

GWYNT Y MŌR OFFSHORE WINDFARM

Project Overview

The Gwynt y Môr Offshore Wind Farm Project is located between 15km to 20km off the coast of North Wales in the Liverpool Bay area of the Irish Sea. It is adjacent to RWE Innogy's North Hoyle and Rhyl Flats offshore wind farms. The consented site covers an area of 124km². The water depth ranges from 12m to 28m LAT with a tidal range of 8.5m. Predicted mean wind speed @ 80m hub height is c. 9.0m/s.

The Gwynt y Môr Offshore Wind Farm Project comprises an array of WTGs, supported on foundations, and connected to offshore substation platforms by subsea array cables. The offshore substation platforms are connected via a 20km offshore export cable route to landfall and a 12km onshore export cable route to an onshore substation at St Asaph in North Wales where the Project will be connected to the National Grid at 400kV.

The Gwynt y Môr Offshore Wind Farm Project received Section 36 consent for up to 750MW of installed capacity. Following project optimisation studies, it has been decided that the base case project will be limited to an installed capacity of 576MW.

The 576MW project base case comprises 160 x Siemens SWT-3.6-107 WTGs, 2 x 288MW 33/132kV offshore substation platforms, 33kV inter-array subsea cables, 132kV export subsea cables, 132kV export onshore cables, a 132kV GIS onshore substation, 2 x 132/400kV transformers and a 400kV GIS onshore substation (by National Grid).

Offshore Works

Subject to contract, the 160 WTGs will be supplied by Siemens Wind Power AS in Denmark. Each turbine will have a rated capacity of 3.6MW and a rotor diameter of 107m. The turbine hub height will be 84.4m LAT and the tip height 137.9m LAT.

The first stage of WTG foundations will be steel monopiles up to 6m diameter. The first stage WTG foundations will cover 92 locations with a maximum water depth of 21m LAT. The second stage of WTG foundations will cover 68 locations with a maximum water depth of 28m LAT. The concept for the second stage WTG foundations has not yet been fixed, however, the base case assumes steel monopiles.

Transition pieces (TPs) will be used to connect the WTG tower to the foundation by means of a grouted joint or a flanged connection.

