## Who we are

**Walney (UK) Offshore Windfarms Limited**

DONG Energy and SSE (Scottish and Southern Energy) are the companies behind Walney (UK) Offshore Windfarms Limited. DONG Energy holds a 74.9% stake, and will be the leading partner in the construction and operational phases of the Walney Offshore Windfarm. SSE holds a 25.1% stake.

**DONG Energy** is one of the leading energy groups in Northern Europe. DONG Energy is headquartered in Denmark. The company's business is based on procuring, producing, distributing and trading in energy and related products in Northern Europe. DONG Energy has approximately 5,500 employees and generated more than DKK 60 billion (approx. £8.2 billion) in revenue in 2008. Great Britain is one of DONG Energy's primary markets for offshore wind. Currently DONG Energy has a capacity of 745 MW offshore wind power in operation and some 657MW under construction in the UK. It also has over 1,900MW of offshore wind farm capacity with consent for development in Northern Europe, including the Dutch and German sectors of the North Sea.

**SSE (Scottish and Southern Energy)** is a FTSE-100 company headquartered in Perth, employing more than 19,000 people. The company has a market capitalisation of around £10 billion, and supplies over 9.6 million energy customers in Great Britain and Ireland. It has a 50% share of the 500MW Greater Gabbard wind farm now under construction in the outer Thames Estuary and it has a total of 3,530MW of renewable energy capacity (onshore wind, offshore wind, hydro and dedicated biomass) in operation, under construction or with consent in the UK and the Republic of Ireland. It also has over 1,900MW of offshore wind farm capacity with consent for development in Northern Europe, including the Dutch sector of the North Sea.

## Main contractors for Walney 1 and Walney 2

**Wind turbines:**
Siemens PLC (UK) (Walney 1 & 2)

**Wind turbine installation:**
Seajacks UK Ltd. (UK) (Walney 1 & 2)

**Foundations:**
Erndtebrücker Eisenwerk GmbH & Co. KG (Germany) (Walney 1 & 2)

**Foundation installation:**
Geosea NV (Belgium) (Walney 1 & 2)
Ballast Nedam (NL) (Walney 2)

**Offshore substation:**
Bladt Industries A/S (Denmark) (Walney 1 & 2)

**Offshore substation installation:**
Scaldis Salvage and Marine Contractors N.V. (Belgium) (Walney 1 & 2)

**Export cable delivery:**
Prysmian PowerLink Srl (Italy) (Walney 1 & 2)

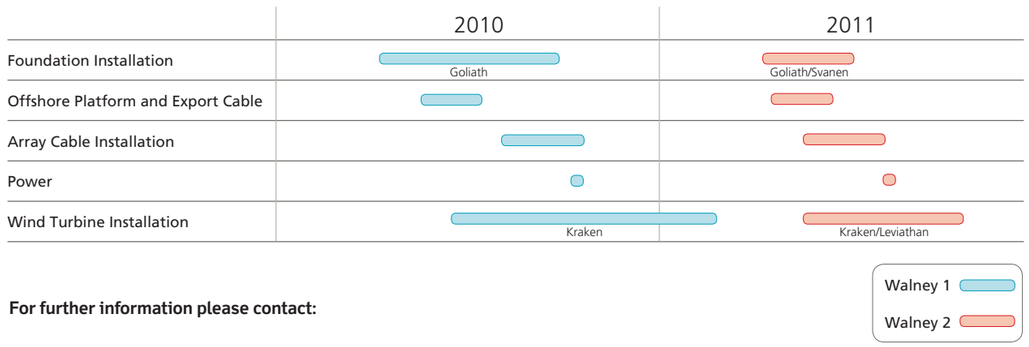
**Array cables:**
NKT Cables A/S (Denmark) (Walney 1)
Draka Norsk Kabel A/S (Norway) (Walney 2)

**Array and export cable installation:**
Visser & Smit Marine Contracting (VSMC) (NL) (Walney 1 & 2)

## Follow the project

You can follow the progress on the project on our homepage.
Please visit:
**www.wowind.co.uk**

## Construction timeline:

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Walney
Offshore Windfarms

# Walney
## Offshore Windfarm

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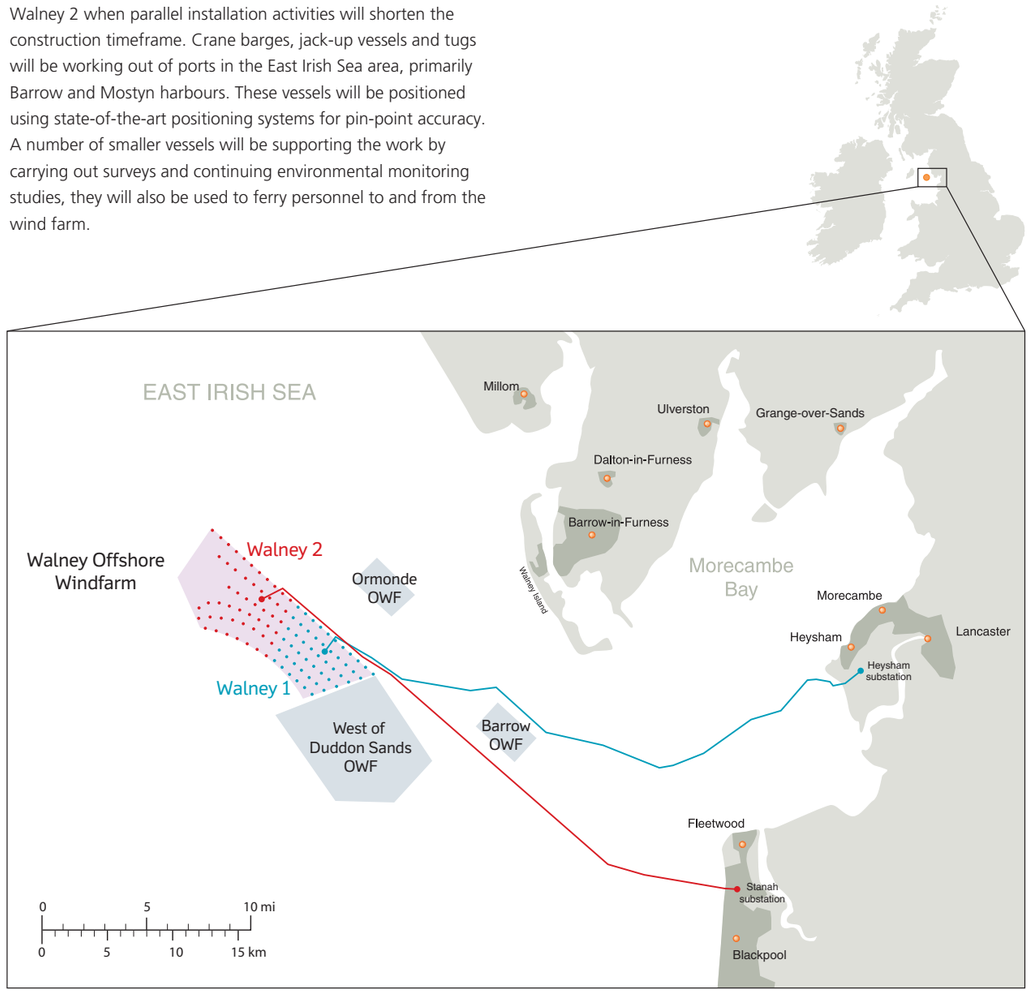
### Project details

The Walney Offshore Windfarm project is located approximately 15km west of Barrow-in-Furness in Cumbria. The project consists of Walney 1 and Walney 2 each with 51 - 3.6MW turbines, giving a total capacity of the Walney project of 367.2MW. The rotor diameter of the turbines is 107m for Walney 1 and 120m for Walney 2, with a maximum height of 150m from blade tip to sea level. The total area of the development is 73km$^2$.

Walney 1 and Walney 2 will be constructed sequentially, leading to periods of intense construction activity, particularly during Walney 2 when parallel installation activities will shorten the construction timeframe. Crane barges, jack-up vessels and tugs will be working out of ports in the East Irish Sea area, primarily Barrow and Mostyn harbours. These vessels will be positioned using state-of-the-art positioning systems for pin-point accuracy. A number of smaller vessels will be supporting the work by carrying out surveys and continuing environmental monitoring studies, they will also be used to ferry personnel to and from the wind farm.

A temporary 500m safety zone will be established around the offshore site during construction. Once the commissioning phase has finished, both fishing and leisure craft will be permitted to pass through the wind farm site.

When the project is completed, approximately 320,000 homes or one and a half times the number of households in Cumbria could be provided with clean electricity in the years to come. The project makes a considerable contribution to the domestic UK target of reducing $CO_2$ emissions.




### Monopile and transition piece installation

The foundations will be installed using a crane barge. Each monopile for Walney 1 is up to 56m tall and weighs almost 600 tonnes. The monopiles will be driven approximately 30m into the seabed by a hydraulic hammer – a process which will last between two and four hours per monopile. The transition pieces are then mounted on top of the monopile by crane and grouted in place. The transition pieces are painted yellow to assist with navigation. Each transition piece weighs approximately 300 tonnes and is 24m tall.

### Turbine installation

The 3.6MW wind turbines will arrive at Mostyn harbour, North Wales, directly by barge from Esbjerg, Denmark. The main tower is assembled first, followed by the turbine nacelle, hub and finally the three blades are fitted. The total weight of each turbine is approximately 375 tonnes. Turbine installation will commence from summer 2010 (Walney 1) and from spring 2011 (Walney 2). Construction of Walney 2 will be expedited due to multiple vessels being on site at the same time.

### Project commissioning

The wind farm will be commissioned in sections as the turbines become available for energy production. Commissioning will start during autumn 2010, and both Walney 1 and Walney 2 will reach full production towards the end of 2011.

### Offshore cable laying

The export cable will run from the offshore transformer stations to shore and will be buried to a depth of approximately 2m. The cable installation barge, "Stemat Spirit" will commence installation during the summer of 2010 (Walney 1) and the summer of 2011 (Walney 2).

### Offshore substation

The wind turbines generate electricity at a voltage of 33kV. The two offshore substations collect the electricity from all the wind turbines and steps up the voltage to 132kV for the local grid. The Walney 1 substation foundation will be installed during early summer 2010 and Walney 2 substation foundation during early summer 2011.

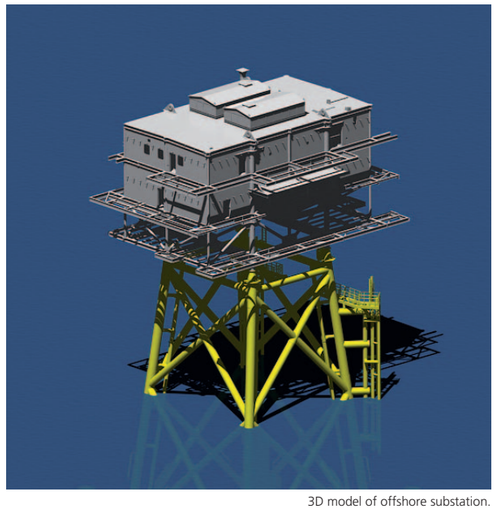
### Onshore construction

The electricity export cable from Walney 1 will come ashore at Heysham and connect to Heysham substation. For Walney 2 the export cable will come ashore south of Fleetwood and connect to the Stanah substation.

In agricultural land and along roads a trench is excavated and ducts installed. The cables will then be pulled through the ducted section in approximately 500m lengths. The main part of the ducted section will be reinstated immediately after the ducts have been installed. After cable installation has been completed, all the individual cable sections will be joined together and the full cable system tested.

Foundation installation, Svanen.

Wind turbine installation vessel Leviathan, which is to be used on Walney 2.



3D model of offshore substation.