



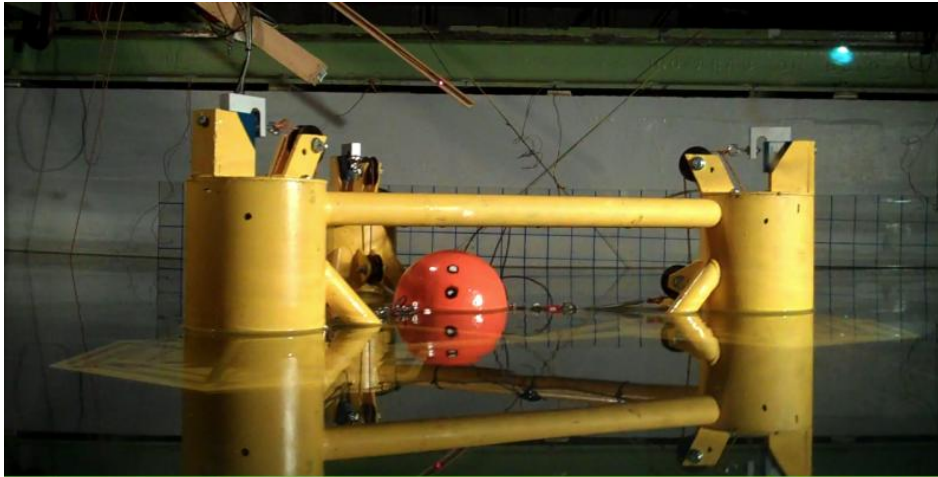
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ENERGYBLOG

Innovative Deepwater Platform Aims to Harness Offshore Wind and Wave Power

Submitted by [Mark Higgins](#) on March 28, 2011 - 5:55pm

[Principle Power, Inc.](#), of Seattle is using \$1.4 million in funding from the Department of Energy's [Office of Energy Efficiency and Renewable Energy](#) to develop an innovative technology with the potential to generate electricity from the powerful winds and strong waves off our coasts. The company's device, known as the [WindWaveFloat](#), will combine their floating offshore wind turbine platform with wave energy converters, so the system can simultaneously generate electricity from the wind and the waves.



WindWaveFloat Wave Tank Tests
October, 2010 - University of California, Berkeley



Unlike offshore wind turbines that need seafloor foundations, Principle Power's existing prototype relies on a floating triangular platform submerged below sea level and anchored to the seabed by cables. The tower that supports the turbine is built on top of one of the columns that form the corners of the triangle. These vertical columns are ballasted to ensure that the turbine remains upright. Existing wind turbine designs can be installed on the platform because the design is so stable. Due to this floating design, the WindWaveFloat could be placed in locations where water depth exceeds 50 meters, out of sight from the shore and where higher wind speeds offer superior electricity generation potential.

The WindWaveFloat platform builds on Principle Power's earlier design by adding support for wave energy devices. The company is now undertaking modeling and wave tank testing to determine the wave energy technology that fits best with its platform. The resulting dual generation structure will allow it to maximize electricity production and share undersea transmission infrastructure, ultimately reducing the cost of the electricity it generates.

Energy from offshore wind, which is stronger and steadier than the onshore variety, offers the potential to bring cost-competitive clean electricity to our nation's coasts, reduce pollution, and drive job creation in the clean energy sector. Similarly, wave energy has the potential to generate predictable base load electricity for the nation's coastal communities. On February 7th, Secretary of Energy Steven Chu and Secretary of the Interior Ken Salazar announced a coordinated federal strategy to accelerate the development of offshore wind energy, including up to \$50 million in new funding for projects that support offshore wind energy deployment. This announcement follows the selection of projects to receive \$37 million in Department of Energy funding to develop marine and hydrokinetic energy technologies, announced on September 9th, 2010. The Department's support for innovative ocean renewable energy technologies like the WindWaveFloat will help power the nation's economy with clean energy and create the good jobs of the 21st century.

Mark Higgins is Acting Program Manager for the [Wind and Water Power Program](#).

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