

Walney

Offshore Windfarms





Walney Offshore Windfarms

The Walney Offshore Windfarms are located approximately 15km west of Barrow-in-Furness in Cumbria and consist of Walney 1 and Walney 2, each with 51 3.6MW turbines giving a total capacity of 367.2MW.

Due to their scale, the Walney Offshore Windfarms will contribute significantly to a low-carbon future. They will help the UK achieve its target of reducing CO₂ emissions by providing clean electricity now and in the future for approximately 320,000 UK households, ie one and a half times the number of households in Cumbria.

Walney 1 and Walney 2 were constructed sequentially, leading to periods of intense construction activity, particularly during Walney 2 when parallel installation activities shortened the construction timeframe. Crane barges, jack-up vessels and tugs worked out of ports in the East Irish Sea area, primarily Barrow and Mostyn harbours.

Setting new benchmarks for the construction of wind farms

Entering into commercial operation at the beginning of 2012, Walney 1 and Walney 2 together were the world's largest installed offshore wind farms ever with a total capacity of 367.2MW.

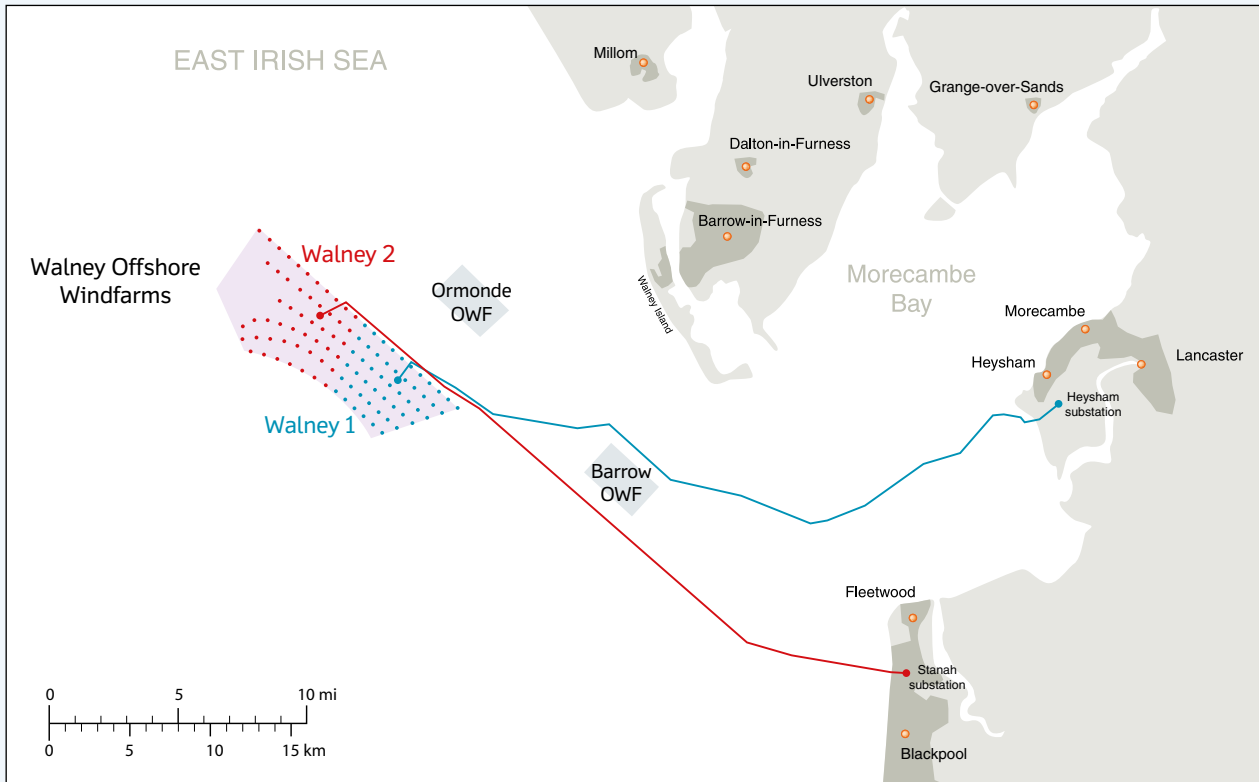
With DONG Energy as the leading partner in the construction, the Walney Offshore Windfarms have been constructed according to the multi-contract principle, working in close cooperation with all the contractors and suppliers.

At the same time, the project has optimised the installation time through parallel installation. The installation of Walney 1 was planned to take one year, beginning early spring 2010, whereas the installation of Walney 2 was planned to be effected in half the time. We achieved this target through parallel installation activity and focusing on utilising the favourable weather windows during summer 2011. Through tight planning and logistics, it was possible to install Walney 2 in only six months.



From substation to national grid

Each of the 102 turbines generates electricity at a voltage of 33kV. The offshore substations collect the electricity from the wind turbines and step up the voltage to 132kV for the local grid. The Walney 1 offshore substation is connected to the national grid by a 44km long buried export cable at the substation in Heysham, whereas the Walney 2 offshore substation is connected to the national grid at Cleveleys near Blackpool, via a 43km long buried export cable.



Operation and maintenance

From the Operation and Maintenance Base in the new purpose-built premises at Barrow's Ramsden Docks, the turbine operation can be monitored 24 hours a day, and a local crew of approximately 60 people will ensure that the Walney Offshore Windfarms are in operation for the coming 25 years.

The Operation and Maintenance Base consists of an office for administration, welfare and catering for personnel and a warehouse for storage of equipment for maintenance of the offshore wind farms. Two new purpose-built service vessels and a new service pontoon are in place to enable the transport of service technicians to and from the wind farms.



Who we are

The companies behind Walney (UK) Offshore Windfarms Limited are DONG Energy (50.1%), SSE (25.1%) and a consortium of PGGM and Dutch Ampère Equity Fund, managed by Triodos Investment Management (24.8%). DONG Energy is the leading partner in the construction and operational phases of the Walney Offshore Windfarms.



DONG Energy is one of the leading energy companies in Northern Europe. Our headquarters are in Denmark, and our business is based on procuring, producing, distributing and trading in energy and related products in Northern Europe. We have a long-term vision to provide clean and reliable energy and have a significant portfolio of offshore wind power in operation and under construction in the UK and in Northern Europe.



SSE (Scottish and Southern Energy) is a FTSE-100 company with head offices in Perth, Scotland, employing over 21,000 people. SSE is involved in the generation, transmission, distribution and supply of electricity and the production, storage, distribution and supply of gas. The company is the UK's leading developer of energy from renewable sources with a total generation capacity of nearly 2,500MW of renewable energy. SSE has offshore wind farm capacity in operation or under construction totalling almost 350MW.



PGGM is a leading pension fund administrator with origins in the care and welfare sector. PGGM provides pension management, integrated asset management, management support and policy advice for pension funds. PGGM currently manages around EUR 105 billion of pension assets for over 2.3 million customers. As a co-operative organisation, PGGM provides services for its 560,000 members that help them to secure a valuable future.

Triodos Bank

Ampère Equity Fund, managed by Triodos Investment Management, invests in utility-scale renewable energy projects in Western Europe. The fund focuses on investments in energy producing assets, applying proven technology that provide stable and predictable long term returns for its investors.

Facts of the project

Wind turbine type	SIEMENS 3.6MW	Cut-in wind speed	4m/s
Number of turbines (Walney 1)	51	Full power output from	13m/s
Number of turbines (Walney 2)	51	Cut-out wind speed	25m/s
Total output (Walney 1 & Walney 2)	367.2MW	Mean wind speed at 84 metres	> 9m/s
Rotor diameter (Walney 1)	107m	Distance from shore	14.4-25.8km
Rotor diameter (Walney 2)	120m	Distance between wind turbines	749-958m
Hub height (Walney 1)	83.5m	Wind farm area	73km ²
Hub height (Walney 2)	90m	Construction period	2010-2011
Total height to blade tip (Walney 1)	137m	In full operation	Beginning of 2012
Total height to blade tip (Walney 2)	150m		

Further information

You can find further information on our website.

Please visit www.wowind.co.uk

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