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[Principle Power's WindFloat to Perform First Inter-Energy Marriage](http://cleantechnica.com/2009/10/18/principle-powers-windfloat-to-perform-first-inter-energy-marriage/) (<http://cleantechnica.com/2009/10/18/principle-powers-windfloat-to-perform-first-inter-energy-marriage/>)



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(<http://cleantechnica.com/2009/10/18/principle-powers-windfloat-to-perform-first-inter-energy-marriage/windfloat-offshore-floating-wind-turbines-by-principle-power-inc/>) Somewhere in the U.S. there is a justice of the peace who still refuses to perform [inter-racial marriages \(http://news.yahoo.com/s/ap/20091017/ap_on_re_us/us_interracial_rebuff\)](http://news.yahoo.com/s/ap/20091017/ap_on_re_us/us_interracial_rebuff), but **Principle Power, Inc.** has no such backward looking qualms when it comes marrying two different forms of **sustainable energy**. Last week the company won a \$750,000 development grant from the [U.S. Department of Energy \(http://www.sc.doe.gov/sbir/Solicitations/FY%202009/ARRA-Topics6.htm\)](http://www.sc.doe.gov/sbir/Solicitations/FY%202009/ARRA-Topics6.htm) to adapt its patented **WindFloat** platform to bring wave energy generating capability on board, along with the wind turbines for which it was originally designed.

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Of particular interest to DOE is WindFloat's innovative three-corner design, which stabilizes the platform against turbulence and enables it to be deployed in deep water where winds are more favorable to energy generation. In addition to its obvious use in the civilian world, the marriage of wind and wave power may also prove fruitful for its application to the **U.S. military's need for non-petroleum energy sources** at remote bases.

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Principle Power and Floating Wind Turbine Platforms

[Floating wind turbine platforms \(http://mariasurmamanka.greenoptions.com/2007/04/18/windhunter-uses-floating-wind-turbines-to-make-hydrogen/\)](http://mariasurmamanka.greenoptions.com/2007/04/18/windhunter-uses-floating-wind-turbines-to-make-hydrogen/) are attractive both for their access to more favorable winds and for their practical elimination of the NIMBY issue, since they can be sited over the horizon and out of sight. The key issue, though, is the risk of damage through constant pitching and other stresses such as extreme weather. Norway's [StatoilHydro \(http://cleantechnica.com/2009/09/21/oil-company-begins-wind-test-of-off-shore-floating-platform/\)](http://cleantechnica.com/2009/09/21/oil-company-begins-wind-test-of-off-shore-floating-platform/) is one company that seems to have addressed the problem, so [Principle Power \(http://www.principlepowerinc.com/news/press_WindFloatIP.html\)](http://www.principlepowerinc.com/news/press_WindFloatIP.html) may have some catching up to do. And it is: the company acquired the WindFloat technology just last April and it has moved rapidly to advance it into the [sustainable energy market. \(http://cleantechnica.com/2009/02/20/offshore-wind-blowing-into-portugal-if-cash-doesnt-get-in-the-way/\)](http://cleantechnica.com/2009/02/20/offshore-wind-blowing-into-portugal-if-cash-doesnt-get-in-the-way/) The WindFloat concept has been in development for six years, including a hazard identification study completed this summer by the [American Bureau of Shipping \(http://www.principlepowerinc.com/news/press_ABS_PPI_Hazid.html\)](http://www.principlepowerinc.com/news/press_ABS_PPI_Hazid.html), the 150-year-old organization that sets standards for maritime safety. WindFloat's design is based on a floating platform of three columns, each of which is fitted with water entrapment heave plates at the bottom. Along with a ballast system, the heave plates help reduce the movement of the platform. WindFloat's ability to withstand maritime stresses, along with any unforeseen accidents such as a collision, make it a good candidate for accommodating wave power as well.

Wind Power, and Wave Power, and the U.S. Military

Principle Power's wind power-wave power project dovetails nicely with another DOE project under way through [DARPA \(http://cleantechnica.com/2009/07/04/darpa-joins-blue-energy-and-world-energy-in-race-to-harness-ocean-power/\)](http://cleantechnica.com/2009/07/04/darpa-joins-blue-energy-and-world-energy-in-race-to-harness-ocean-power/) (the Defense Advanced Research Projects Agency). DARPA is looking to develop a number of maritime energy sources, such as a buoy-based surveillance unit that combines advanced energy storage capability with scavenged energy including wave, wind, and solar. Given the human cost of [fuel convoys \(http://cleantechnica.com/2009/04/28/cobra-gold-military-exercise-puts-darpa-robust-portable-power-to-the-test/\)](http://cleantechnica.com/2009/04/28/cobra-gold-military-exercise-puts-darpa-robust-portable-power-to-the-test/) in combat areas (think roadside bombs) and the exorbitant cost of transporting petroleum fuel to remote bases (**\$400 per gallon in Afghanistan**, for example), the military's investment in sustainable, harvested energy is bound to accelerate, with consequent benefits to the civilian world as well.

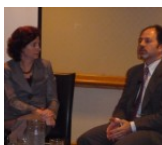
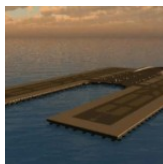
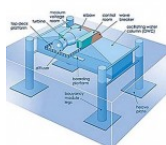
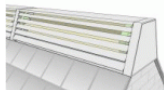
Image: Courtesy of Principle Power via [ABS](http://www.eagle.org/eagleExternalPortalWEB/ShowProperty/BEA%20Repository/News%20%20Events/Press%20Releases/2009/images/windpower)

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