

**NON TECHNICAL
SUMMMARY**



**WESTERMOST ROUGH
OFFSHORE WIND FARM**

OCTOBER 2009

DONG
energy



Westermost Rough



NON TECHNICAL SUMMARY

The project	4
The Environmental Statement	5
The Environmental Impact Assessment Process	6
The Environmental Impact Assessment	7
Summary of Cumulative Impacts	14
Summary of Onshore Environmental Impact Assessment	16



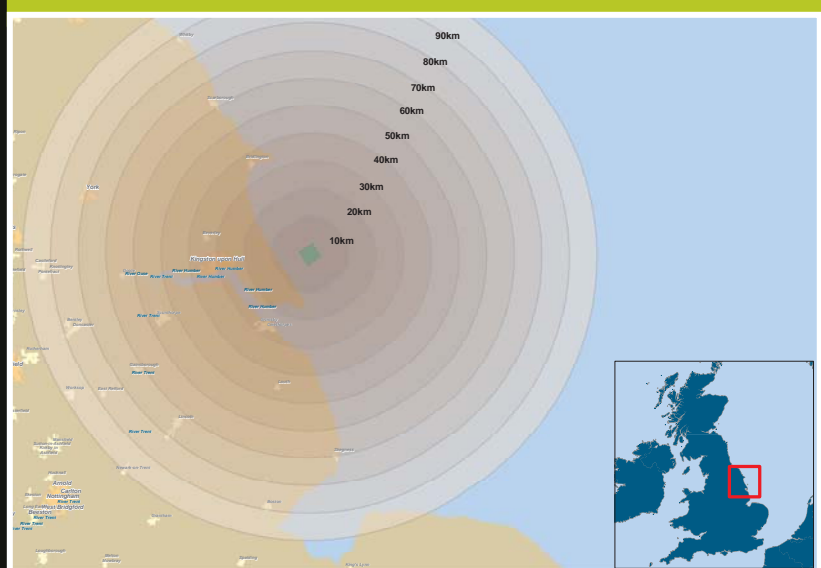
This document is a non-technical summary of the Environmental Statement (ES) for the Westermost Rough Offshore Wind Farm. The ES is based on information from a number of surveys, studies and impact assessments.

Westermost Rough Limited is planning to build a wind farm of 240-245MW capacity approximately 8km off the East Yorkshire Coast at Withernsea. The completed wind farm will make an important contribution to the UK government's ambitions of installing 33 GW offshore wind power by 2020, and will also help to provide the practical experience necessary for Round 3 projects.

Construction, operation and decommissioning will have a number of impacts on the chosen site and its surroundings, and the purpose of the Environmental Statement is to describe and evaluate those impacts. It is our firm belief that the positive impacts of the wind farm far outweigh the negative impacts.

Location of

Westermost Rough Offshore Wind Farm





Introduction

Westermost Rough Limited is a daughter company of DONG Energy, a Danish energy company in which the Danish state is the majority shareholder. DONG Energy produces, distributes and trades in energy and related products in Scandinavia and northern Europe. DONG Energy owns and operates land-based wind turbines in Denmark, Poland and Sweden and is partner in a number of offshore wind farm projects in Denmark and the UK, including Barrow Offshore Wind Farm (operating); Burbo Offshore Wind Farm (operating); Walney Offshore Windfarm (under construction) and West of Duddon Sands Wind Farm (partly owned; consented) in the Eastern Irish Sea, and Gunfleet Sands (under construction) and London Array (partly owned, consented) in the Thames estuary. Further information can be found at www.dongenergy.com

The project

The site for Westermost Rough Offshore Wind Farm is leased from the Crown Estate as a so-called Round 2 development. These sites have been offered in three selected strategic areas around the British coastline. The Westermost Rough site was originally given to another developer, Total, who renounced after having accomplished the scoping process.

The cumulative effects of the nearby Humber Gateway Offshore Wind Farm – when constructed – must also be taken into consideration when assessing the impacts that may arise.

The wind farm turbine array consists of a number of rows of wind turbines connected by cables to a substation from which an export cable on the seabed carries the power to shore. The number which type and capacity of turbines will depend on type is available and well proven at the time of construction. Turbines in the range 3-7MW have been assessed.

The turbines and offshore substation stand on individual foundations of concrete or steel. A number of foundation types exist,

and the type to be used has not been finally decided. The impact assessment has taken this into account by assessing different types of foundations. For example, the gravity foundation takes up more space on the seabed and gives rise to more turbidity and sedimentation during construction, whereas the steel monopile gives rise to noise impacts when it is driven into the seabed.

Scour protection is anticipated to be needed around the offshore structures, depending on the foundation design that is finally selected.

The construction of the foundations and installation of the wind turbines involves a number of workboats, crane barges and support vessels. Shipping of materials and supplies to the site will also create additional traffic during the construction period.

The wind farm will be connected to shore by an export cable buried in the seabed. Conventional techniques will be used to install the cable and will cause only temporary disturbance to the seabed. The export

cable will have its landfall north of Tunstall and will continue as conventional buried power cables to a new Staithes Road substation in Salt End.

With a power capacity of up to 245MW, Westermost Rough will make an important contribution to British renewable energy production. The UK government has set a target of 15% renewable energy by 2020 with a main part coming from the potential installation of 33GW offshore wind. Westermost Rough Wind Farm will also contribute to a reduction in greenhouse gas emissions with an approximate annual reduction of 265,000 tonnes of CO₂, 3,000 tonnes SO₂ and 930 tonnes NO_x. Westermost Rough Wind Farm thus has a significant positive impact on climate change emissions and will help the UK Government to reach its reduction targets.

There are many important users of the sea in the UK. A major challenge for wind farm developers is to ensure the problem-free co-existence of offshore wind farms with existing activities including navigation, commercial fisheries and military activities.

The Wind Turbines

and the Foundations





The Environmental Statement (ES)

The impacts of the proposed wind farm will fall into three distinct phases: construction, operation and decommissioning. Full information about the impact assessment is given in the ES report and its accompanying Annexes. The report deals with the environmental impact of the proposed project during the construction, operation and decommissioning phases, as well as

describing the quality, safety, health and environmental management and monitoring systems that will apply during the lifetime of the project.

The ES presents the justification for the proposed Westermost Rough Wind Farm and the different options for project implementation. It considers the impact of the

proposed project on the physical, biological and human environment in the geographical area surrounding the project where potential effects could occur. Cumulative effects of Westermost Rough and other wind farm projects in the area are also considered.



The Environmental Impact Assessment Process

Scoping

In 2004 the Westernmost Rough Ltd's predecessor Total produced a Scoping Report and received a number of comments from Consultees and Stakeholders. The report identified the physical limits of the proposed project study area, key potential risks and the types and levels of impacts that were to be assessed and used to select alternatives for consideration. The scoping report and the received comments have been used in the planning of the surveys, studies and Environmental Impact Assessments.

The scoping activity has continued throughout the preparation of the Environmental Statement, so that the scope of work has been amended in the light of new issues and new information. In addition to the consultation in connection with the scoping procedure, continuous consultations with the Statutory Consultees have taken place in order to reduce the risk of delays caused by requests for further information after submission of the consent application with its accompanying environmental information, and to reduce the risk of disagreement about impact assessment methods.

Furthermore, Westernmost Rough Ltd. has endeavoured to include the general public in the Environmental Impact Assessment process by arranging meetings with particular groups, by organising public exhibitions and by establishing a project home page in 2008 giving information and receiving comments.

Public Exhibitions

In June 2008 Westernmost Rough Ltd. carried out Public Exhibitions in Withernsea,

Hornsea and Bridlington. These exhibitions provided information about the proposed wind farm project off the coast of Yorkshire. A second round of public consultations will take place in autumn 2009 in connection with the submission of the Project Application and the Environmental Statement.

WASH Group

The Round 1 and 2 wind farm developers in the Greater Wash area have joined forces in the so-called WASH Group. Whenever possible and convenient this group has coordinated contact with the local and national authorities in order to assist the process of applications for consent, and also to coordinate the locations of the different sites.

Investigations

Following the guidelines and specifications established by Department of Trade and Industry (DTI) and by the EU on Environmental Impact Assessments of offshore wind farms, a whole range of details with regard to the physical, biological and human environments have been assessed.

This non-technical summary presents the overall results of the assessment, and highlights a number of issues that have been identified by the developer as being of key interest.

Stakeholders are encouraged to read the main report and annexes to the report to find more detailed information on any specific issues.

Regulatory Consents

A number of regulatory consents are re-

quired for the construction and the operation of Westernmost Rough Offshore Wind Farm. The key consents applied for are the following:

Consent under **section 36 of the Electricity Act 1989** to construct and operate a wind farm. This will also cover the offshore cables and other infrastructure.

FEPA License under **section 5 of the Food and Environment Protection Act 1985**, concerning the protection of marine ecosystems.

Consent under **section 34 of the Coast Protection Act 1949** in order to make provision for the safety of navigation in relation to the export cables.

Planning permission under **section 90 of the Town and Country Planning Act 1990**, sought as part of the section 36 application, for the onshore elements of the works ("Deemed planning permission").

Extinguishment of public rights of navigation will be requested under the **Energy Act 2004** for the areas of seabed directly covered by the offshore structures. Safety zones around all structures will also be requested in order to prevent navigational activities in those areas of the wind farm where there is considered to be a safety risk.

The Environmental Impact Assessment

The wildlife and the environment

The Coast and Seabed

The Environmental Impact Assessment for Westermost Rough Offshore Wind Farm has included investigations into potential effects on the physical processes in the Holderness Coastal area. The assessment has included effects on suspended solids, scour effects, effects on sediment transport, and effects on waves and tides. The different scenarios in regard to number of turbines and foundation options have been taken into account.

The general conclusion is that the impacts on the physical environment that are expected to occur from the construction, operation and decommissioning activities will be negligible. Some disturbance of sediment will occur as a result of the construction process but they will only be temporary.

The wind farm project would have some localised impacts in the immediate vicinity of the site, and some impacts such as the loss of seabed will be permanent, but the impact will only be minor. The impacts further away from the site are expected to be negligible.

Noise

Some construction activities such as driving of monopiles are quite noisy. It is not certain that monopile foundations will be used, but it is possible. Since the wind turbine nearest to the coast is approximately 9 km away, the sound will be greatly reduced when it reaches the shore.

Noise during cable trenching onshore will be comparable to general road maintenance work, and it will not be possible to hear the wind turbines from the shore when the wind farm is operating.

The waterborne noise will occasionally be significant during construction, but will not affect humans. The other activities will produce noise at negligible levels.

Birds

The Westermost Rough Offshore Wind Farm is located in an area of medium bird density, but there are important protected sites in the surrounding region. The key species in the area include Gannet, Kittiwake, Common Gull, Lesser Black-backed Gull, Herring Gull, Great Black-backed Gull, Sandwich Tern, Common Tern, Guillemot, Razorbill and Puffin.

The protection of bird life has been an issue of great concern for the project and a two-year assessment has been undertaken. Boat surveys have been performed from August 2004 to July 2006 and aerial surveys have been conducted between September 2004 and June 2006. The surveys cover the wind farm site and surrounding areas, to obtain a good picture of the bird species living and foraging at the Westermost Rough Wind Farm site.

A targeted Little Gull survey was undertaken in 2008 to cover the birds' movements at Hornsea Mere and in relation to the Westermost Rough Wind Farm site. Terrestrial surveys at Hornsea Mere, inshore boat surveys and offshore boat surveys were all conducted from mid-August to end of September. The surveys showed that only small numbers of Little Gull were recorded at the wind farm site, and that they do not have a preference for the site over the wider inshore and extensive offshore sea area. The Little Gull is therefore not considered a key species for the Westermost Rough Wind Farm site.

With regard to the impact on birds during the operational period, the assessment has shown that for Gannet, Kittiwake, Common Gull, Lesser Black-backed Gull, Great Black-backed Gull, Common Tern, Guillemot, Razorbill and Puffin the impact is minor and for Herring Gull and Sandwich Tern negligible and not significant respectively.



In total the impacts of the wind farm on bird species are assessed to be negligible.

Marine Mammals

The North Sea area where the Westermost Rough Offshore Wind Farm site is situated is generally a region with a low abundance

of marine mammals. However the common seal is resident in the region, pupping on several small exposed sandbanks south of the Humber Estuary. Likewise other marine mammal species are regularly recorded in the Southern North Sea area e.g. harbour porpoise, bottlenose dolphin, and grey seal. The harbour porpoise and small numbers of common seal are considered to be resident in the Southern North Sea, possibly using the area for all life stages including mating, birthing, weaning and foraging.

The major impact on marine mammals from wind farms arises during the construction period due to the underwater noise that is caused. The loudest noises generated during construction would be those associated with pile driving. The sound will travel in all directions from some of the pile locations and it is predicted that the beha-

vioural impact limit (the 90dBht limit) from the pile-driving operation will be at approximately 10km from the piling location, with the noise falling to background levels some 20km from the location.

The whales, dolphins and seals may move around in the Humber region as a result of the cumulative waterborne noise whilst Westernmost Rough and Humber Gateway Offshore Wind Farms are being constructed. Although in the short term this might exclude marine mammals from part of the Humber region, this is expected to have only a minor effect on the overall population of the key species.

Other Wildlife

Potential impacts on other forms of marine life apart from birds and mammals have also been thoroughly studied. The studies

assessed possible impacts on the bottom fauna, fish and shellfish in the affected area. The studies have shown that no special protected species will be affected.

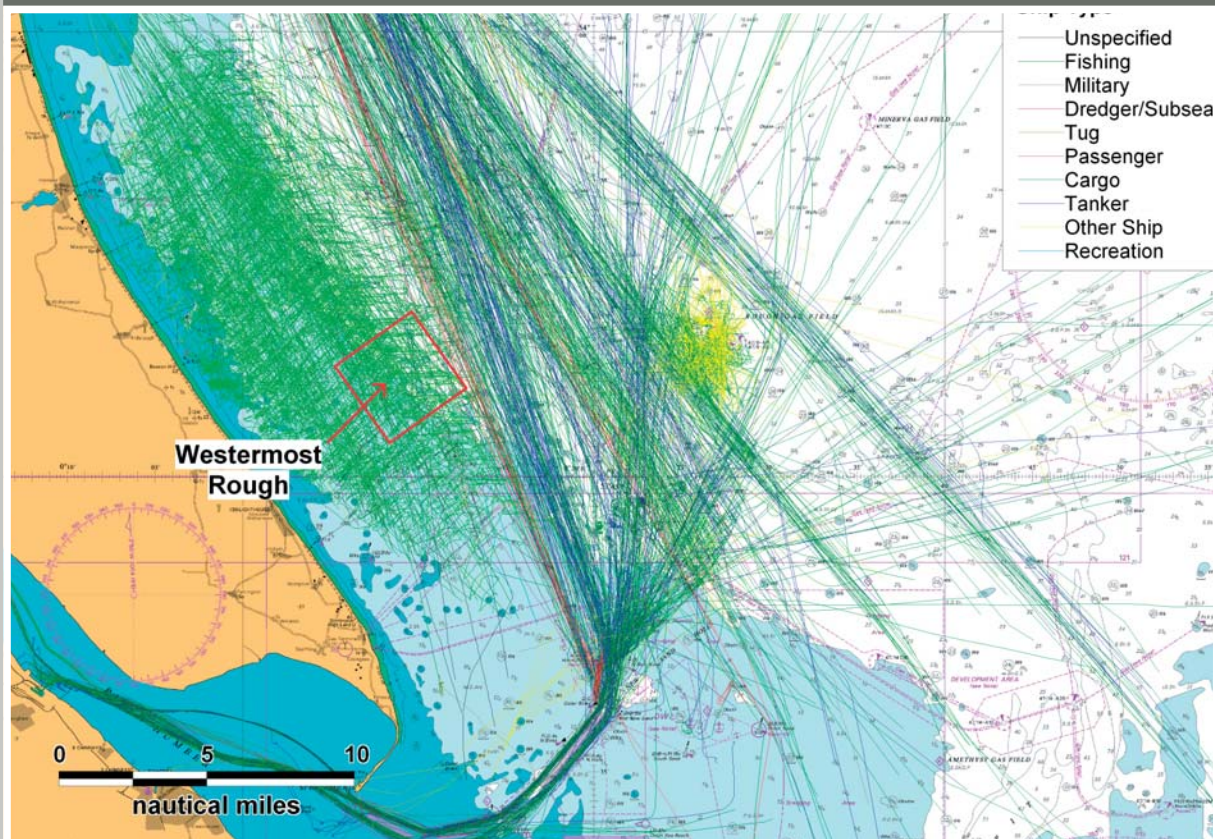
The remaining impacts, e.g. of electromagnetic fields around the cables are expected to result in negligible impacts on the marine environment.

Navigation

A series of studies has been undertaken of the possible impact of the wind farm on shipping, recreational and fishing vessels and navigational radar operations in the area around Westernmost Rough. The main information on the baseline navigation in the area came from a 28 day maritime traffic survey of the Westernmost Rough site, carried out using a combination of shore-based radar, AIS and visual observations.

Winter and summer Surveys 2008

Shipping tracks recorded during winter and summer Surveys 2008 (28 Days AIS & Radar)



The survey covered a winter and summer period to cover seasonal variations.

The study showed that the Westermost Rough wind farm will not affect the main navigation routes in the area heading to and from the Humber Estuary neither will it affect ships not bound for the Humber.

A Formal Safety Assessment has been undertaken in accordance with international and national standards. Hazards associated with the wind farm were identified, and the associated scenarios prioritised by risk level. Within each scenario, vessel types were considered separately to ensure that risk levels were assessed for each type and appropriate control options identified on a type-specific basis, e.g. risk control measures for fishing vessels differ from those for commercial ships. The ha-

zard ranking process identified no unacceptable hazards.

Four risk assessments were carried out to investigate selected hazards in more detail. The risk assessment was based on the indicative 80 x 3MW layout, which was identified as being the "realistic worst case" from a navigational risk perspective. The overall collision risk level in the area was estimated to increase by approximately 1 in 51 years (base case) and 1 in 46 years (future case) with the Westermost Rough Offshore Wind Farm development. The majority of the risk is associated with fishing vessel collisions.

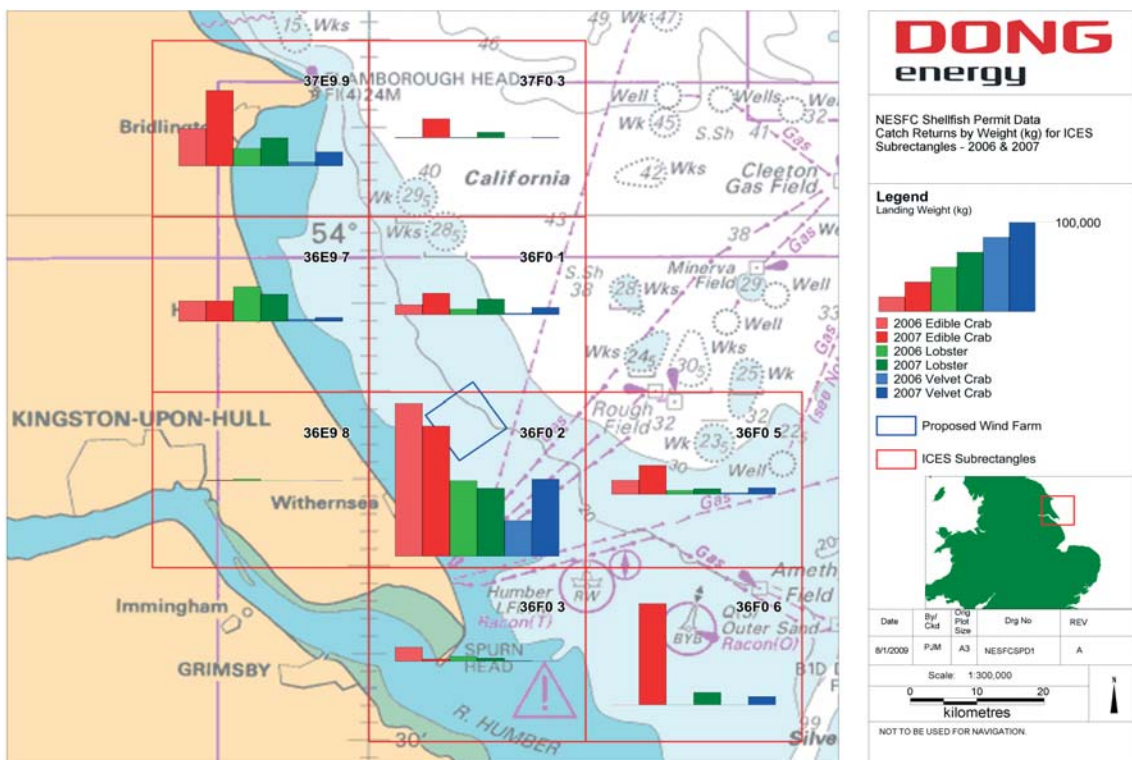
Based on the available research, it is considered that a collision involving a larger ship is likely to result in collapse of a turbine with limited damage to the ship. Breach of

a ship's fuel tank is considered unlikely, and in the case of vessels carrying hazardous cargoes, e.g. a tanker or gas carrier, the additional safety features associated with these vessels would further mitigate the risk of pollution. In the case of smaller vessels such as fishing and recreational craft, the worst case scenario would be a risk of ship damage leading to foundering of the vessel and potential loss of life.

In addition to the boundary amendment of the wind farm that has already been undertaken to reduce navigational impact and risks, a considerable number of mitigation measures are considered, including deployment of navigation marking, buoys, safety zones, oil spill response plan and a marine coordinator on site. Further hazard/risk assessment workshops will also be carried out as part of the project planning process

NESFC Shellfish

NESFC shellfish permit catch returns by ICES sub-rectangle - 2006 & 2007



to help ensure that the proposed activities are carried out safely.

Commercial Fishery

Westermost Rough Offshore Wind Farm will be situated within fishing area 360F, for which fisheries statistics are available from the International Council for the Exploration of the Sea (ICES). The majority of the landings are from potting vessels below 15m in length with lobster and crabs as principal species. The wind farm will thus lie within an important potting area with very little fishing activity in the area by vessels using other fishing methods.

A total of nine vessels were recorded within the boundaries of the proposed wind farm during 2005-2007. Of these, seven were identified as potting vessels and two as trawlers. The identified foreign vessels were almost exclusively Dutch, French and Belgian, although the foreign fishing acti-

vity is not significant in the area. All were recorded outside the 12-mile limit.

From north of Hornsea to Withernsea in the south, there has been an increase in fishing activity within the 6-mile limit, and significantly less activity recorded outside the 6-mile limit. This increase is mainly due to larger vessels up to 14m in length coming to work within the 6-mile limit.

During the construction phase, only construction vessels will have access to the wind farm site. This is in line with normal offshore practice. Permission will be sought to establish safety zones of 50m around each structure within the wind farm site from the beginning of construction to the end of decommissioning. With the exception of these exclusion zones it is anticipated that potting vessels will continue to be able to operate within the area of the wind farm.

The main ports potentially affected would be Withernsea and Hornsea, where 99.5 % of the value of landings in 2007 originated from the wind farm site and the surrounding area. For Bridlington the total potting landings in 2007 account for 59.6%. However the Withernsea and Hornsea vessels will only be excluded from up to 5.4% of their primary potting area and around 3% for Bridlington-based vessels.

The nearby Humber Gateway Offshore Wind Farm does not fall within the primary potting fishing ground and radar surveys have shown that vessels fishing the Westermost Rough area do not generally operate as far south as the Humber Gateway site. It is therefore reasonable to expect that no significant cumulative impacts will occur in respect of increased steaming times and interference with fishing activities during the construction/decommissioning or operational phases.

View from Spurn Head Visualisation

Westermost Rough Offshore Wind Farm (Proposed)



Taking all potential impacts and proposed mitigation measures into consideration, the significance of the residual impacts caused by the construction/decommissioning and operational phases on commercial fishing in the area relevant to the Westermost Rough Offshore Wind Farm are considered to be negligible to moderate.

Cultural Heritage

Records of wrecks and seabed obstructions within the study area were collected using information provided by the many relevant sources (United Kingdom Hydrographic Office, National Monuments Record etc.) and geophysical survey.

The study area contains 61 geophysical anomalies, two of which have been identified as known wrecks in the area of the wind farm, and a further two anomalies that have been identified as potential wrecks.

The significance of effects of the wind farm development upon archaeological remains has been assessed taking into account the severity of the planned impact on the known and potential archaeology. Each identified archaeological feature or site has been appraised for its importance on a scale of local, regional, national or international importance, and the scale of magnitude of the impact as a result of the development.

Based on the detailed mitigation measures, the residual impacts from the development of Westermost Rough Offshore Wind Farm on cultural heritage may be considered negligible.

Seascape and Visual Impacts

The Westermost Rough Offshore Wind Farm will be located approximately 8km from the coastline of East Yorkshire at Withernsea, covering an area of 3km². The

two chosen layout options consisting of either 80 3MW turbines with a blade tip height of 112m above MHWS or 35 7MW turbines with a blade tip height of 172m above MHWS were both assessed.

A total of 9 viewpoints within a 35km study area around the proposed wind farm site were agreed with the local council and Natural England. Within the study area, four Regional Seascape Units (RSU) have been identified. The study area embraces a long linear and elevated stretch of coastline, from the steep chalk cliffs of the Flamborough Head peninsula in the north, to the sandbanks of the Spurn Head Peninsula and the Humber Estuary in the south. Computer-generated visibility plans, photomontages, images, and wireframe outlines were prepared from all of the viewpoints.

The assessment included potential for seascape and visual effects during the con-



struction, operational and decommissioning phase of the wind farm. During construction and decommissioning the assessment concluded that there would be temporary, short term visual effects on especially the Holderness Peninsula RSU but also on the associated visual receptors and general visual amenity. However the significance of the visual effects was assessed to be minor. During the decommissioning phase the visual impact will be similar to those of the construction phase and of relative insignificance as there is an existing baseline of marine activity in the area. The operational phase will have the most significant impact due to the duration of the wind farm, e.g. 20 years.

Climate and the day-to-day weather patterns will combine to reduce the number of days upon which views of the Westernmost Rough Wind Farm will be available from the coastline and hinterland. Moreover, even where poorer visibility does not wholly ob-

scure views of the proposed wind farm, it will still inhibit views of the development making it more visually recessive within the wider seascape.

An assessment of the potential effects for local residents, travellers through the area and tourists was undertaken. The assessment concluded that during the operational phase of the wind farm, the visual effects will be limited by the elevated coastal edge of the Holderness Peninsula and the Humber Estuary and the impact will be no more than moderate for the users of the coastal areas.

Likewise the impact on local residents is limited as the coastal influence will restrict views. The nearest residential properties in Withernsea and just to the north, however, will experience a visual effect of moderate to major significance, due to clear seaward views within this area.

Given the offshore location of the proposed

development, direct physical effects will be limited for the majority of the seascape resource. Even though the proposed wind farm will be located within the Holderness Peninsula RSU, it will not be seen to be uncharacteristic, given the character of the existing baseline which already includes wind turbines. The general simplicity and open scale of the east Yorkshire and north Lincolnshire coastline also suggests that effects will not sit uncomfortably within their setting given the existing baseline character.

The elevated nature of the nearest coastline will positively assist in screening/filtering the visibility from the majority of the study area, where a combination of distance, orientation, subtle variations in land form and the presence of existing turbines at Out Newton will reduce the extent of the effect. The visual effects will therefore be greatest when seen from the Holderness coastline, with the magnitude and extent of the visual



effects being reduced where the proposed wind farm will be seen to shift from being the main focus of view from the coast - as from Withernsea - to occupying a more peripheral or oblique position within the field of view from the remaining viewpoints e.g. at Spurn Head, Hornsea, Bridlington, Flamborough Head, Halsham and Donna Nook. The number and variety of built elements also sited intermittently along the Holderness coastline, including the developed foreshore areas, cliff-top holiday parks and other prominent features, will also help to accommodate the visual profile of the proposed development further. The overall visual effect is therefore considered to be moderate to minor, with only localised and isolated areas of more significant effect.

The assessment of cumulative impacts included the operational wind farms at Out Newton and Hull Waste Water Treatment Works, the consented wind farm at Lisset Airfield (onshore) and those registered as

'in planning' which includes the Humber Gateway (Round 2 offshore) and the onshore wind farm at Burton Pidsea. All lie within the 35km study area.

The character of the Humber Estuary and Holderness Peninsula would inevitably change should all or the majority of the proposed developments be constructed. There will also be some isolated significant effects on the nearest coastal receptors. However the Westernmost Rough Offshore Wind Farm will only contribute to a minor to moderate cumulative effect. This includes the majority of the coastal margins of east Yorkshire and north Lincolnshire.

Radar

The Greater Wash Area is generally sensitive with regard to radar interference. There are two air defence radar facilities operated by the Ministry of Defence (MOD) in the area: Trimingham and Staxton Wold. These are currently equipped with the T93 radar, but are subject to a replacement pro-

gramme with the MOD. It is expected that a T101 radar will be installed at Staxton Wold, and a T102 radar at Trimingham. With respect to civil aviation, an important Raytheon ASR23 radar is situated at Claxby, which might suffer from interference from Westernmost Rough. NERL own and operate this radar.

The Greater Wash developers are investigating whether the TPS77 radar will mitigate problems arising from the wind farms in the Greater Wash area. The results of this investigation will be available before the end of 2009, and this may provide generic solutions for the wind farms covered by the Trimingham radar. Once this has been established, solutions could be sought for the Westernmost Rough project which, as mentioned above, is covered by the Staxton Wold radar.



Summary of Cumulative Impacts

Westermost Rough is located in the Greater Wash area where several other wind farms are also in the planning process, consented but not yet built, under construction or operation. In the Northern Wash or the Yorkshire Coast area, only Humber Gateway, also in the planning process, is located together with Westermost Rough. However several onshore wind farm projects are located in this area.

In addition to the wind farms, subsea pipelines and cables together with dredging areas and soil disposal sites are also either existing or proposed in the area.

Developers of potential sites in the Greater Wash have commissioned an initial scoping assessment of potential cumulative (and in-combination) effects in this area. It identified potential cumulative effects under the receptor headings navigation and shipping, commercial fisheries, natural fishery resource, ornithology, cetaceans, landscape and visual character and socio-economic effects. Special attention is here given to the Yorkshire Coast only, due to the spatial separation of the offshore wind farms in the Greater Wash.

All potential cumulative impacts have been analysed, and the most important will be mentioned here.

Birds

During scoping of the assessment, Natural England requested detailed cumulative collision risk estimates for key bird species. Collision risk estimates were available for 9 of the 16 proposed, consented and operational offshore wind farms along the East Coast. The assessment was undertaken for the following key species: Gannet, Kittiwake, Common Gull, Lesser Black-backed Gull, Herring Gull, Great Black-backed Gull, Common Tern, Guillemot, Razorbill and Puffin. The cumulative collision risk estimates concluded that the impacts on these key species will not be significant.

Commercial Fishing

The Humber Gateway does not lie within the primary potting fishing grounds, and from radar surveys it is clear that vessels fishing the Westermost Rough area do not generally operate as far south as the Humber Gateway site. It is therefore reasonable to expect that no significant cumulative impacts will occur in respect of increased steaming times and interference with fishing activities during the construction, decommissioning or operational phases.

Landscape, Seascape and Visual Impact

Although the character of the Humber Estuary and Holderness Peninsula would inevitably change should all or the majority of the proposed wind farm developments be constructed, Westermost Rough typically will contribute only to a Minor to Moderate cumulative effect and there will be some significant isolated effects on the nearest coastal receptors.

Radar

The radar issue for the Greater Wash Strategic Area is dealt with as a generic issue rather than as site-specific issues for each individual wind farm proposed within the area.

The considerable numbers of wind turbines suggested for the Greater Wash Strategic Area are likely to result in an unacceptable level of clutter on the MoD and NERL radar screens. In terms of the Greater Wash area, BWEA has also facilitated discussions with MOD and the Greater Wash developers in order to investigate whether it is possible to solve the radar issue with a regional solution.

In parallel to this activity, BWEA has led the formation of a central Aviation Fund, the aim of which is to invest in research and development projects to solve en-route air traffic control and air defence radar issues. It is likely that significant investment will be required to resolve the aviation objections for wind farm development in the UK.

Species	VOR ¹
Gannet	International
Kittiwake	International
Common Gull	Regional
Lesser Black-backed Gull	Regional
Herring Gull	National
Great Black-backed Gull	Regional
Sandwich Tern	International
Common Tern	Regional
Guillemot	International
Razorbill	International
Puffin	International



Assessment

GB breeding population (pairs) ²	Approximate % of global population ³	Local population (pairs)	Importance of WMR site ⁴	Disturbance/ Displacement	Habitat loss	Collision risk	Barrier effects	Overall risk
259,311	-	2,552	Local	Minor	Negligible	Minor	Negligible	Minor
415,995	8%	42,659	Local	Negligible	Negligible	Minor	Negligible	Minor
48,000	7%	1	Local	Negligible	Negligible	Minor	Negligible	Minor
117,000	37%	2	Local	Negligible	Negligible	Minor	Negligible	Minor
149,500	-	-	Local	Negligible	Negligible	Negligible	Negligible	Negligible
19,300	11%	-	Local	Negligible	Negligible	Minor	Negligible	Minor
14,252	7%	-	Local	Negligible	Negligible	Negligible	Negligible	Negligible
14,497	2%	7	Local	Minor	Negligible	Minor	Negligible	Minor
1,559,484	12%	46,685	Regional	Minor	Negligible	Negligible	Negligible	Minor
216,087	18%	8,614	Regional	Minor	Negligible	Negligible	Negligible	Minor
600,751	10%	2,650	Local	Minor	Negligible	Negligible	Negligible	Minor

*1 Valued Ornithological receptor / conservation value.

*2 Great Britain and Ireland breeding population in pairs.

*3 Population counts registered at Flamborough Head and Bempton Cliffs SPA or North Yorkshire and Humberside in pairs.

*4 Assessment based on peak survey counts.



Summary of Onshore Environmental Impact Assessment

The proposed onshore cable route is 14,7km and comes a shore just north of Tunstall where it continues in a westerly direction passing through Burton Pidsea and north of Burstwick towards Hedon. North of Hedon the route connects to a proposed substation site at Staithes Road in Salt End.

In order to establish the environmental baseline a desk-based review of published documents was undertaken. Furthermore a scoping process was undertaken in September 2003 involving all statutory parties and key representatives of other interested stakeholders.

Landfills and Contaminated land

No landfills have been identified within 1km of the cable route. However, an area to the north of the cable route has been identified as the location of a Waste Transfer Site. No contaminated land has been identified within 5km of the route but some potential issues have been identified e.g. ponds, slurry pond, lagoons and sheep dips, gas works, substations, a coal depot and a motor racing track. Eight of these sites are located directly on the proposed cable line or the substation site.

Surface water and flooding

A number of surface water features are encountered directly by the route, mainly comprising drains and small channels. In addition two major drains (Burstwick and Preston New Drain) will be crossed.

The shoreline at Tunstall is indicated as being a Zone 3 flood area, and the proposed cable route passes through three other Zone 3 areas including the substation site. The area of the substation is shown to be protected by flood defences.

Biological environment

The proposed cable route does not pass through any statutory designated sites. Three non-statutory sites have been identified known as Sites of Importance for Nature Conservation (SINCs). In addition the cliffs close to landfall at Tunstall are designated as Maritime Cliff and Slope habitat. The impacts on the SINCs and the Maritime Cliff and Slope habitat are considered to be minor.

Based on an extended Phase 1 Habitat Survey and walkover for protected species the impact on vegetation and fauna for both

the cable route and substation is considered to be negligible to minor.

Traffic

Most of the construction related traffic will be outside peak hours and will not impact local traffic during construction of the cable route and substation.

Cultural Heritage

The proposed cable route passes through 31 archaeological sites where the significance of impact is assessed to vary from negligible to moderate. Further geophysical surveys will be undertaken along the cable corridor prior to construction. In addition all groundworks during construction will be subject to an archaeological watching brief.

Conclusion

Westermost Rough Offshore Wind Farm has carried out an assessment of the environmental impacts of the proposed project in accordance with EU and UK regulations, and has extensively consulted statutory and non-statutory bodies, interested parties and the public. The findings have been presented in a technical report, the Environmental Statement, which includes a number of detailed annexes.

The preparatory work has included proposals for measures to mitigate any important negative impacts of the development. DONG Energy has further made commitment to establish overall plans for quality, health, safety and environmental management. This will ensure that the windfarm, during construction, operation and decommissioning, will be conducted in a responsible manner.

Westermost Rough Offshore Wind Farm offers strong positive benefits to British society and will assist Great Britain in fulfilling national ambitions to install 33 GW of offshore wind energy capacity by 2020. There could be some limited negative environmental impacts, but a balanced evaluation based on the Environmental Statement favours construction of Westermost Rough Offshore Wind Farm.

The proposed

Onshore cable route

