

Blyth Offshore Wind Farm

Bringing the UK's first offshore wind energy ashore - 2002

Global Marine Systems Ltd successfully linked the UK's first offshore wind farm to a remote monitoring station on England's north-east coast. The subsea cables were installed in the harsh environment of the North Sea and helped provide an environmentally-friendly renewable energy source for thousands of UK homes.

The Project

Blyth Offshore Wind Farm, the first of its kind in the UK, was constructed in 2000 by a consortium comprising BorderWind, PowerGen Renewables, Nuon UK and Shell Renewables. The wind farm incorporates two powerful Vestas V66 wind turbines, each capable of generating 2MW of electrical power, enough in total to supply the needs of 3000 average households. The turbines, which have a 58 meter hub height, are fitted with 66m span triple-bladed rotors and are located one kilometer off the Northumberland coast, where they are subject to the full environmental forces of the North Sea.

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The Challenge

The site chosen had particular challenges to both the installation and long-term security of the cables. The turbines were installed on a submerged rock head with a minimum water depth of only 6 meters and the area is subject to waves of up to 8 meters, wind speeds of up to 100 miles an hour and a tidal range of approximately 5 meters. Following the successful installation of the cables during 2000, additional protection work was carried out following a survey of the cables, to ensure they were correctly protected for this environment.

Global Marine mobilized a locally based barge to install the 11kV power cables linking the wind turbines to the shore. The cables incorporate 16 optical fibers to enable the generators to be remotely monitored and controlled from the shore.



The Verdict

By using its extensive experience, Global Marine was able to meet the challenge of the Blyth project and successfully connect up the UK's first offshore wind farm.

For more information on Global Marine's capabilities please contact Ian Gaitch, Sales Director for Global Marine Systems, Energy, ian.gaitch@globalmarinesystems.com

For further information on Global Marine Systems, Energy projects, please visit our website: globalmarinesystemsenergy.com