

Teesside Offshore Wind Farm



The new Teesside Offshore Wind Farm is located off the coast of North East England. The nearest town is Redcar, just over 400km north of London. It is operated by EDF Energy Renewables, jointly owned by EDF Energy & EDF Energies Nouvelles. The site is situated close to EDF Energy's nuclear power station at Hartlepool (2 units of 1180 MW).

Teesside in numbers

- It is North East England's first large scale commercial wind farm and has increased the capacity of the UK's operational offshore wind capacity to over **3,500MW**.
- The **27 turbine** scheme is capable of delivering **62 MW** of low carbon electricity
- The wind farm has the capacity to produce enough low carbon electricity to meet the average annual needs of all the homes and businesses in nearby towns Redcar, Marske and Saltburn – approximately **40,000 homes**
- The wind farm is located **1.5 kilometres** off the coast and subsea cables connect to a newly built substation at nearby Warrenby
- The wind turbines are arranged in three rows of nine, with **600 metres** between each row. This spacing will enable leisure craft and small fishing boats to pass safely between them.
- The turbines measure **80 metres** from sea level to "central hub" and there is a minimum clearance of 33.5 metres from rotor blade to mean sea level.

N'imprimez ce message que si vous en avez l'utilité.

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- They start to generate electricity at a wind speed of **3.5 metres per second**.
- At peak work periods **over 350 construction workers** were involved on site
- The construction project created **950 jobs** (directly and indirectly), of which about 35 per cent were from North East England.
- Around **22 local companies** were involved in the project
- Around **1.2 million man hours** were required in total by the project



Background and history

The Teesside Offshore Wind Farm is EDF Group's first UK offshore wind farm.

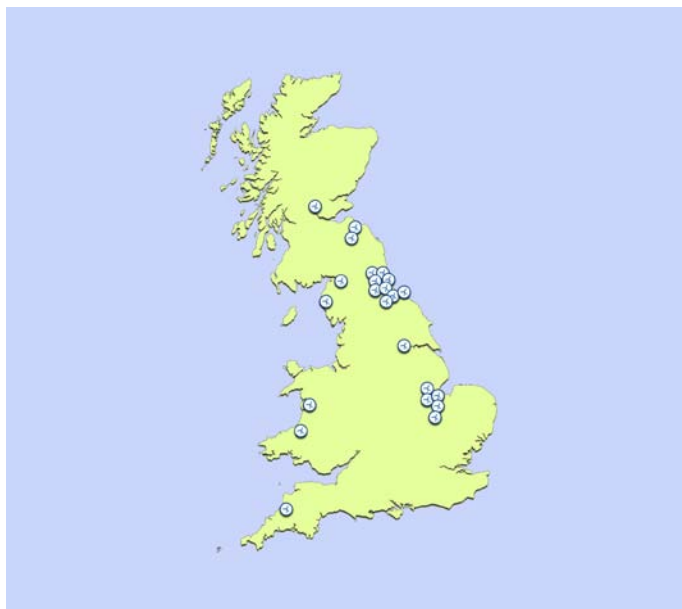
Extensive pre-consent public consultation was carried out on the project and separate liaison was conducted with special interest groups. The project received final consent in 2008. Offshore construction started in 2012 and was completed in July 2013. Commissioning was completed in August 2013 and handover to the Operations and Management team took place in October 2013.

The UK offshore wind context: dynamic and attractive

By drawing upon the natural, renewable resource of the wind, EDF Energy Renewables provides low carbon energy – actively contributing to the development of new generating capacity to help meet the growing demand for energy.

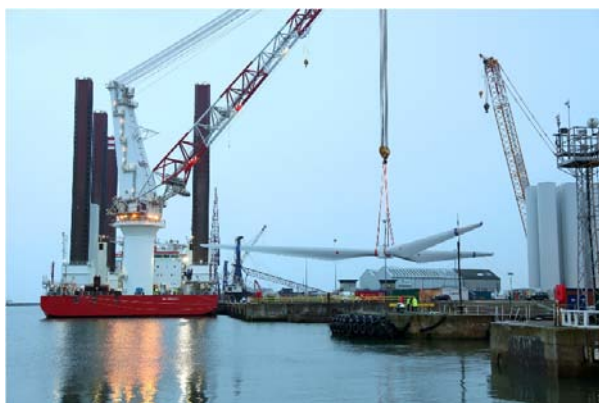
The UK Government has a target to deliver 15% of the UK's energy consumption from renewable sources by 2020. Its plan shows potential deployment of up to 16 GW of offshore wind by 2020 and up to 39 GW by 2030.

EDF Energy Renewables is today a major player in the wind energy industry in the UK, and owns and operates 25 wind farms in the UK with over 520MW of installed capacity.



EDF Energy Renewables wind farms in the UK

The keys features of the wind farm



A dedicated supply base supporting the construction of the wind farm was established at the Port of Hartlepool. From here, specialist vessels transported all materials and construction staff to the offshore site over an 18 month period.

The Port of Hartlepool is also the base for the dedicated team of 16 permanent employees in charge of the ongoing operation and maintenance of the wind farm.

Two 33kV subsea cable export circuits from the wind farm bring electricity onshore. Rotor blades with a diameter of 92.4 metres and the central hub were assembled at the Port of Hartlepool and shipped out to

the offshore construction site. The lifting and precision placement of these extremely large and heavy structures was a highly complex task demanding calm weather and sea conditions, making it particularly difficult during winter.



Once the turbine installations were completed, work began on the electrical connection by Van Oord, the dredging contractor and then the testing and commissioning by Siemens, the turbines supplier.

As part of the planning application process, EDF Energy Renewables carried out a detailed Environmental Impact Assessment for the proposed scheme. Monitoring of marine ecology was maintained during the construction and will continue for the initial five year operational phases to ensure compliance with all planning consents.

As part of the formal planning application a marine navigation risk assessment has been carried out and consultation carried out with both the Ministry of Defence and Civil Aviation Authority and there were no objections to the proposal on the grounds of aviation.



Navitus Bay project

In the UK, EDF Energy Renewables' focus now turns to the application for the Navitus Bay project, a 970MW project located off the south coast. The proposed project is a 50-50 Joint Venture between Eneco Wind UK Ltd (Eneco) and EDF Energy Renewables. If the wind park goes ahead, it would be located off the Dorset and Hampshire coasts, to the west of the Isle of Wight. The project continues to hold public consultations and no investment decision has been taken for the time being.