

A photograph of a Hywind offshore wind turbine. The turbine has a white tower and nacelle, with three long, thin blades. The base of the tower is painted yellow. It is situated in the middle of a dark blue ocean under a bright blue sky with scattered white clouds. The image is tilted slightly to the right.

Hywind

Crossing energy frontiers



Statoil

Hywind: crossing new energy frontiers

Off the island of Karmøy, north of Stavanger, Statoil has installed the world's first full-scale floating wind turbine. The 100% owned Hywind concept combines technology from the wind, oil and gas industry and draws upon Statoil's longstanding offshore experience.

Project status

After a successful model test in 2005, further development work was carried out on both the wind turbine and substructure design. In May 2008 the go-ahead was given to build the world's first full-scale prototype of a floating wind turbine. A 2.3MW wind turbine was installed on top of a floating structure which consists of a steel jacket filled with ballast. The floating element extends 100 metres beneath the surface, and is fastened to the seabed by three anchor piles. Through the two year test period which began in the autumn of 2009, the technical concept has been verified. With few operational challenges, excellent production output, and well-functioning technical systems, Hywind could revolutionise the future of offshore wind.

Offshore experience

Statoil has significant offshore experience in rough waters. The company's record of world-class offshore project installation is down to understanding the conditions, recognising pitfalls, sound project planning and execution, operation and professional quality surveillance. Statoil is bringing this expertise into development of new solutions for renewable energy.

- Turbine size of pilot: 2.3MW
- Turbine weight: 138 tons
- Turbine height: 65m
- Rotor diameter: 82.4m
- Draft hull: 10m
- Displacement: 5300 m³
- Diameter at water line: 6m
- Diam. submerged body: 8.3m
- Water depths: 120-700m
- Mooring: 3 lines

