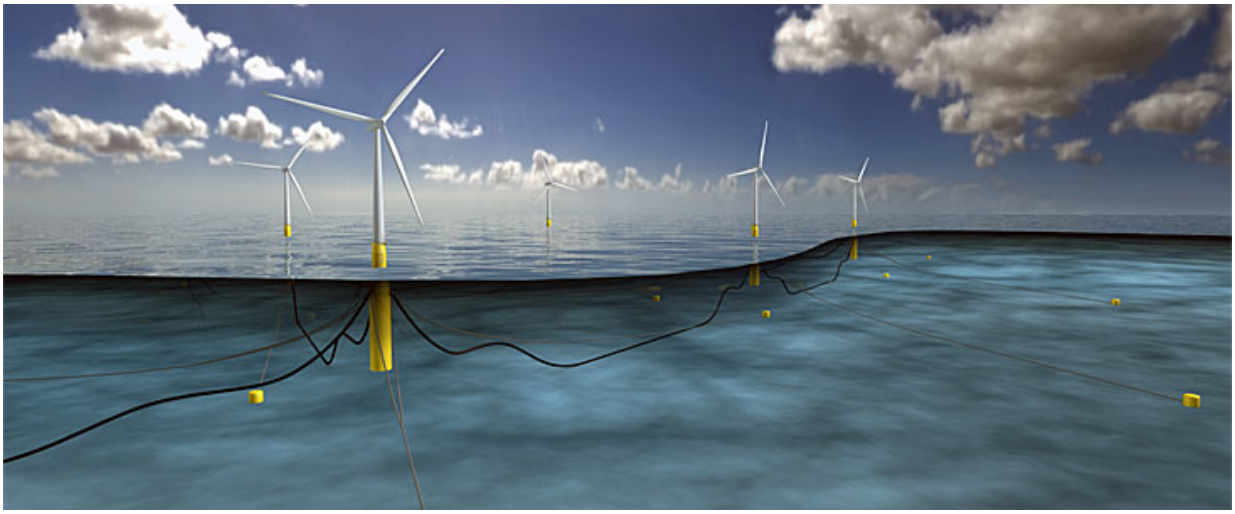
Consent granted to Scotland's floating offshore wind development

November 4 2015, by Nancy Owano



How feasible are multiple floating wind turbines in a region with optimal wind conditions? That is what energy planners are to find out from an ambitious floating wind farm pilot project off the Scottish coast. Floating wind represents a renewable energy source that will complement existing alternative energy projects in Scotland.

The Hywind Scotland Pilot Park will demonstrate the capturing of wind energy offshore at greater water depths.

Said *The Scotsman* on Sunday: "The world's largest and the UK's first floating offshore wind development approximately 25 kilometers off the coast of Peterhead has been granted consent, the Scottish Government has announced today."

Satoil is the company building the farm. The site is about 25 to 30 km off the coast of Peterhead in Aberdeenshire. There will be five 6 MW floating turbines operating in waters exceeding 100m of depth, according to Satoil's news release. The company already tested the technology off the coast in Norway.

"Unlike conventional turbines," said a news release from The Scottish Government, "Hywind turbines will be attached to the seabed by a three-point mooring spread and anchoring system. The turbines will be connected by an inter-array of cables and an export cable will transport electricity from the pilot park to shore at Peterhead."

What is Hywind? It is described in a promotional video as a floating offshore wind technology which is constructed to withstand high winds and waves. Hywind components are assembled in sheltered areas offshore and towed in upright position to the production site.

The company provided some details about the concept behind the capture of wind energy offshore. Hywind consists of a wind turbine placed on top of a ballasted steel cylinder." In principle, any offshore wind turbine generator can be used if the combined weight of the nacelle and rotor is within requirements for marine stability.

Statoil's Hywind-specific pitch motion controller, said the company, is integrated with the turbine's control system, mitigating excessive motions of the structure. "This also eliminates the loss of energy due to aerodynamic or hydrodynamic movements and maximizes the power output from the turbine."

The structure is ballast-stabilized and anchored to the seabed. The mooring system consists of three mooring lines which are attached to anchors that are suited to the seabed conditions on site.

The company said that communication and control will be by fibre-optics or by radio link. The planned operational lifetime of the Hywind Scotland Pilot Park is 20 years.

Statoil is an international energy company with headquarters in Norway.

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