project developers, to large investor-owned utilities, publicly owned utilities, engineering consulting and law firms.

I hope today to provide some additional justification and context in asking for your support of Senate Bill 630, the Marine and Hydrokinetic Promotion Act of 2011. This bill adds important elements to the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. Specifically, and most importantly, the Bill would provide much needed research and development funding to continue the excellent work done by the Department of Energy and other agencies to foster the responsible commercialization of this industry.

Senate Bill 630 adds advanced systems engineering and system integration methods to identify critical interfaces and develop open standards for marine and hydrokinetic renewable energy. It also provides for three open water test centers and a device verification program. Combined these three programs address technology development from turbine design to how arrays of devices affect efficiency and environmental performance as well as grid integration and

12909 Scarlet Oak Drive ♦ Darnestown, Maryland 20878
www.oceanrenewable.com (301) 869-3790 info@oceanrenewable.com

environmental data collection. These synergistic programs will bring technology from initial testing to pre-commercial demonstrations and ultimately full grid integration.

The marine and hydrokinetic renewable energy industry benefits greatly from other industries including: other renewables, maritime, and traditional power. For example, when I mention test centers the National Wind Test Center just north of Denver, Colorado began operating in 1977 with a single 1 kilowatt machine with a turbine ten feet in diameter. Today, single turbines with one hundred meter diameters are producing more than three megawatts. The wind industry also initiated a turbine verification program to assist in performance verification and grid integration, and continues to be actively involved in research and development, and improvement of international standards today.

The MHK industry has benefited from all these experiences and, with the help of federal funding, is actively involved in the creation of international standards to prompt global development of this new renewable energy technology. Test centers have been identified to support wave, tidal and ocean current research and Senate Bill 630 will provide greatly needed support to bring these centers into fully functioning reality. Utility systems engineering will provide the key element for the ultimate grid integration of this new energy source.

Our industry has also learned a great deal from the international community where devices are in the water, grid connected, and establishing a record of accomplishment in technology and environmental performance. For example, Marine Current Turbines based in the United Kingdom has successfully operated a one point two (1.2) megawatt tidal device in Strangford Lough, Northern Ireland since 2008. The project is grid connected and provides enough electricity for 1500 homes. While anecdotal at this time, the experience in Strangford Lough is demonstrating the environmentally benign nature of this technology. Similar to the fish that swam around the turbines at Verdant Power's Roosevelt Island Tidal Energy Project in New York City, marine mammals are co-existing nicely with the Marine Current Turbines tidal device.

Measuring environmental performance is another key facet of Senate Bill 630. The Adaptive Management Grant program provides public funding for

12909 Scarlet Oak Drive ♦ Darnestown, Maryland 20878
www.oceanrenewable.com (301) 869-3790 info@oceanrenewable.com

environmental studies of our public waterways and oceans with the data being placed in the public domain. This is a key element that was developed in 2007 with input from Committee Staff, environmental organizations, and industry. It addresses the common need for more publicly available data on our oceans and waterways.

Lastly, Senate Bill 630 encourages cooperative efforts between universities, industry, national labs and government agencies. Similar to the great work done by Committee staff in preparing this bill, cooperation across sectors is bearing fruit and the industry is witnessing new rulemakings and accelerated decision making that is allowing pilot and demonstration projects to be deployed. Projects like Ocean Renewable Power company's tidal energy facility in Eastport Maine, Columbia Power Company's recent wave buoy deployment in Puget Sound; Ocean Power Technologies' PowerBuoy at the Marine Base in Kaneohe Bay, Hawaii; and Verdant Power's Roosevelt Island Tidal Energy Project which is undergoing its final commercial licensing.

Thank you for the opportunity to speak. And thank you for your support of this promising new industry.