

Environmental impact assessment of proposed offshore wind farm, off suffolk coast...



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Suffolk Coast Table Of Content Question i)

..... 3 Features
that will require further investigation.....3
Further Studies Needed.....
.....3 Field Studies.....
..... 3 Desk
Studies..... 4
Impacts of cable on features and how they could be minimised /
avoided..... 4 Question ii).....
..... 7 Protected sites within the
area of the onshore works.. Species or habitats
that could be relevant to any planning application 7 Impact of
cable route and Sub-station construction on Designated and protected sites9
References.....
10 Question i) a) The features that will require further investigation are: •
Marine benthos • Marine mammals • Fishes • Marine habitats • Other mobile
aquatic species • Existing Operational Telecommunications cables linking UK
and Europe • Sediment transport • Shipping and fishing • Archaeological
sites • Recreation and tourism Sedentary and reef forming species b) The
following further studies will be needed: 1. Environmental Assessment Desk
and field studies are carried out to address the issues that were identified
during the scoping exercise. These studies will be used to fill in any identified
gaps in knowledge of the environmental issues in the area, and also to
support environmental impact assessments. Any subsequent relevant

environmental monitoring requirements will then be communicated. i) Field Studies: Following further field studies will be carried out: a) Core Studies: Characterisation field surveys will be carried out using standard techniques for benthos and fish. b) Specialist Surveys: Specialist surveys will be carried out for Sabellaria Reef, Marine mammals etal. c) Benthic Ecological Survey: Benthic Ecological Survey will be carried out as follows: • carry out one-off survey to characterise site and inform possible future baseline survey • carry out tens to hundreds of grab samples covering Suffolk Coast, adjacent areas and control sites • carry out laboratory taxonomy work • carry out particle size analyses • carry out containment sampling ii. Desk Studies:

Carry out further desk studies to determine impact of noise on Marine mammals – Harbour porpoise (*phocoena phocoena*) 2) Impact Assessment: A rigorous, transparent and objective assessment of the impact of the proposed wind farm will be carried out as follows: • firstly, identify potential impacts of the proposed wind farm • secondly, determine the significance of the identified potential impacts • thirdly, develop mitigation measures, and then re-evaluate significance of the potential impacts In determining the overall significance of an identified impact, a Significance Matrix will be used as follows:

Overall Significance = Magnitude of Impact x Importance of Receptor

c) Impacts of cable on features and how they could be minimised / avoided:

1) Marine Mammals | Mammal | Presence | Seasonality | Impact | Mitigation | |
 Harbour Porpoise | Regularly | Seasonal movement to | Noise and
 disturbance from cable | Carry out construction works to coincide with | | |

the coast | laying construction activities | season when they migrate to the coast | Grey Seal | Regularly | Autumn: Reproduction | Noise and disturbance from cable | Carry out construction works during their onshore| | | onshore | laying construction activities | reproduction circle | | Harbour Seal | Rarely | Occasionally during | Noise and disturbance from cable | Carry out construction works to coincide with | | | winter | laying construction activities | period when they are away from site |)Fish / Shellfish | Fish/Shellfish | Presence | Impact | Mitigation | | Herring | Throughout the year| i)EMF from cable may affect fish behaviour. Cable route & construction works to be carried | | Bass | | ii) Noise from cable laying operations may disrupt | out, outside spawning areas/cycles, nursery | | Sand Goby | | spawning areas, Nursery ground, Feeding grounds and | grounds, feeding grounds and overwintering | | | Overwintering areas | areas. | | Salmonids | Rarely, during | i)EMF from cable may affect fish behaviour. Cable route & construction works to be carried | | Eels | migration | ii) Noise from cable laying operations may disrupt | out, outside migratory pathways/cycle. | | | migratory pathways | | 3)Commercial Fisheries Commercial fishing activities take place at the Suffolk Coast proposed wind farm site at all times of the year using a combination of static and moving gear.

Cable laying activities will impact on the commercial fishing activities, as there will not be access to the construction site. Mitigation measure will be to work towards achieving a reduction in the total construction time for the cable laying works. 4)Marine Navigation: Cable laying activities will restrict marine navigation activities in the region of the construction site. Also during

operation of the wind farm, a navigation vessel may drop or drag it's anchor over an unburied cable.

To mitigate against above impacts on marine navigation, efforts will be made to reduce the total cable laying construction time. Also, efforts will be made to bury all cables appropriately. 5)Existing Operational Telecommunications cables linking UK and Europe: The wind farm power export cables are required to cross existing operational Telecommunications cables linking UK and Europe. The cable crossing process may impact on the existing operational Telecommunications cables, thereby causing damage and disruption of telecommunications services.

The mitigation measure shall be to secure a crossing agreement with the relevant cable operator, and to adopt work practices that will ensure that the existing cables are not damaged during installation activities. Measures will also be put in place to monitor the integrity of the cable crossing during the operational phase of the wind farm. Question ii) a)Protected sites within the area of the onshore works are: SITE | DESIGNATION | | Alde-Ore and Butley Estuaries | SAC | | Alde-Ore Estuary | SPA, SSSI | | Alde-Ore Estuary | Ramsar | | Benacre to Easton Bavents Lagoons | SAC | | Benacre to Easton Bavents Lagoons | SPA | | Deben Estuary | SPA, SSSI | | Deben Estuary | Ramsar | | Stour and Orwell Estuaries | SPA | | Stour and Orwell Estuaries | Ramsar | | Dew's Ponds | SAC, SSSI | | Minsmere to Walberswick Heaths and Marshes | SAC, SSSI | | Minsmere to Walberswick | SPA | | Minsmere to Walberswick | Ramsar | | Orfordness-Shingle Street | SAC | | Staverton Park and the Thicks, Wantisden | SAC | | Sizewell Belts | SSSI | | Sandlings | SPA | | Sour Estuary | Ramsar | | Orwell Estuary | Ramsar, SSSI | | Orfordness | SSSI | Sizewell
<https://assignbuster.com/environmental-impact-assessment-of-proposed-offshore-wind-farm-off-suffolk-coast/>

Marshes | SSSI | | Leiston-Aldeburgh | SSSI | | Havergate Island | SSSI | b)

Species or habitats that could be relevant to any planning application are:

i)Species: Mammals: • Red-Throated Diver • Bats Reptiles: • Grass snake • Adder • Common Lizard • Slow Worm Birds: • European Nightjar • Wood Lark • European Turtle Dove • Sky Lark • Song Thrush • Cett's Wabblers • Starling • House Sparrow • Linnet • Bulfinch • Yellowhammer • Little Terns • Marsh Harrier • Redshank • Lesser Black-backed gull Amphibians: • Great crested newt ii)Habitats • Arable Land • Hedgerow Roadside verge • Sand dune • Vegetated Shingle • Grasslands • Scrub • Mudflat • Sandflat • Salt Marsh • Heathland • Acid grassland c)Impacts of cable route and a new sub-station

on the species and habitats and how they could be minimised / avoided:

i)Impact of cable route on Habitats/Species: Construction works for cable laying through the Suffolk beaches may impact on the natural habitats, thereby resulting in habitat loss/fragmentation. This will then have adverse consequences for the sensitive species they protect. Disturbance of the species by intrusion, noise, vibration and light may affect their breeding, migration and nesting programmes.

The mitigation measure for the above, shall be to employ Horizontal Directional Drilling (HDD) technique to drill the cable route under the Suffolk Coast beaches, without impacting the habitats, thereby preserving the species that thrive in them. This will also enable the Suffolk Coast to maintain its " Area of Outstanding Natural Beauty" (AONB) status. ii)Impact of cable route and Sub-station construction on Designated and protected sites: Construction of the cable route and the sub-station can impact on the designated nature conservation sites, namely SAC, SPA, Ramsar and SSSI. To

mitigate this potential impact, the cables will be routed away from any of the designated sites. Also the site for the sub-station facility in Sizewell will be located outside any of the designated sites.

Furthermore, a mitigation/improvement measure will be adopted to acquire substantially more land near the location of the onshore sub-station, than is required for the actual sub-station and onshore cable route construction. The excess land acquisition will then be developed for heathland or acid grassland, in consultation with the District Council and relevant nature conservation bodies. iii) Impact of Sub-Station construction and decommissioning on habitats and species: Potential impact of sub-station construction and decommissioning of the onshore sub-station and associated works include: 1) habitat loss (arable field only) 2) temporary habitat damage (hedgerow/roadside verg) and 3) disturbance/direct impact on sensitive species

Mitigation measure will be to locate the onshore sub-station in Sizewell, away from sensitive habitats and species. Also, arrangement will be put in place to ensure that an ecologist carries out a simple search for reptiles before commencement of all ground excavation works. References 1. Offshore Renewable Energy Management Module January 2010 – Cranfield University 2. Renewable Energy – Power for a sustainable future, Second edition by Godfrey Boyle 3. Offshore Wind Farms (2004): Guidance Note for Environmental Impact Assessment in Respect of FEPA and CPA 4. Habitats Regulations Assessment (2009): Site Report for Sizewell 5. Greater Gabbard Offshore Wind Farm (2005): Non-Technical Summary