

Appendix 5 – Exhibition panels

Panel 1



About DONG Energy

DONG Energy is the Danish state-owned energy company. The company was formed in 2006 through a merger of Danish Oil and Natural Gas (DONG) and the major power utilities in Denmark. It is one of the leading energy groups in the Nordic region, based on procuring, producing, distributing, trading and selling energy and related products in Northern Europe. DONG Energy employs approximately 4,500 people and €3.8 billion annually in revenue.

With more than 30 years' experience in the wind power industry, DONG Energy owns wind turbines in a number of European countries. The company is among the world's elite when it comes to constructing and operating offshore wind farms. Renewable energy accounts for 15% of DONG Energy's total electricity production.

The biggest offshore wind farms worldwide are currently in Denmark, with a strong DONG Energy involvement in impact assessment activities, construction, operation and major investment.

- Burbo (operational)
- Burbo (operational)
- Scarweather Sands (approved)
- London Array (approved)
- Gunfleet Sands 1 (approved)
- Gunfleet Sands 2 (approved)
- Westermost Rough (proposed)
- West of Duddon Sands (submitted)
- Cirrus Shell Flat Array (submitted)
- Wainey (approved)



Our wind energy activities

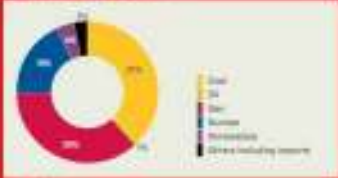
DONG Energy is one of the leading offshore wind developers in the UK. Burbo Bank came on line in July 2006 and is partly owned by DONG Energy. Burbo Bank became operational in October 2007 and is fully owned by DONG Energy. As well as Westermost Rough, DONG Energy is either full or part owner of London Array, Wainey, West of Duddon Sands, Cirrus Shell Flat Array, Scarweather Sands, and Gunfleet Sands offshore wind farms.

Panel 2



Why offshore wind is important

www.dongenergy.com



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Source: BERR, 2008 - Energy White Paper

As of 2008 the UK was only generating 4% of its electricity from clean renewable energy sources with gas and coal providing a further 54% and nuclear and 16%. Rising gas prices and the need to reduce emissions from coal and nuclear power plants - among other issues - the UK needs to increase sustainable clean sources of electricity by 20% in just five years. Increasing the power of offshore wind will be vital in meeting these targets.

Government and business alike have acknowledged that we need innovative energy sources in the UK's transition if we are to combat climate change by meeting carbon dioxide and other emissions targets and move away from our reliance on finite resources, such as gas and coal. If we are to meet European-wide targets of supplying 20% of energy requirements from renewable sources by 2020, and at least 50% by 2050 in the UK, there is a strong need for increased renewable technology.

Wind energy is the most advanced of the available options, and is close to cost-competitiveness with traditional energy supplies. The UK has ideal conditions for optimum generation of electricity from the wind, and is estimated to have at least one third of total European potential offshore wind resource - enough to power the country several times over.

The UK has been identified as the best market for offshore wind energy in the world, due to its combination of ideal resources, strong offshore expertise and the intention of the revised UK legislation, the Renewable Energy Act, to reach 30% by 2020.

A number of factors influenced this selection, including relatively shallow waters less than 30 metres and available port access. Key considerations focus on considerations such as other market users, navigation routes, the fishing industry, shipping channels and cables.

Panel 3



Westermost Rough Project details



Proposed location of Westermost Rough offshore wind farm

The site that is being assessed for the Westermost Rough project is located 8 kilometres from the coast, approximately 20km north of South Head at the Humber Estuary.

The project will be a significant source of low carbon energy with up to 80 wind turbines with a combined capacity of some 240 megawatts (MW) – enough to electricity equivalent to the average annual needs of approximately 120,000 households, and preventing the emission of around 400,000 tonnes of the key greenhouse gas carbon dioxide each year.

It is not possible at this stage to say exactly what type of wind turbines will be used, as plans have been drawn up, ranging from 3MW capacity with a rotor diameter of 90 metres and

3MW turbines with a rotor diameter of 110 metres – the rotors of the turbines that are likely to be installed when DONG Energy comes to build Westermost Rough.

If 3MW turbines are used, then 80 turbines would be needed to generate 240 megawatts. These would be installed in a grid of 8 by 10 turbines, with a spacing of 60 metres by 90 metres.

If 3MW turbines are used, then 11 turbines would be needed, with a diameter separation of 14.25 metres by 90 metres.



Wind turbines are a remarkably robust technology and are remarkably cost-effective to build. Accessing them for maintenance requires a good level of height.



NB The towns of Bridlington, Hornsea and Withernsea were incorrectly indicated on the cable route map, resulting in some confusion amongst visitors to the exhibition.

Panel 4



Westermost Rough

Grid connection



Subsea cables will transport the electricity from the turbines to a base for an on-land network. This will connect the voltage for transmission through the national grid via the local grid connection.

The cables will connect to the on-land network, and two options are being investigated for the on-land cable route, which will run for the northern route of 1.5 miles to the southern route. The on-land route will be investigated with the planning process.

The on-land route is a new 220/110 kV transformer station at New Hedges, and to the existing Sabden North station on the outskirts of Hoy.

Panel 5



The environment

The site is located within the Greater Wicks Strategic Environmental Assessment area, which is recognised by the UK government in 2002 as a suitable location for offshore wind development. There are no local, national or international environmental designations of the Wicks area itself.

Wicks studies are underway to assess the effect of this development on the local area. The Environmental Impact Assessment (EIA) will research a range of issues such as presence or absence of marine life, including fish and their feeding, breeding and migratory habits. It will also look at noise and tidal currents, marine archaeology and wrecks, cultural heritage, landscape, recreation and other issues and any other potential effects of winded structures, as well as reporting on the implications for the local community.

As a result of the EIA, an Environmental Statement (ES) will be produced reporting on the findings of these studies and will be submitted to the relevant authorities towards the end of 2009. The EIA will also give a description of the measures that will be put in place to reverse any negative effects identified during this work.

The ES will be made widely available for review during the consultation process.



The EIA will assess any impacts of the turbines of Roughes local species such as Norway ticks and Herring.

Panel 6



What happens next?

There is still much work to do before a planning application can be submitted for the Westwood of Rough offshore wind farm. This work includes the ongoing site studies assessing wave force on the foundations and seabed, coordinated fisheries, navigational and shipping, aviation, marine navigation signals, fisheries, radio and fixed telecoms links, social and economic impacts, cumulative impacts with other activities and development in the area.

The likely timeline of activities for Westwood of Rough is given below, although some of these may be subject for change. The formal consultation process will begin on submission of the planning application.

- Spring/Summer 2009 - site surveys completed
- Autumn 2009 - planning application submitted with Environmental Statement
- 2010 - planning consent awarded
- 2011 - construction commences
- 2013 - first begins electricity generation

DONG Energy vision

DONG Energy is committed to working in close co-operation with all users of the sea to ensure the best possible outcome of this project. It is important that the operation of the local community we head to submit to the plans for Westwood of Rough.

DONG Energy is confident that the environmental benefits of Westwood of Rough – a sustainable source of clean electricity and extensive carbon dioxide storage – will have a positive impact on the local area, as well as the remainder of the UK, making this a landmark project in the energy transition over the coming future.



Panel 7

Viewpoint 2: Seaside Road/Central Promenade, Withernsea – this shows the point of the coast that is closest to the proposed development.



Viewpoint 6: In this viewpoint, only the tip of one blade is visible, demonstrating minimal visual impact.



Seascape and visual assessment

The seascape and visual assessment examines the extent that Westmorland Rough is likely to be visible and shows the effect on the character of the landscape and seascape. This identifies the areas where it may be possible to see any part of the proposed development from a broad range of sensitive viewpoints. These include, but are not limited to, views enjoyed by local residents, those travelling through the area and those visiting the area for recreational purposes.

As part of the process a number of representative viewpoints are selected and a detailed visual assessment is carried out. The assessment method for this follows recognised guidance and uses computer-generated photographs and wireframes to create the anticipated view.

As an example, Viewpoint 2 is located on the Central Promenade in Withernsea and lies close to the west of the proposed wind farm. It shows the anticipated view from the nearest viewpoint along the Holderness Coast. This will be most relevant for visitors to the surfpoint at Withernsea, but is also representative of views available to others, such as local residents and travellers along the coastal road.