

Three months show Hywind Scotland floating wind farm exceeding expectations

February 19 2018, by Nancy Owano



Drone photo of the Hywind floating wind farm. Credit: Øyvind Gravås / Woldcam

Statoil is riding high on performance outcomes during the first three full months of its wind farm production, which exceeded expectations.

This is all about its floating [wind](#) farm dubbed Hywind Scotland.

Its location is about 15 miles offshore Peterhead in Aberdeenshire, Scotland. The wind farm is powering approximately 20,000 UK households.

Reports highlighted nature's beasties that set a real challenge. Storm Caroline in December had gusts over 160 km/h, or 100 mph, and waves topping 8.2 meters (27 feet).

How did the [wind turbines](#) withstand bad weather conditions?

The turbines shut down for safety during the worst winds, and they automatically resumed.

"A pitch motion controller is integrated with the Hywind [turbine](#)'s control system and will adjust the angle of the turbine blades during heavy winds which mitigates excessive motions of the structure," said the company.

Operations are by Statoil in partnership with Masdar. *The Gulf Today* reported that Masdar formed a strategic partnership with Statoil to pursue joint offshore wind [projects](#).

Turning to Masdar, *BusinessGreen* said Masdar confirmed that the floating turbine project off the coast of Scotland "has been operating at 65 per cent capacity." In other words it "churned out [65](#) percent of its maximum theoretical capacity," *EcoWatch* said, "during November, December and January."

A typical capacity factor for an [offshore wind farm](#) in winter stands at 45-60 per cent.

EcoWatch detailed why this matters to those staying tuned to the potential of [wind farms](#) of this nature: Floating turbines were deployed

before, mostly in small-scale projects. One example is the 7-megawatt system built by the Fukushima Wind Offshore Consortium.

"In contrast, the Hywind's five floating turbines produce 6 megawatts each on top of waters more than 328 feet deep. At full capacity, the facility can generate enough power for 20,000 homes."

BusinessGreen asked, as the Hywind project surpasses expectations, "are floating renewables [ready](#) for launch?"

Bader Al Lamki, executive director for clean energy at Masdar, said the results were encouraging for the industry as a whole. Statoil's executive vice president for New Energy Solutions, Irene Rummelhoff, made the point in *BusinessGreen* that up to 80 per cent of the offshore wind resources globally were in deep waters and they saw "great potential for floating offshore wind."

Meanwhile, seeing how technologies can harness offshore projects does not stop with wind turbines. Solar [farm](#) visionaries show interest too.

BusinessGreen reported on a Utrecht University announcement that it is leading a consortium to assess the viability of the first floating offshore solar plant.

The plan calls for an offshore solar array prototype off the Dutch coast near The Hague.

Business Green quoted Allard van Hoeken, founder of initiator Oceans of Energy.

(The startup Oceans of Energy specializes in offshore renewable energy. The company is located in Leiden, The Netherlands, and develops floating systems for renewable power generation at [sea](#).)

"While solar farms have been constructed on inland bodies of water before, they have never been built offshore because of the difficulty of the undertaking. After all, it's a place where you're dealing with huge waves and other destructive forces of nature."

More information: [www.statoil.com/en/news/15feb2 ... ass-performance.html](http://www.statoil.com/en/news/15feb2...ass-performance.html)

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