Offshore wind farm: First of 11 turbines goes up in Scotland initiative

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Scotland is making wind energy news with an offshore wind project carrying high ambitions. The spotlight is on the European Offshore Wind Deployment Centre (EOWDC), an offshore wind test and demo facility. It is Scotland's largest, and it is being developed by the Vattenfall-owned Aberdeen Offshore Wind Farm Limited.

Their project is all about 11 turbines—that is their scheme—in Aberdeen Bay. Once operational, it will be a boost to Aberdeen's global

standing in energy innovation, supporters said.

The news is that one of these 11 turbines has already been erected. A video carried the announcement. It was a momentous day for the renewable energy industry in Scotland, said Adam Ezzamel, project director, for the EOWDC wind farm in Aberdeen Bay.

Ezzamel said that one rotation of this enormous structure was sufficient to power the average UK home for the entire day.

The other bit of news, as reported by David McPhee in *Energy Voice*: "Vattenfall are also claiming an industry breakthrough with the update of two of its turbines from 8.4MW to 8.8MW, which the company say is "first time" such a model has been "deployed commercially in the wind industry." That upgrade raises the output of a completed wind farm to 93.2MW.

Chris Green, Scotland editor, *i News*, said according to developers, when the wind farm was fully operational, it would be able to provide the equivalent of over 70% of Aberdeen's domestic energy needs.

Vattenfall issued a press statement that the turbine was one of two turbines significantly enhanced with further power modes to generate more clean energy from the EOWDC. "The two turbines have each increased from 8.4MW to 8.8MW" and the installation "represents the first time an 8.8 MW model has been deployed commercially in the offshore wind industry."

McPhee, meanwhile, noted that the wind farm is using new suction bucket jackets embedded in the sand off Aberdeen—at commercial scale. Supporters say these can bring down the cost of offshore wind power. An article last year focused on the suction buckets on cutting costs and underwater noise. "Instead of monopiles, these giant upside-

down buckets paired with jacket substructures will anchor the wind turbines to the seabed."

The piling method for offshore wind power foundations can cause a lot of noise and disturbance for sea mammals and fish and nearby coastal communities, said the article. Vattenfall adopted the suction-bucket technology—virtually noiseless.

"The suction bucket technology is well known in the oil and gas industry but this is the first time it will be used at a commercial scale in the offshore wind industry. Water is pumped out of the buckets, creating a pressure difference that forces the buckets into the seabed—when water is pumped out of the suction buckets, they sink in to the sea bed sediment. For decommissioning, water is pumped back in to retrieve the entire structure, said the article.

More information: corporate.vattenfall.co.uk/abo … owerful-wind-turbine