

Sea Breeze

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An ambitious plan seeks to combine the best of wind and ocean power.

By Talia Schmidt



Seattle-based startup Principle Power Inc., a company working to improve offshore wind energy, has received a \$750,000 grant from the U.S. Department of Energy to further develop the company's WindFloat platform, an innovative support structure for large offshore wind turbines.

Principle Power will partner with the National Renewable Energy Lab in Colorado and Berkeley, Calif.-based Marine Innovation and Technology on this project, to include wave energy technology-which uses ocean currents to make electricity-into the company's floating support structures. The WindFloat includes a mechanism to diminish wind-induced motion that would affect turbine operation and maintain the tower's stability on the ocean's surface.

The WindFloat also allows wind turbines to be put in locations at sea where the water is deeper than 50 meters, places previously not accessible to offshore wind turbines.

Combining the WindFloat with wave energy converters also could both increase energy generation and reduce the cost of infrastructure, says Principle Power President and CEO Alla Weinstein. With a minimum added cost for wave energy conversion, Weinstein hopes to increase the power output, ultimately yielding lower energy costs as well as a more consistent source of electricity than would be produced by wind power alone.

The 10-person company has its headquarters in Seattle, though most of the designers work from Oregon and California because Washington's marine sanctuary precludes much offshore work on the WindFloat platforms.

Principle Power raised \$2.3 million in 2008 from private investors and has been using the cash to develop the WindFloat design. The startup is now raising \$5 million to advance the project to the pilot installation.

"We're still in the early stages right now," Weinstein says. "We're still working on concept designs. It's a lot of work but it comes with a lot of opportunities and lots of room for economic developments off the coast."