

# Outer Dowsing Offshore Wind

## Consultation Report

### Appendix 5.1.2 Scoping Part 2

Date: March 2024

Document Reference: 5.1.17

Rev: 1.0

Company:	<b>Outer Dowsing Offshore Wind</b>	Asset:	<b>Whole Asset</b>			
Project:	<b>Whole Wind Farm</b>	Sub Project/Package:	Whole Asset			
Document Title or Description:	Appendix 5.1.2 Scoping					
Internal Document Number:	PP1-ODOW-DEV-CS-REP-0143	3 <sup>rd</sup> Party Doc No (If applicable):	N/A			
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Rev No.	Date	Status / Reason for Issue	Author	Checked by	Reviewed by	Approved by
1	March 2024	DCO Application	ODOW	ODOW	ODOW	ODOW

## 9 Wider Environment

### 9.1 Human Health

#### Introduction

- 9.1.1 This section of the Scoping Report firstly identifies the human health receptors relevant to the Project and their assessment conclusions that should be considered within the human health impact assessment (HIA). Secondly, it sets out the characteristics of the local populations (herein referred to as ‘the health landscape’) within the study area of the Project development that should be included within the HIA (i.e., aspects of the health landscape relevant to the general population and hard to reach community groups<sup>38</sup>). This section considers the potential effects from the construction, O&M, and decommissioning of the Project on human health receptors and sets out the proposed scope of the HIA in the EIA. The proposed methods for the EIA are also presented.
- 9.1.2 Human health is an inherent part of a number of technical areas assessed within the EIA, including land use, flood risk, air quality, noise and vibration, traffic and transport, landscape and visual impact assessment, tourism and recreation. This section provides a summary for each relevant EIA Scoping section, an assessment of the existing key issues identified in the Joint Health and Wellbeing Strategies (JHWS) for the relevant local councils as well as providing a standalone assessment of the potential effects arising from EMF, as these effects are not considered in any other sections in the context of human health.
- 9.1.3 This human health assessment should be read alongside the following sections of this Scoping Report, which are referred to where relevant throughout this section:
- Section 8.1: Onshore Air Quality ;
  - Section 8.4: Geology and Ground Conditions;
  - Section 8.5: Hydrology and Flood Risk;
  - Section 8.7: Noise and Vibration
  - Section 8.8: Traffic and Transport;
  - Section 8.9: Landscape and Visual Impact Assessment; and
  - Section 9.3: Socio-Economics Characteristics.

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<sup>38</sup> The Applicant is undertaking a process to identify any hard to reach groups who may be affected by the Project.

## Study Area

- 9.1.4 For each of the relevant receptors considered, the study area will be drawn from the relevant technical assessments (Sections 7 and 8). The inclusion of effects on local populations and their health receptors will be determined by the extent of the effects of those relevant receptors identified, for which effects are currently expected only within the jurisdictions of Lincolnshire County Council.
- 9.1.5 Within this Scoping Report the study area considered for the EMF effects will be synonymous with the onshore AoS (see Figure 1.5.3).

## Baseline Environment

### Overview of Baseline Environment

- 9.1.6 The baseline environment (and associated data sources) for each of the receptors relevant to health impact (excluding EMF) is provided in Sections 7 and 8 of this Scoping Report. This section has not sought to duplicate that information but along with the information on the existing health landscape below, it will be used to identify impact pathways on human health. With regard to EMF however, a description of the existing data is provided in this section.
- 9.1.7 The baseline environment for the local health landscape will be based on data collated from the Office for National Statistics (ONS) and Public Health England (PHE), as well as information available in the JHWS documents for East Riding of Yorkshire (2019) and Lincolnshire County Council (2018).
- 9.1.8 The Lincolnshire County Council JHWS (2018) identifies the following four priorities, for which the Lincolnshire Research Observatory (2021) provides statistics:
- **Mental health and emotional wellbeing in children and adults.** Lincolnshire Research Observatory (2021), found that in 2019 8% of 5 to 10 years olds, 12% of 8- to 16-year-olds and 17% of adults (aged 16 and over) in Lincolnshire suffer from a mental health disorder. It is reported that although this prevalence is below the national average, the prevalence of depression is above the national average.
  - **Carers and physical activity.** Data from the 2011 Census show that Lincolnshire reported 1,800 young carers under the age of 15, and a further 3,500 young adult carers (16 to 24). Lincolnshire has one of the fastest growing rates of carers in the UK. Between 2001 and 2015, the county experienced a 27.5% increase in the number of carers, compared to the general rate of population growth of 6.2%. In terms of physical inactivity, Lincolnshire has a significantly worse proportion of inactive adults (25.2%) compared with the East Midlands (22.7%) and England (22.2%).
  - **Housing and health.** Lincolnshire Research Observatory (2021), also found that approximately 2% of households are overcrowded and 18% of private sector housing is estimated to have a Category 1 hazard under the Housing Health and Safety Rating System.

- **Obesity and dementia.** According to Lincolnshire Research Observatory (2021), 15% of 4–5-year-olds are classified as obese and 65% of adults are classified as overweight or obese. The amount of people over the age of 65 living with dementia accounts for 1.6% of the county's entire population.

### Electromagnetic Fields

- 9.1.9 When considering EMFs, it is important to note that they can be produced both naturally and as a result of certain human activities. The earth has a magnetic field produced by currents deep inside the core of the planet; the Earth is also subject to electric fields produced by electrical activity in the atmosphere such as thunderstorms. The direction of the Earth's magnetic field is normally constant, varying in size only slowly over time, and is referred to as a static or "DC" field. The Earth's magnetic field is approximately 50  $\mu$ T (microteslas) in the UK. Other fields that alternate in their intensity more frequently over time are referred to as alternating or "AC" fields. EMFs are inevitable wherever electricity is produced, distributed, and used, including electrical substations, power lines and from household electrical equipment.
- 9.1.10 Electric fields are produced by voltage. Voltage is the pressure behind the flow of electricity. Electricity inside UK homes is at 230 volts (V), whereas electrical distribution systems in the UK utilise much higher voltages, generally from 11,000 to 400,000 volts (11kV to 400 kV). The higher the voltage the greater the electric field, which is measured in volts per metre (V/m). Electric fields are reduced when electrical cables are buried due to the effect of the ground and protective sheath surrounding the cable.
- 9.1.11 Magnetic fields are produced by a current, which is a measure of the flow of electricity. Generally, the higher the current (measured in amperes or amps) the greater the magnetic field. Magnetic fields are measured in ( $\mu$ T). Onshore export cables are proposed to be buried within the onshore AoS (as presented within Section 3).

## Proposed Approach to the Environmental Impact Assessment

### Proposed Assessment Methodology

- 9.1.12 The assessment will focus on the onshore elements of the Project, and on the local population within the study areas most likely to be affected. Existing baseline statistics will be obtained from publicly available data, such as from the ONS (i.e. census data) and Public Health England (PHE) (e.g. Public Health Outcome Framework, health asset profiles, etc.) to provide information on population health (both general and hard to reach groups) within the onshore study areas. No baseline human health surveys or monitoring are proposed to be undertaken as part of the assessment.
- 9.1.13 The human HIA will bring together the conclusions of the assessments made in other relevant sections of the EIA and along with the information on the existing health landscape discussed above, will be used to identify impact pathways and the associated severity of the impact on human health.
- 9.1.14 All designations of relevance have been outlined within Sections 7 and 8 of this Scoping Report.

- 9.1.15 For the assessment of EMF, it is proposed that the health assessment of the EIA will be a signposting section, which highlights the key information and findings in the relevant EIA sections and provides an assessment of the significance of EMF effects.
- 9.1.16 Feedback will be sought from consultees on potential health impacts, with particular reference to the Health and Safety Executive and PHE.

### Planning Policy

- 9.1.17 Planning policy relating to health, which is of relevance to the Project, is provided by the NPS. These provide the primary basis for the recommendations made by the Inspectorate to the SoS for BEIS on applications for development consent for NSIP energy projects. Overarching guidance on NSIP energy projects is provided in Overarching NPS for Energy (NPS EN-1) (DECC, 2011a<sup>39</sup>).
- 9.1.18 NPS EN-1 states that where the proposed Project has an effect on human beings, the ES should assess these effects for each element of the Project, identifying any adverse health impacts, and identifying measures to avoid, reduce or compensate for these impacts as appropriate.
- 9.1.19 NPS EN-1 indicates that direct impacts on health may include:
- Increased traffic;
  - Air or water pollution;
  - Dust;
  - Odour;
  - Hazardous waste and substances;
  - Noise;
  - Exposure to radiation; and
  - Increases in pests.
- 9.1.20 Guidance specifically relating to onshore grid connections is provided in NPS for Electricity Networks Infrastructure (NPS EN-5) (DECC, 2011c). This policy focuses on guidance primarily in relation to overhead lines which is not applicable to the Project as all export transmission cables from the offshore array, through to the landfall location and onward to the OnSS will be buried. Whilst it is noted that works will be required at the National Grid substation these will not pose a risk to human health as they will be undertaken on a secure (National Grid) site with restricted access.

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<sup>39</sup> At the time of writing, the Project note that the NPSs are subject to review. The PEIR and subsequent ES will refer to the most up-to-date and relevant versions as appropriate.

9.1.21 The EIA and DCO application will take account of the requirements of any revised NPS when formally adopted within the meaning of Section 104 of the Planning Act 2008. Specifically, guidance used to inform the HIA methodology will include best practice as published by IEMA in line with the 'Health in Environmental Impact Assessment: A Primer for a Proportionate Approach' (Cave *et al.*, 2017), PHE guidance 'Health Impact Assessment in spatial planning' (PHE, 2020) and the NHS 'Healthy Urban Planning Checklist' for including health in consideration of development planning (NHS, 2017).

### Guidelines

9.1.22 In addition to the guidance published by Cave *et al.* (2017) and PHE (2020) mentioned above, the suggested approach put forward by the World Health Organisation (WHO, 1999) which identified a set of principles for the HIA process, will be followed:

- **Robust evidence:** an evidence base of associated environmental, social and economic consequences;
- **Participatory approach:** inclusion of community engagement to identify potential health impact and support improved design;
- **Reducing health inequities:** identification of population groups more likely to be affected by the proposed development and promoting solutions for the entire lifespan of the development; and
- **Promoting sustainable development:** aimed at reducing energy consumption in construction.

9.1.23 There are no statutory regulations in the UK with regard to exposure to EMF. However, in 2004 the Government adopted guidelines published in 1998 by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) (ICNIRP, 1998) in accordance with the terms of the 1999 EU Council recommendation on limiting public exposure to EMF (EU, 1999). The criteria establish acceptable limits for exposure of the public to EMF that adopt a precautionary approach taking into account various scenarios and potentially more hard to reach groups (such as infants).

9.1.24 The ICNIRP 'reference levels' for the public are:

- 100  $\mu$ T for magnetic fields; and
- 5 kilovolts (kV) per metre for electric fields.

9.1.25 While the ICNIRP 'basic restriction' for levels of public exposure are higher at:

- 360  $\mu$ T for magnetic fields; and
- 9 kV per metre for electric fields.

9.1.26 In the ICNIRP guidelines and the EU Recommendation, the actual limit is the basic restriction. The reference levels are not limiting but are guides to when a detailed investigation of compliance with the actual limit, the basic restriction, is required. If the reference level is not exceeded, the basic restriction cannot be exceeded, and no further investigation is needed. If the reference level is exceeded, the basic restriction may or may not be exceeded.

- 9.1.27 If the fields produced by an item of equipment are lower than 9 kV/m and 360  $\mu$ T, the fields corresponding to the ICNIRP basic restriction, it is compliant with the ICNIRP guidelines and hence with PHE recommendations and Government policy. If the fields are greater than these values, it is still compliant with Government policy if the land use falls outside the residential and other uses specified in the Code of Practice (DECC, 2012a) and it may still be compliant if the fields are non-uniform.

### Potential Impacts to be Scoped In and Scoped Out

- 9.1.28 A range of potential impacts on human health have been identified which may occur during the construction, O&M, and decommissioning phases of the Project. The impacts that are proposed to be scoped into the EIA are outlined in Table 9.1.1, together with a description of any proposed additional data collection (e.g. site-specific surveys) and/or supporting analyses to enable an assessment of the impact.
- 9.1.29 The Human Health assessment is likely to have key inter-relationships with Geology and Ground Conditions, Land Use, Air Quality, Hydrology and Flood Risk, Noise and Vibration, Traffic and Transport and Socio-economics. These topics will be included in the assessment.
- 9.1.30 Based on the baseline information currently available and the Project Description (see Section 3), several impacts are proposed to be scoped out of the EIA for this topic. These impacts are described in Table 9.1.2, together with a justification for scoping them out.



Table 9.1.1: Impacts proposed to be scoped into the assessment for human health

Impact	Description	Proposed Approach to Assessment
<b>Construction and Decommissioning</b>		
Impact on health due to air emissions including dust	The generation of dust and particulates (e.g. from excavation or movement of dry materials) could potentially have an adverse impact on human health. Exhaust emissions from construction traffic have the potential to contribute to local ambient concentrations of nitrogen dioxide (NO <sub>2</sub> ), and particulate matter (PM <sub>10</sub> and PM <sub>2.5</sub> ), resulting in potential effects on human health.	Using conclusions reached in the assessment undertaken in Section 8.1 and information on local population health (i.e. ONS data, LPA data and PHE data), the potential risk of Onshore Air Quality affecting human health and wellbeing will be identified and assessed. Specifically, effects will be assessed at both a general population scale and via risks to hard to reach groups, incorporating assessment at a geographical scale proportionate to the Project. Conclusions will then be developed in alignment relevant national, regional and local planning policies on population health and wellbeing protection within the study area.
Impacts on health due to water emissions	Construction activities such as clearance of surface vegetation, could result in run-off of materials into the local water sources.	For information see Section 8.5. The potential risk of emissions to the water environment affecting human health and wellbeing will be identified and assessed. Specifically, effects will be assessed at both a general population scale and via risks to hard to reach groups, incorporating assessment at a geographical scale proportionate to the Project. Conclusions will then be developed in alignment relevant national, regional and local planning policies on population health

Impact	Description	Proposed Approach to Assessment
Impacts on health due to soil emissions (including hazardous waste and substances)	<p>Ground disturbance or the removal of hardstanding could increase the potential for leaching and the mobilisation of soluble contaminants.</p> <p>In addition, leaks and/or spills of contaminants, such as fuels and oils, used and stored during the construction phase could occur.</p>	<p>and wellbeing protection within the study area.</p> <p>For information see Section 8.4.</p> <p>The potential risk of emissions to and from soil affecting human health and wellbeing will be identified and assessed. Specifically, effects will be assessed at both a general population scale and via risks to hard to reach groups, incorporating assessment at a geographical scale proportionate to the Project. Conclusions will then be developed in alignment relevant national, regional and local planning policies on population health and wellbeing protection within the study area.</p>
Impacts on health due to noise and vibration disturbance	<p>The impact of noise and vibration from construction activities due to the onshore landfall, cable route installation and substation construction could result in disturbance of local residence and commercial properties.</p>	<p>For information see Section 8.7.</p> <p>The potential risk of emissions to and from noise and vibration affecting human health and wellbeing will be identified and assessed. Specifically, effects will be assessed at both a general population scale and via risks to hard to reach groups, incorporating assessment at a geographical scale proportionate to the Project. Conclusions will then be developed in alignment relevant national, regional and local planning policies on population health and wellbeing protection within the study area.</p>

Impact	Description	Proposed Approach to Assessment
Disruption to local road network	The potential delays to existing routes and the potential severance of routes which could reduce the number of accidents, the access to services (such as GPs and hospitals) and amenities (as recreational activities).	For information see Section 8.8. The potential risk to human health and wellbeing from traffic / travel disruption will be identified and assessed. Specifically, effects will be assessed at both a general population scale and via risks to hard to reach groups, incorporating assessment at a geographical scale proportionate to the Project. Conclusions will then be developed in alignment relevant national, regional and local planning policies on population health and wellbeing protection within the study area.
Disruption to Public Rights of Way (PRoW)	Potential impacts on PRoW have the potential to cause changes in accessing the footpath, cycleway and/or bridleway network (i.e. active travel).	HIA will be undertaken based on information obtained through PHE and ongoing consultation with the local authorities. See section below (Proposed Approach to Health Impact Assessment (HIA))
Impacts on wellbeing	Construction of the onshore infrastructure has the potential to cause impacts on wellbeing through stress and disturbance.	HIA will be undertaken based on information obtained through PHE and ongoing consultation with the local authorities. See section below (Proposed Approach to Health Impact Assessment (HIA))
<b>Operation and Maintenance</b>		
Impacts on health due to noise disturbance from the onshore substation	Residential and commercial properties could be affected by the operational noise associated with the OnSS (and associated infrastructure)	For information see Section 8.7. See above regarding information on local population health.
Improvement of air quality relative to alternative fuel sources such as coal and gas power stations	The health benefits of moving to offshore wind may be notable, particularly for regions that rely more heavily on coal to generate electricity. Replacing coal and oil with offshore wind will reduce emissions of air pollutants like fine particulate matter,	Evidence based on a literature review will be presented within the PEIR, and subsequent ES, chapter to identify key beneficial effects on health from the Project relative to alternative forms of energy generation.

Impact	Description	Proposed Approach to Assessment
	nitrogen oxide and sulphur dioxide. These pollutants can form smog, soot and ozone. When people downwind are exposed to them, they can develop incapacitating and deadly diseases (Buonocore, 2018)	

Table 9.1.2: Impacts proposed to be scoped out of assessment for human health

Impact	Justification for Scoping Out
<b>Operation and Maintenance</b>	
Impact on health due to air emissions including dust and emissions	The operational phase is expected to give rise to only limited and intermittent traffic movements and other maintenance activity that is not anticipated to result in significant air quality effects. No intrusive activities (such as excavations) are planned during the operational phase, so dust generation is not anticipated. Therefore, subject to feedback received on this Scoping Report, it is intended to scope this impact out of further consideration within the EIA.
Impact on health due to emissions to the water environment	No planned activities during the operational phase are anticipated which could result in notable additional run-off into the water environment. All ground surfaces along the length of the cable route would be reinstated to their original condition, and the OnSS will be designed following the implementation of a drainage strategy. Therefore, subject to feedback received on this Scoping Report, it is intended to scope this impact out of further consideration within the EIA.
Impacts on health due to soil emissions (including hazardous waste and substances)	No planned activities during the operational phase are anticipated which could result in the mobilisation of contaminants and hazardous substances. Any unplanned maintenance required will be undertaken in line with the Project's Code of Construction Practice (CoCP) as agreed with the relevant local authority. Therefore, subject to feedback received on this Scoping Report, it is intended to scope this impact out of further consideration within the EIA.
Disruption to local road network (reduced access to services and amenities)	No notable disruptions are anticipated due to the low numbers of vehicles anticipated to be required during the operational and maintenance phase. Therefore, subject to feedback received on this Scoping Report, it is intended to scope this impact out of further consideration within the EIA.

Impact	Justification for Scoping Out
<b>All Project Phases</b>	
Impacts on health due to exposure of EMFs	All electrical infrastructure will comply with ICNIRP guidelines (as outlined above) by being designed to comply with current guidelines on levels of public exposure and design of electrical infrastructure. As such the impact will be of negligible magnitude and as explained in Section 5 this will not result in significant effects in EIA terms. Therefore, subject to feedback received on this Scoping Report, it is intended to scope this impact out of further consideration within the EIA.
Impacts on health due to pests	No pathways are anticipated to result in the increase of pests. Therefore, subject to feedback received on this Scoping Report, it is intended to scope this impact out of further consideration within the EIA.
Impacts on health due to odours	No notable odours are anticipated during any of the phases of the Project. Therefore, subject to feedback received on this Scoping Report, it is intended to scope this impact out of further consideration within the EIA.

## Proposed Approach to Health Impact Assessment (HIA)

- 9.1.31 The HIA methodology will use best practice as published by IEMA in line with the ‘Health in Environmental Impact Assessment: A Primer for a Proportionate Approach’ (Cave *et al.*, 2017) and working within the framework of the PHE guidance.
- 9.1.32 ‘Health Impact Assessment in spatial planning’ (PHE, 2020) and the NHS ‘Healthy Urban Planning Checklist’ for including health in consideration of development planning (NHS, 2017). The methodology will provide a framework to identify:
- the ‘likelihood’ of the Project having an effect on health; and
  - if an effect is likely, whether it may be ‘significant’.
- 9.1.33 The study area for the HIA will include all local populations which have the potential to be affected during the construction, operation and decommissioning phases.
- 9.1.34 Effects will be considered with regard to the general population and hard to reach groups, with populations being considered at a spatial scale in proportion to the Project, and in accordance with PHE Guidance (PHE, 2020). The conclusions will consider alignment with relevant national, regional and local planning policies on population health and wellbeing protection within the study area. The HIA will bring together the conclusions of assessments undertaken in other relevant chapters in the EIA (e.g. Geology and Ground Conditions, Air Quality, Hydrology and Flood Risk, Noise and Vibration, Traffic and Transport and Socioeconomics) and the relevant information in terms of population health (i.e. ONS data, PHE data, etc.), thereby assisting in identifying any potential project factors which may affect human health and wellbeing.

## Relevant Embedded Mitigation Measures

- 9.1.35 As part of the design process for the Project a number of designed-in measures are proposed to reduce the potential for impacts on human health receptors. These are presented within the relevant sections which inform the health assessment (Sections 8.1 to 8.9 of this Scoping Report). These will evolve over the development process as the EIA progresses and in response to consultation.
- 9.1.36 The Project will seek to implement these measures, and also various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design of the Project and hence have been considered in the judgments as to which impacts can be scoped in/out presented in Table 9.1.1 and Table 9.1.2.
- 9.1.37 It should be noted that the onshore cables will be buried which will significantly reduce the exposure to electromagnetic radiation. The OnSS will be adequately secured and accessed only by authorised personnel with appropriate training and safety equipment. As well as this, all infrastructure built will comply with the government guidelines on electromagnetic radiation emission (ICNIRP, 1998; DECC, 2012a; DECC, 2012b; Energy Networks Association (ENA), 2017).
- 9.1.38 The additional measures adopted as part of the Project will also include:
- Development of, and adherence to, a CoCP (onshore);

- Development of, and adherence to, an appropriate Project Environmental Management and Monitoring Plan (PEMMP) (offshore); and
- Development of, and adherence to, a Decommissioning Programme.

9.1.39 The requirement and feasibility of any mitigation measures will be consulted upon with statutory consultees throughout the EIA process.

## Potential Cumulative Effects

### Non-Radiative Effects

9.1.40 Section 5 sets out how potential cumulative effects will be assessed through the cumulative impact assessment. For human health, cumulative interactions may occur with other planned projects and developments in the study area.

9.1.41 However, it is anticipated that due to the localised nature of any potential impacts, notwithstanding the indirect potential for landscape and visual effects, noise and air quality cumulative impacts, other cumulative impacts are unlikely to occur unless there is overlap with the working areas.

9.1.42 It is therefore proposed that cumulative impacts will be considered following determination of the onshore ECC and OnSS. If agreed as appropriate, the Project will seek to scope out cumulative impacts with the relevant consultees (such as PHE).

### EMF Impacts (Cumulative Effects)

9.1.43 There is potential for cumulative exposure to electromagnetic radiation as a result of operational power production facilities and transmission infrastructure around the onshore ECC. However, as noted above all electrical infrastructure will have to comply with ICNIRP guidelines by being designed to comply with current guidelines on levels of public exposure and design of electrical infrastructure. As such, cumulative EMF effects are not anticipated. Therefore, it is suggested that this impact will be scoped out from further consideration within the EIA for human health.

## Potential Transboundary Impacts

9.1.44 The approach to assessment of potential transboundary effects is described in Section 5 of this Scoping Report.

9.1.45 Due to the localised nature of any potential impacts, transboundary impacts will not occur. Therefore, it is suggested that this impact will be scoped out from further consideration within the EIA for human health.

## Major Accidents and Disasters

9.1.46 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations 2017) require significant risks to the receiving communities and environment, for example through major accidents or disasters, to be considered. Similarly, significant effects arising from the vulnerability of the Project to major accidents or disasters must also be considered as part of the EIA process.

- 9.1.47 A major accident, as defined in the Control of Major Accident Hazards (COMAH) Regulations 2015 (as amended), means "an occurrence (including in particular, a major emission, fire or explosion) resulting from uncontrolled developments in the course of the operation of any establishment and leading to serious danger to human health or the environment, immediate or delayed, inside or outside the establishment and involving one or more dangerous substances".
- 9.1.48 Offshore wind developments are considered to have a low risk of causing major accidents. The offshore wind industry strives for the highest possible health and safety standards across the supply chain. However, there have been incidents including a small number of worker fatalities during the construction and operation of OWFs. Risks to the public onshore and sea users offshore during construction have been minimised through the use of controlled construction sites onshore and vessel safety zones offshore.
- 9.1.49 The turbines, blades, towers and foundation bases of OWFs have an excellent safety record with a very low failure rate and are positioned many kilometres offshore away from populated areas and the public. On the rare occasion that offshore turbine blades have been lost into the sea or damage has been caused to a turbine by a fire within the nacelle, this has not resulted in injury. The performance of each turbine is constantly monitored through the Supervisory Control and Data Acquisition (SCADA) system sending performance data through to a central, partly automated monitoring and control centre. As a result a problem can be quickly detected and pre-prepared safety management action plans rapidly enacted.
- 9.1.50 Whilst exposed power cables on the seabed can pose a snagging risk to shipping and fishing vessels, the Project's export and array cables will be buried where possible to protect the cables and remove the snagging risk. This will be discussed in detail in the shipping and navigation assessment (Section 7.9), which also discusses the risk that the increased vessel movements to and from the site may pose to navigational safety during construction and operational phases. The buried cables onshore and offshore pose very little risk to the public as they are designed to 'trip out' automatically should any failure in insulation along the cable be detected.
- 9.1.51 Safety zones, temporary exclusion zones enacted during construction, will allow the Project and its contractors to control vessel movement to enable safe construction and certain maintenance works to proceed.
- 9.1.52 The location of the OnSS is yet to be determined, however the risk of substation fires is historically low. Substation fires can however, impact the supply of electricity and create a localised fire hazard. The highest appropriate levels of fire protection and resilience will be specified for the OnSS to minimise fire risks. The small quantities of lubricants, fuel and cleaning equipment required will be stored in suitable facilities designed to the relevant regulations and policy design guidance.



- 9.1.53 Onshore, controlled or closed construction sites will be operated where construction works are ongoing and access will be strictly controlled. The Project recognises the importance of the highest performance levels of health and safety to be incorporated into the Project. The Project will strive to adhere to a high level of process safety, from design to operations and for all staff, contractors and suppliers to have a high level of safety awareness and knowledge of safety and safe behaviour. The Project will ensure that employees have undergone necessary health and safety training. Adhering to the highest health and safety standards in design and working practises enacted, none of the anticipated construction works or operational procedures are expected to pose an appreciable risk of major accidents or disasters.
- 9.1.54 In conclusion, although the risk of 'major accidents and/or disasters' occurring associated with any aspect of the Project, during the construction, operation and decommissioning phases are anticipated to be negligible, following guidance published by IEMA on Major Accidents and Disasters in EIA (IEMA, 2020), it is proposed that consideration of major accidents and disasters within the EIA process for the Project will be based on assessments conducted within individual technical sections of the PEIR, and subsequent ES, where this can be adequately covered by the scope of these sections.
- 9.1.55 The impacts of these accidents / disasters will be considered within a separate Major Accidents and Disasters risk assessment matrix which will be undertaken as part of the EIA. The Major Accidents and Disasters assessment will identify and present the potential significant adverse effects of the Project on safety and the environment deriving from the vulnerability of the Project to risks of major accidents and/or disasters.
- 9.1.56 The objective of the assessment will be to demonstrate that all potential Major Accident Hazards (MAHs) associated with the Project have been considered and that the safety and environmental risks will be adequately managed in future phases.
- 9.1.57 The Major Accidents and Disaster assessment will be carried out using the Hazard Identification (HAZID) study methodology which includes identification of sources/pathways/receptors, an assessment of the worst-case credible safety and environmental consequences and documenting of these planned measures to prevent or mitigate the undesirable events.
- 9.1.58 The objectives of the HAZID study are as follows:
- Identification of potential MAHs;
  - Evaluation of the worst-case credible safety and environmental consequences;
  - Identification of measures envisaged to prevent or mitigate against the MAH;
  - Qualitative risk assessment before and after such measures are in place; and
  - Identification of any specific requirements to achieve the risk mitigation.
- 9.1.59 The risk assessment matrix will include detail on the following:
- Hazard category;
  - Source and/or pathway;

- Receptor(s);
- Consequence;
- Risk ranking before mitigation;
- Embedded mitigation;
- Risk ranking after mitigation has been applied; and
- Specific requirements to achieve the embedded mitigation.

## Summary of Next Steps

- 9.1.60 The next steps for the human health assessment will identify the baseline characteristics of the likely affected local populations and ascertain which other project specific receptors have the capacity to impact on human health. This will require data from the relevant LPA, ONS, PHE and use the survey data available in the JHWS from the LPAs, as well as close engagement with other specialist EIA teams to examine and incorporate specific human health impact pathways.
- 9.1.61 It is proposed that a HIA is undertaken which will bring together the conclusions of the assessments made in other relevant sections of the EIA. For this to be fit for purpose, the methodology will rely heavily on engagement with other specialist EIA teams such as landscape and visual effects, noise and vibration, air quality, tourism and recreation, traffic and transport, hydrology and flood risk, geology and ground conditions, and socio-economics.
- 9.1.62 The assessment will include the identification and review of the potential human health impacts during construction, O&M, and decommissioning. The assessment will focus on the onshore elements of the Project, and on the local population within the study areas most likely to be affected. No baseline human health surveys or monitoring are proposed to be undertaken as part of the assessment.
- 9.1.63 The proposed approach to the assessment of human health to be presented in the PEIR will first include the definition of the worst-case scenario on which the assessment will be based. This 'basis of assessment' scenario will be in accordance with the design envelope approach but the EIA methodology will enable a refinement of the study areas following selection of the exact landfall location, preferred cable route, temporary works corridor and onshore substation.
- 9.1.64 As the Project develops, a more detailed methodology for the health assessment will be agreed with specialist groups and consultees, which will be discussed and adopted accordingly based on relevant advice and perceived risk.
- 9.1.65 A consultation strategy will be developed to promote engagement with key stakeholders (local authorities, statutory bodies, the local community and interest groups). The Project will undertake this consultation according to a series of phases, of which this Scoping Report forms part of the first phase of consultation. A Scoping Opinion, coordinated by The Inspectorate, will result in feedback which will be fed into the ongoing EIA process for the development.

## Further Considerations for Consultees

- 9.1.66 Have all potential impacts resulting from the Project been identified for human health receptors?
- 9.1.67 Do you agree that the impacts described in Table can be scoped out?
- 9.1.68 For those impacts scoped in (Table ), do you agree that the methods described are sufficient to inform a robust impact assessment?
- 9.1.69 Do you agree that the embedded mitigation measures described provide a suitable means for managing and mitigating the potential effects of the Project on EMF receptors (please note proposed mitigation measures to address other impacts which may affect health are dealt with in the other relevant sections)?
- 9.1.70 Do you agree with the approach to the assessment?
- 9.1.71 Are there any groups that the Project has not yet identified who you feel should be consulted?

## 9.2 Climate Change

### Introduction

#### Background

- 9.2.1 Climate change was included as required topic as part of the EIA Directive 2014/52/EU, which was implemented into The Infrastructure Planning (Environmental Impact Assessment) Regulations in May 2017<sup>40</sup>.
- 9.2.2 This section includes considerations of the effect of the Project on climate change (net change in Greenhouse Gas (GHG) emissions), and the impact of climate change on the Project (vulnerability of infrastructure and assets).
- 9.2.3 The climate change will be comprised of an assessment which quantifies the GHG emissions released from activities associated with the Project (determining the 'net' effect of the provision of renewable energy to the UK grid in terms of 'decarbonised' electricity), together with an assessment of the climate resilience of the Project infrastructure.

### Baseline Environment

#### Emissions of Green House Gas (GHG)

- 9.2.4 The current uncertainty with regards to the grid connection for the Project which is subject to the outcome so the OTNR process means that it is currently uncertain exactly which local authority areas will be relevant for the final scheme design.
- 9.2.5 At this stage the onshore study area is comprised of the current AoS (see Figure 1.5.3) which encompasses a number of different local authority areas, namely East Lindsey District Council, Boston Borough Council and South Holland District Council as the host Local Planning Authorities (LPAs) and North Lincolnshire District Council, North East Lincolnshire District Council, West Lindsey District Council, Lincoln District Council, North Kesteven District Council and South Kesteven District Council as the neighbouring LPAs. The final study area will be defined by the final scheme design following confirmation of the grid connection location and onshore ECC and cable landfall, and the jurisdiction of the relevant, responsible LPA(s).
- 9.2.6 BEIS (BEIS, 2021a) provides data on the existing GHG emissions for UK local authorities, with emissions arising from a number of different sectors, but typically dominated by road transport, industrial installations and domestic sources.

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<sup>40</sup> <https://www.legislation.gov.uk/uksi/2017/572/contents/made>

- 9.2.7 The Climate Change Act 2008<sup>41</sup>, enacted as part of the UK's responsibility and obligations as a signatory of the Kyoto Protocol 1997 (which became binding in 2005), provides the framework for the UK to meet its 'net-zero' ambition by 2050 (i.e., at least a 100% reduction in GHG emissions). The Climate Change Act 2008 (2050 Target Amendment) Order 2019<sup>42</sup>, which amended the previous 2050 GHG target of an 80% reduction compared to 1990 levels. It requires the UK Government to set 'Carbon Budgets' which provide 5 year legally binding limit for GHG emissions in the UK. The six Carbon Budgets that have been placed into legislation will run up to 2037 and are identified in Table 9.2.1.
- 9.2.8 The first Carbon Budget (2008 to 2012) was met, as was the second (2013 to 2017) and the UK is on track to outperform the third (2018 to 2022) but is not currently on track to meet the fourth (2023 to 2027) or the fifth (2028-2032) (CCC, 2020a).
- 9.2.9 The sixth Carbon Budget was published in December 2020 and sets out the level of GHG emissions that the UK can release from 2030-2037 (CCC, 2020a). It was the first Carbon Budget to set out the path to the net-zero carbon emissions target.

Table 9.2.1: UK Carbon Budgets

Budget	Carbon Budget Level (MtCO <sub>2e</sub> )	Reduction Below 1990 Levels
1st Carbon Budget (2008 to 2012)	3,018	25%
2nd Carbon Budget (2013 to 2017)	2,782	31%
3rd Carbon Budget (2018 to 2022)	2,544	37% by 2020
4th Carbon Budget (2023 to 2027)	1,950	51% by 2025
5th Carbon Budget (2028 to 2032)	1,752	37% by 2030
6th Carbon Budget (2033 to 2037)	965	78% by 2035

- 9.2.10 Since 1990, emissions from the energy sector have decreased by 68%, as the UK moves away from coal generation towards gas and low-carbon generation (CCC 2020b). Offshore wind is considered able to meet a substantial share of future energy demand and be an integral component for reaching close to zero GHG emissions for the sector by 2050 (CCC, 2020b).

### Existing Regional Climate

- 9.2.11 The east coast of England experiences a 'maritime' climate which is considered to be typical of the wider UK; given its location off the eastern coast of the England, the Project's array study area is considered to be in a 'rain shadow'. Given the dominant weather approaches the UK from the west, and therefore the East of England tends to have a drier climate than the UK average.

### Overview of Data Sources

- 9.2.12 The following information has been considered in drafting this Scoping Report and will be subject to further analysis during the EIA process for those matters scoped into the assessment.

<sup>41</sup> <https://www.legislation.gov.uk/ukpga/2008/27/contents>

<sup>42</sup> <https://www.legislation.gov.uk/ukdsi/2019/9780111187654>

- Emission factors will be obtained from suitable sources, such as BEIS and the Inventory of Carbon and Energy database. Activity data, including forecast construction and operational emissions data, will be used for the GHG assessment; and
- Future climate projection data from the UK Climate Projection (UKCP18) database (Met Office, 2018) will be used to inform the climate resilience assessment.

## Potential Impacts

### Potential Impacts During Construction

- 9.2.13 The net emissions arising from the Project will be assessed across the construction (including fabrication), operations and maintenance, and decommissioning phases based on the available information.
- 9.2.14 Given its status as a major offshore renewable energy generating station, the Project will result in a positive contribution towards meeting the Net Zero targets and specifically the Pathway to 2030 targets, helping to achieve the UK Government's ambition for 50 GW of offshore wind by 2030. The GHG assessment will demonstrate and quantify this net benefit in the context of UK Government targets and relevant Carbon Budgets.
- 9.2.15 Impacts on climate resilience during the construction phase are proposed to be scoped out of the assessment given that construction will occur within the next 10 year period so that significant adverse effects on the Project infrastructure over such a timeframe are not expected to occur.

### Potential Impacts During Operation

- 9.2.16 For the operational phase of the Project, the GHG assessment will quantify the emissions generated by operational activities and also account for the emissions saving from the provision of renewable electricity to the electricity transmission network.
- 9.2.17 Given the operational life of the Project, climate change resilience of the onshore and offshore infrastructure will be assessed, including effects from, for example, offshore increased storminess and changes to sea level rise, and for the onshore infrastructure, in relation to issues such as changes to flood risk and rates of coastal erosion. Information for other assessments (e.g. marine processes, flood risk assessment, etc.) will be drawn upon to inform the climate resilience assessment.
- 9.2.18 Operational infrastructure associated with the Project could be vulnerable to the projected effects of climate change, in particular in relation to flood risk and coastal erosion. Both onshore and offshore infrastructure can be vulnerable to increased storminess expected as an effect of climate change. However, the overall vulnerability of the Project to all of the projected effects of climate change will be considered as part of the relevant technical assessments chapters (i.e., flood risk assessment, marine physical processes) and the Project Description both in the PEIR and the final ES that accompanies the DCO application will include a description of general measures that are designed to reduce the risk of climate change effects on the Project.

### Potential Impacts During Decommissioning

- 9.2.19 The GHG emissions arising from the decommissioning phase will be quantified based on predicted decommissioning activities and using available information.
- 9.2.20 Given the short period over which decommissioning is expected to occur, climate change resilience issues in this phase are not considered significant and will be scoped out of the EIA.

### Potential Cumulative Impacts

- 9.2.21 Given that the Project will be responsible for GHG emissions associated with its activities only, the cumulative assessment of GHG emissions effects with other projects will be scoped out of the cumulative effects assessment, in line with relevant IEMA guidance document 'Assessing Greenhouse Gas Emissions and Evaluating their Significance' (IEMA, 2017).
- 9.2.22 Cumulative effects on climate resilience will be scoped into the cumulative effects assessment for those other plans or projects that have the potential to give rise to an exacerbation of climate resilience vulnerability of the Project onshore and offshore infrastructure (for example other plans or projects that increase flood risk that affects the onshore infrastructure). The climate resilience cumulative effects assessment will be drawn on in the detailed assessments for the relevant EIA topic (for example the flood risk assessment).

### Potential Transboundary Impacts

- 9.2.23 The effects of climate change, and correspondingly the need to mitigate such effects, are by definition transboundary being a global issue which is contributed to and exacerbated by all GHG emissions wherever they originate.
- 9.2.24 However, the GHG emissions assessment will focus on the UK context and the relevant targets and carbon budgets, as the appropriate and meaningful scale for consideration, and therefore transboundary impacts will be scoped out of the EIA process.

### Potential Impacts Scoped In

- 9.2.25 The potential climate change impacts have been identified which may occur during the construction, O&M, and decommissioning phases of the Project. These have been developed based upon the definition of the Project at this scoping stage of the EIA, and the level of understanding of the baseline at this stage, the available Evidence Base for climate change effects, relevant policy and guidance, and the professional judgement of qualified specialists.
- 9.2.26 The climate change impacts that have been scoped into the Project's EIA are summarised in Table , alongside signposting to the other relevant topic chapters and assessments that will be used to support the conclusions of the climate change assessment.

Table 9.2.2: Summary of Impacts Relating to Climate Change Topics to be Scoped In

Impact	Description	Proposed Approach to Assessment (including signposting to relevant technical chapters)
<b>Construction</b>		
GHG emissions	Initial construction and fabrication will result in GHG emissions, most likely through raw material costs, manufacturing, transport and installation.	<p>Net emissions arising from the Project will be assessed across its full lifespan, encompassing construction and fabrication as set out in the GHG assessment, using a standard GHG emissions assessment methodology, and specifically in accordance with the Greenhouse Gas Protocol (World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI), 2015). The 'net' effect of the Project will be determined, which will consider the effect of the provision of renewable energy onto the UK electricity grid against the Project's lifetime emissions including those from the construction phase.</p> <p>The significance criteria for the assessment will be drawn from the relevant IEMA guidance 'Assessing Greenhouse Gas Emissions and Evaluating their Significance' (IEMA, 2017)</p>
<b>Operation and Maintenance</b>		
Net contribution to UK's climate targets	The operation of the Project will give rise to GHG emissions, whilst simultaneously the Project, as a major offshore renewable energy generating station, will result in a major contribution to UK decarbonisation targets for the energy sector and the meeting of the targets set out in the Climate Change Act 2008 and the Sixth Carbon Budget (CCC, 2020a).	The 'net' effect of the Project will be determined by considering the effect of the provision of renewable energy onto the UK electricity grid against the Project's lifetime emissions. The assessment will be conducted in accordance with the Greenhouse Gas Protocol (WBCSD and WRI, 2015). The 'net' effect of the Project will be determined, which will consider the effect of the provision of renewable energy onto the UK electricity grid against the Project's lifetime emissions including those from the operational phase.



Impact	Description	Proposed Approach to Assessment (including signposting to relevant technical chapters)
Climate resilience effects on the Project's infrastructure	The effects of climate change over the operational life of the Project may have an adverse effect on the climate resilience of the Project's onshore and offshore infrastructure.	<p>The significance criteria for the assessment will be drawn from the relevant IEMA guidance 'Assessing Greenhouse Gas Emissions and Evaluating their Significance' (IEMA, 2017)</p> <p>The assessment will use sector-specific guidance and literature to determine the likely climate hazards, based on the UKCP18 climate database, that could affect the operation of the onshore and offshore infrastructure, and the assessment will draw on relevant topic assessments (such as marine physical processes, onshore flood risk, etc.) to summarise the potential adverse effects on the Project infrastructure over the operational life of the Project.</p> <p>The methodology for the assessment will be informed by IEMA guidance, Environmental Impact Assessment Guide to: Climate Change Resilience &amp; Adaptation (IEMA, 2020).</p>
<b>Decommissioning</b>		
GHG emissions	Decommissioning activities will result in GHG emissions, most likely through e.g. transport and decommissioning activity, and recycling and disposal.	Net emissions arising from the Project will be assessed across its full lifespan, encompassing decommissioning activities as set out in the GHG assessment, using a standard GHG emissions assessment methodology, and specifically in accordance with the Greenhouse Gas Protocol (WBCSD and WRI, 2015). The 'net' effect of the Project will be determined, which will consider the effect of the provision of renewable energy onto the UK electricity grid against the Project's lifetime emissions including those from the decommissioning phase.

Impact	Description	Proposed Approach to Assessment (including signposting to relevant technical chapters)
		The significance criteria for the assessment will be drawn from the relevant IEMA guidance 'Assessing Greenhouse Gas Emissions and Evaluating their Significance' (IEMA, 2017)

## Potential Impacts Scoped Out

9.2.27 The following impacts will be scoped out of the climate change assessment and specifically in relation to the climate resilience of the Project infrastructure:

- Impacts on climate resilience during the construction phase: construction of the Project is proposed to be within the next 10 year period over which period climate change effects are expected to be limited so that no significant adverse effects on the Project infrastructure would be expected to occur.
- Impacts on climate resilience during the decommissioning phase: decommissioning of the Project will be expected to occur over a short period such that climate change effects and changes are expected to be limited so that no significant adverse effects on the Project infrastructure would be expected to occur (and in any regard the infrastructure will have been removed removing any future issues for climate resilience at that stage).

## Relevant Embedded Mitigation Measures

9.2.28 The Project will develop embedded mitigation measures designed to avoid or reduce the adverse effects on GHG emissions and optimise the net positive benefits of the Project, as well as avoiding adverse climate resilience effects throughout the Project life.

9.2.29 Detailed embedded mitigation measures will be developed as the EIA process progresses, but are likely to include measures to:

- Encourage the supply chain to reduce or avoid GHG emissions during the fabrication and manufacturing, transport and installation process for the Project;
- Manage and reduce of GHG emissions during the operational phase; and
- Recycle or reuse materials throughout the Project lifecycle.

9.2.30 Embedded mitigation for climate resilience to mitigate or avoid future adverse effects of climate change on the Project infrastructure, the Project will:

- Consider future climate change effects (such as changes in storminess, sea level, flood risk, etc.) in the design and implementation of the Project infrastructure.

## Summary of Next Steps

9.2.31 The next steps for the climate change assessment will have two main objectives: assessing the vulnerability of both onshore and offshore infrastructure to the effects of climate change (specifically, for example, flood risk, coastal erosion and sea level rise and storminess), and assessing the net GHG emissions for the Project throughout its life cycle.

9.2.32 The proposed approach to the assessment for the climate change PEIR chapter will first include the definition of the worst-case scenarios for these objectives. The scenarios upon which the climate change assessments will be defined, will be in accordance with the design envelope approach.

- 9.2.33 As the Project develops, a more detailed methodology for the EIA will be agreed with relevant stakeholders through the development of relevant assessment method statements, including where appropriate discussions on relevant topic assessments (such as a marine processes or flood risk) as part of the EPP ETG meetings.
- 9.2.34 The EIA methodology will enable a refinement of the study areas following selection of the exact landfall location, preferred onshore and offshore ECC, temporary works corridor and onshore substation.
- 9.2.35 A comprehensive review of the relevant baseline data (i.e. previous surveys in the wider area) from published sources (including Project specific data) will be undertaken and collated both in terms of data to inform the GHG emissions assessment and the climate resilience assessment.
- 9.2.36 Draft assessments will be produced as part of the PEIR to support the statutory consultation process and will be subsequently amended in response to any comments received to produce the final ES that will accompany the DCO application.

### Further Consideration for Consultees

- 9.2.37 The following questions are posed to consultees to help them frame and focus their response to the climate change scoping exercise which will in turn inform the Scoping Opinion:
- Do you agree with the characterisation of the existing environment in relation to climate change GHG emissions targets?
  - Do you agree with the approach to data collection?
  - Have all the potential climate change impacts resulting from the Project been identified in the Scoping Report?
  - Do you agree that the impacts described in this section can be scoped out?
  - For those impacts scoped in Table , do you agree that the methods described are sufficient to inform a robust impact assessment?
  - Do you agree with the proposed approach to assessment?

## 9.3 Socio-Economics

### Introduction

- 9.3.1 This section of the Scoping Report identifies the socio-economics, tourism and recreation receptors of relevance to the Project. It considers the potential effects from the construction, O&M and decommissioning of the Project on these receptors, alone and cumulatively and sets out the proposed scope of the EIA.
- 9.3.2 This section of this Scoping Report should be read alongside the following sections of this Scoping Report:
- Section 7.8: Commercial Fisheries;
  - Section 7.9: Shipping and Navigation;
  - Section 7.11: Seascape, Landscape, and Visual;
  - Section 7.12: Infrastructure and Marine Other Users;
  - Section 8.8: Traffic and Transport; and
  - Section 8.9: Landscape and Visual Assessment.

### Study Area

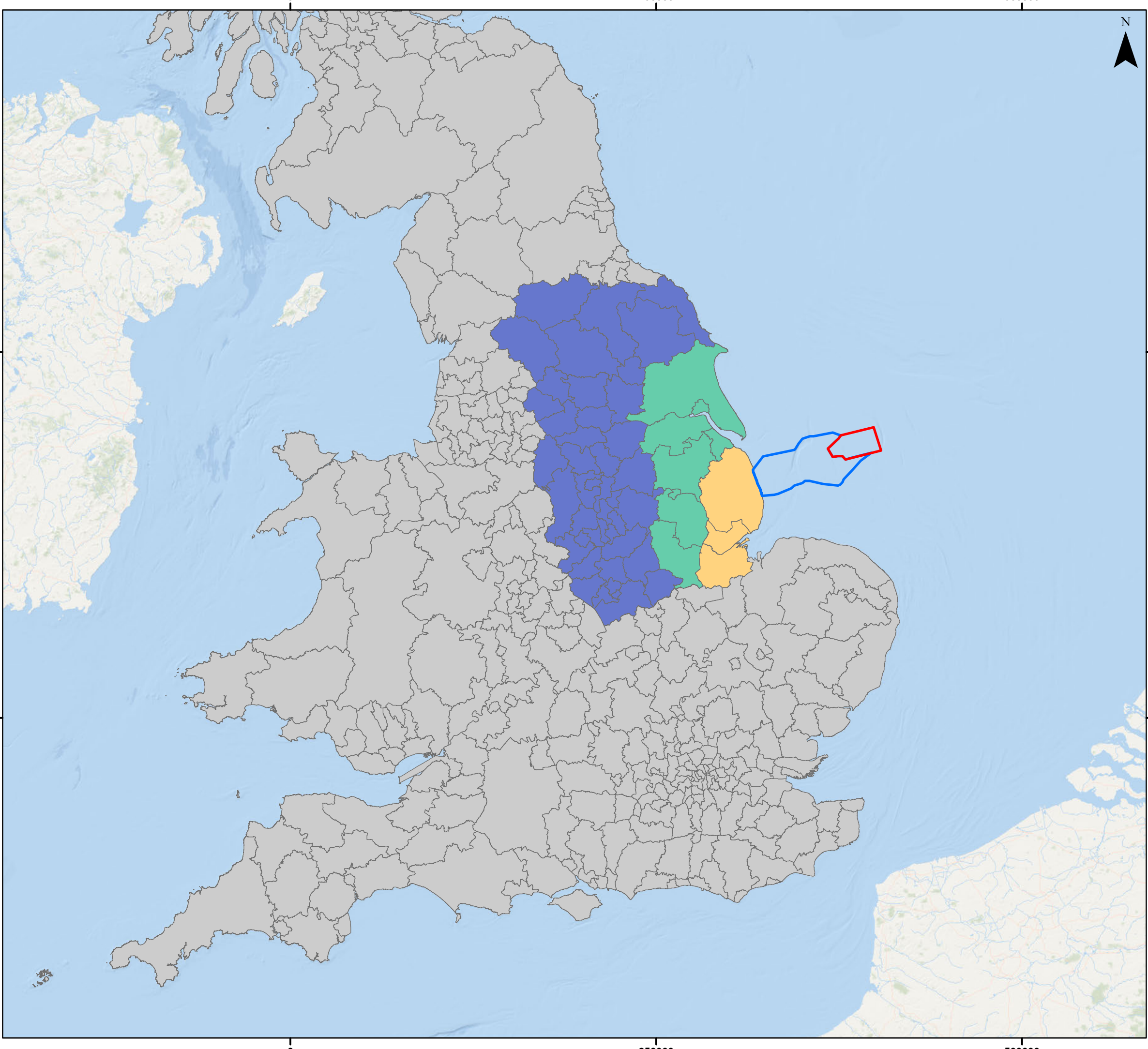
- 9.3.3 The AoS for socio-economics is split between onshore and offshore environments, within which falls the relevant study areas (Figure 9.3.1 and Figure 1.5.1 ).
- 9.3.4 The onshore study areas for the assessment of effects on employment and economy onshore have been defined in line with the guidance on identification of ‘local areas’ for the offshore developments published by the Scottish Government (expected 2022). Although this guidance will not apply in England, the principles for identifying the areas are universal and can be applied anywhere. The core principle of this guidance is that the ‘local areas’ identified should be specific to the socio-economic impact identified. Therefore, the study areas used for the assessment of economic impacts, such as employment and Gross Value Added (GVA) generated, are different from those used to assess the impacts on tourism and recreational assets.
- 9.3.5 The economic impacts will occur across a wider area than the area of the cable route and substation. It will also be centred around other areas such as the ports used for construction and operations. Therefore the economic impacts have been quantified across three onshore study areas. The Local Area is defined as the combined geographies of the Greater Lincolnshire Local Enterprise Partnership (LEP) and the Hull and East Yorkshire LEP areas. This area includes all the potential sites for onshore infrastructure construction and the likely location of the key port locations in the UK. The Regional Area is defined as the combined English regions of Yorkshire and the Humber and East Midlands. These are the two regions which constitute the Local Economic Area. The economic impacts will also be assessed at the level of the UK.
- 9.3.6 For tourism and recreation, the onshore study area is a reduced one and focused on the local administrative areas that contain the onshore scoping boundary. These are the local authority areas of:

- Boston;
- East Lindsey; and
- South Holland.

9.3.7 These are the three areas which constitute the Tourism Study Area.

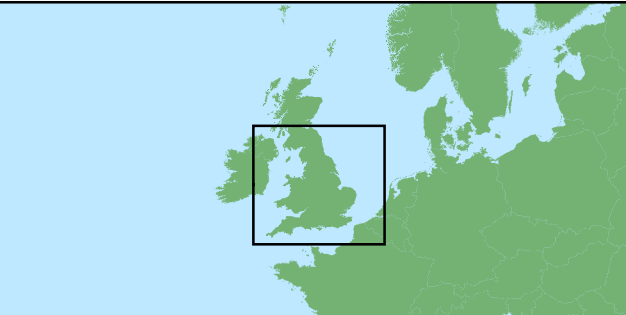
9.3.8 The offshore study area concerned with recreational sailing and boating, recreational angling, scuba diving and other / general recreational activities covers the Project's AoS, array and a 15 km buffer outside of these.

9.3.9 At this stage it is not possible to identify specific locations that will support the offshore construction of the Project. Support locations for offshore construction and operation will depend on commercial decisions to be made at a later date, which in turn will be influenced by several economic, technological and other factors.

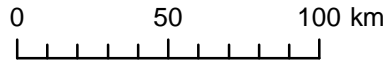


**Legend**

- Site Boundary
- Offshore ECC Area of Search
- Local Tourism and Recreation Area
- Local Economic Area
- Regional Area



Coordinate System: WGS 1984 UTM Zone 31N



Scale: 1:2,500,000

Onshore Study Area for Socio-Economics

Figure 9.3.1



Date: 21/07/2022  
 Produced By: BPHB  
 Revision: 0.1

**GoBe** Contains ESRI Basemapping;  
 Esri, Garmin, GEBCO, NOAA  
 NGDC, and other contributors

## Baseline Environment

### Overview of Available Data Sources

9.3.10 The baseline environment for the study areas identified, is described below, and covers:

- the Strategic Context;
- the Socio-economic baseline;
- the Tourism and Recreation baseline;
  - Onshore Tourism and Recreation baseline; and
  - Marine Tourism and Recreation assets.

9.3.11 The sources of information used to generate this baseline are described in Table 9.3.1.

Table 9.3.1: Key sources of information for Socio-economics, Tourism and Recreation

Source	Summary	Spatial Coverage of Study Area
<b>Strategic</b>		
Humber LEP (2019) Humber Local Energy Strategy	Review of the Humber Strategic Economic Plan July 2016 and Strategic Economic Plan 2014-2020 provide an overview of the main demographic, economy and employment characteristics of the Local Economic Area.	LEP Areas
Greater Lincolnshire LEP (2021) Local Industrial Strategy	Review of the Greater Lincolnshire LEP 2021 Local Industrial Strategy setting out the growth opportunities in manufacturing and engineering in the area and the area's existing business base for offshore wind manufacturing	Greater Lincolnshire LEP Area
UK Government (2020) UK Offshore Wind Sector Deal	Review of the UK Government's 2020 Offshore Wind Sector Deal supporting the development of offshore wind in the UK and the target for 2030	UK
<b>Socio-economic</b>		
ONS (2021a) Population Estimates	Demographic data including trends	LEP Areas, Regions of England, UK
ONS (2021b), Population Projections, 2019-2043	Demographic projections covering the next 20 years	LEP Areas, Regions of England, UK



Source	Summary	Spatial Coverage of Study Area
ONS (2021c), Annual Population Survey	Data on current and previous labour market conditions, including economic activity, qualifications and occupations	LEP Areas, Regions of England, UK
ONS (2021d), Annual Survey of Hours and Earnings	Data on current and previous work-based income distribution and hours worked	LEP Areas, Regions of England, UK
ONS (2021e) Business Register and Employment Survey	Current and previous levels of employment activity by sector and employment type – e.g., full and part time employment	LEP Areas, Regions of England, UK
ONS (2021f), House Price Data: Quarterly Tables	Data on current and previous real estate markets, including sale values and number of sales	LEP Areas, Regions of England, UK
ONS (2021h) Subnational estimates of dwellings by Tenure, England	Data on current and previous residential dwellings by type and ownership	LEP Areas, Regions of England
<b>Onshore Recreation and Tourism</b>		
Kantar TNS (2020), Great Britain Day Visitor Survey 2019 Annual Report	Data on current and previous trends in domestic day visitor tourism, including area visited, main reasons for visiting and expenditure per trip	LEP Areas, Regions of England, UK
Kantar (2020), The Great Britain Tourism Survey, 2019 Annual Report	Data on current and previous trends in domestic overnight visitor tourism, including area visited, main reasons for visiting and expenditure per trip	LEP Areas, Regions of England, UK
BVA BDRC (2021) Visitor Attraction Trends in England 2020 Full Report	Data from the Survey of Visits to Visitor Attractions, which provides a comprehensive England-wide analysis of trends plus visitor data for individual attractions	AoS, LEP Areas, Regions of England, UK
Online searches	Identification of tourism and recreational assets within the AoS	AoS
<b>Marine Recreation</b>		
Royal Yachting Association (RYA) Coastal Atlas (2021)	Marine recreation sailing and boating locations and intensity	Full coverage of English waters

Source	Summary	Spatial Coverage of Study Area
MMO Mapping recreational sea anglers in English waters (MMO1163 2020)	Recreational angling	Full coverage of English waters
Seasearch scuba diving (2021)	Scuba dive records	Full UK national coverage
MMO High Priority Non-Licensable Activities in MPAs (MMO 2021)	General marine recreation activities, differentiated by multiple types	Selected MPAs in English waters

### Overview of Baseline Environment

9.3.12 The baseline provides an overview of the socio-economic characteristics of the study area by exploring a range of indicators that are particularly relevant to the selected receptors.

### Strategic Context

#### *Humber Local Energy Strategy*

9.3.13 Published in 2019, the Humber Local Energy Strategy (Humber Local Enterprise Partnership, 2019) outlines two key objectives for the region:

- To ensure the Humber region plays a leading role in the UK’s decarbonisation efforts by making targeted interventions to reduce emissions in the electricity, heat and transport sectors; and
- To foster clean energy growth by supporting public and private sector investments in novel low carbon technologies to take advantage of the opportunities presented by the emerging low carbon economy.

9.3.14 The strategy highlights the Humber’s pivotal role in the transition from fossil fuels to renewables, with the natural resources of the area already supporting the world’s largest OWF, Hornsea One offshore, located 75 miles off the coast. The document emphasises, that while the offshore wind sector already plays a significant role in the economy of the Humber, taking advantage of the possible benefits of the sector requires support by business-friendly policies and investment from local municipalities and central Government. The strategy outlines four activities for the LEP with the aim of supporting the expansion of the offshore wind cluster and maintaining the Humber as a key national hub for offshore wind manufacture and operations:

- To facilitate skill development, job security and creation through the existing supply chain, higher education and training providers;
- To build on existing capabilities, competencies, and infrastructure to ensure the offshore wind ecosystem becomes more efficient;
- To undertake campaigns aimed at attracting new inward investment into the sector and investment in innovation; and
- To offer services and expertise to other regions in the UK and internationally.

- 9.3.15 The Project will support the development of the sector in the Humber, providing further opportunities for the offshore wind cluster and for building on the region's expertise in the sector.

#### *Greater Lincolnshire LEP Local Industrial Strategy*

- 9.3.16 In January 2021, Greater Lincolnshire LEP published a draft Local Industrial Strategy (Greater Lincolnshire LEP, 2021) which sets out the opportunities for growth within the LEP area and how the LEP plans to maximise the benefits of these opportunities. The strategy highlights the region's established and emerging clusters in agri-food, ports, logistics and defence, and energy and new fuels, which present opportunities for Greater Lincolnshire to build on the area's manufacturing and engineering base.
- 9.3.17 The strategy highlights that, as a result of the existing offshore wind clusters in proximity to the area, offshore wind manufacturing, installation, operations and maintenance businesses now have established businesses in the region, enabling the expansion of the offshore wind sector in the area to continue to support the creation of local sustainable jobs and the development of the local economy. Offshore wind developments are creating sustainable jobs in the area and supporting the local economy as the offshore wind sector grows.
- 9.3.18 The strategy particularly highlights the opportunities the offshore wind sector presents for Greater Grimsby, which currently has low wages and productivity, as well as high unemployment and challenges retaining businesses and skilled workers in the area. The strategy highlights how the development of the offshore wind sector could support the economic development through establishing offshore wind operations and maintenance businesses in the area.
- 9.3.19 The Project would create an opportunity for the expansion of the offshore wind sector in proximity to Greater Lincolnshire by creating sustainable job opportunities in sectors which are firmly established in the area, such as offshore wind manufacturing, installation, operations and maintenance, and in doing so, continue to develop the economic contribution the sector has already made to local areas of Lincolnshire.

#### *Hull and East Yorkshire Economic Strategy*

- 9.3.20 The Hull and East Yorkshire (HEY) LEP is currently developing an economic strategy for the area. The draft of this strategy was submitted to the HEY LEP Board in the summer of 2021. It is anticipated that this strategy will be published in time to be included in the PEIR.

#### *UK Offshore Wind Sector Deal*

- 9.3.21 The Offshore Wind Sector Deal (UK Government, 2020), updated by the UK Government in 2020, sets out the Government's aim to support the development of offshore wind energy generation in the UK, making the sector a significant part of a low-cost, low-carbon flexible grid system. The deal also emphasises how UK companies can benefit from the opportunities presented by the expansion of the offshore wind sector, enhancing the competitiveness of UK firms internationally and sustaining the UK's role as a global leader in offshore wind generation.

9.3.22 The deal highlights that some estimates suggest that offshore wind capacity globally will grow by 17% annually from 22 GW to 154 GW in 2030, which could mean the UK contributing up to 40 GW of generating capacity.

#### *British Energy Security Strategy*

9.3.23 Since the publication of the UK Offshore Wind Sector Deal, the UK Government has outlined a stronger ambition of up to 50 GW of offshore wind generating capacity by 2030 as part of the British Energy security Strategy (HM Government, 2022). The Government aims to reach this capacity in a sustainable, timely way, and commits to working with the offshore wind sector and wider stakeholders to deliver the expansion of the sector, addressing strategic deployment issues, transmission issues and environmental impacts. Reaching this level of capacity could support up to 90,000 jobs in the UK, while the sector will work with Government, existing institutions, and universities to increase job mobility between energy sectors, increase apprenticeship opportunities and coordinate local efforts, further developing the benefits to the UK economy.

9.3.24 The deal emphasises the Humber as a majorly significant region to the development of the sector in the UK, as the region already supports a wind farm cluster with a pre-existing manufacturing base, enabling economies of scale and increased productivity which could drive innovation and improve competitiveness in the sector.

9.3.25 The Project would contribute to the expansion of the offshore wind sector in the UK, developing the ambition of reaching 50 GW of generating capacity by 2030. The Project also provides further opportunity to contribute to the development of the offshore wind sector in the Humber, supporting the region's existing expertise and developing competitiveness in the sectors supported by offshore wind.

#### **Socio-Economic Baseline**

9.3.26 The nature of the effects to be considered by the socio-economic, tourism and recreation assessment apply at a range of spatial levels. It is therefore proposed to adopt a four-tier approach to baseline characterisation, identification of potential receptors and the assessment of effects. The socio-economic baseline covers the four tiers below and will not be affected by the selection of location for the onshore substation. The four tiers are:

- the Local Tourism and Recreation Area (LTRA) – defined as the combined local authority areas of South Holland, East Lindsey and Boston;
- the Local Economic Area (LEA) – defined as the combined Local Enterprise Partnerships of Greater Lincolnshire and Hull and East Yorkshire;
- the Regional Area – defined as the combined regions of England of Yorkshire and the Humber and the East Midlands; and
- the UK.

## Population

- 9.3.27 As shown in Table 9.3.2 (ONS, 2021a), the LTRA, has a total population of 0.3 million, accounting for 3.0% of the population of the regional area (Yorkshire & Humber and the East Midlands). Of the population of the local area, 16.9% are aged under 16 years old. The proportion is below the share for the age group in the regional area (18.8%) and the UK as a whole (19.0%).
- 9.3.28 The LEA, comprised of the Hull and East Yorkshire LEP area and the Greater Lincolnshire LEP area, has a total population of 1.7 million, accounting for 16.4% of the population of the regional area (Yorkshire & Humber and the East Midlands). Of the population of the local area, 17.8% are aged under 16 years old. The proportion is below the share for the age group in the regional area (18.8%) and the UK as a whole (19.0%).
- 9.3.29 The proportion of the population aged 16-64 in the LTRA (56.8%) and the LEA (59.7%), is below the average of both the regional area (62.0%) and the UK as a whole (62.4%). This suggests that the area has a relatively smaller working population. In addition, a higher proportion of the population is aged 65 and over in the LTRA (26.3%) and the LEA (22.5%), compared to both the regional area (19.2%) and the entirety of the UK (18.6%) (Table 9.3.2).

Table 9.3.2: Population, 2020

	LTRA	LEA	Regional Area	UK
Total	308,700	1,700,772	10,391,933	67,081,234
0-15	16.9%	17.8%	18.8%	19.0%
16-64	56.8%	59.7%	62.0%	62.4%
65+	26.3%	22.5%	19.2%	18.6%

Source: ONS (2021a), *Population Estimates 2020*

## Population Projections

- 9.3.30 In 2020, the population of the LEA was 1,700,800. The ONS also produces projections for how this population is expected to change over time, based on recent trends in demographics, migration, fertility and mortality (ONS, 2021b). It is estimated that the total population of the area will increase to 1,808,900 (6.4%) by 2043. This expected increase is lower than that of the regional area, where the population is expected to increase by 9.5% by 2043, and the expected population increase of the UK as a whole (8.0%).
- 9.3.31 By 2043, the number of people aged under 16 in the LEA is expected to decrease by 5.5%, in contrast to the regional area, where the number of under sixteens is expected to increase by 0.5% and the UK where the under 16 population is expected to decrease by 3.1%.
- 9.3.32 The working age population in the LEA is expected to fall by 1.2%, whereas the working age population is expected to increase by 3.5% and 2.0% in the regional area and the UK as a whole respectively. The number of people aged 65 and older in the LEA is expected to increase by 35.7%. This will result in the proportion of the population who is aged 16-64 decreasing from 62.0% in 2020 to 55.4% in 2043 (derived from data in Table 9.3.3).

Table 9.3.3: Population Projections by Age, 2020 - 2043

	LEA		Regional Area		UK	
	2020	2043	2020	2043	2020	2043
Total	1,700,800	1,808,900	10,391,900	11,381,200	67,081,200	72,418,000
0-15	303,000	286,500	1,954,200	1,963,500	12,727,600	12,333,600
16-64	1,014,800	1,002,900	6,440,700	6,665,700	41,845,000	42,698,000
65+	382,900	519,600	1,997,000	2,751,900	12,508,600	17,386,400

Source: ONS (2021b), *Population Projections, 2019-2043*

#### Economic Activity

9.3.33 As shown in Table 9.3.4, the share of the working-age population who are economically active is 76.5% in the LEA. This is below the average in the regional area (78.6%) and the national average of 78.8%. The unemployment rate in the LEA (3.6%) is lower compared to the regional area (5.1%) and the UK (4.8%). The average annual median gross wage of full-time workers in the LEA was £28,400, relatively lower than that of the regional area (£29,100) and the UK as a whole (£30,300) (ONS, 2021c).

Table 9.3.4: Economic Indicators, 2020

	LTRA	LEA	Regional Area	UK
Economically Active %	72.4%	76.5%	77.7%	78.3%
Unemployment Rate	6.8%	3.6%	5.1%	4.8%
Median Annual Gross Wage (resident)*	£27,100	£28,400	£29,100	£30,300

Source: Source: ONS (2021c), *Annual Population Survey*. \*ONS (2021d), *Annual Survey of Hours and Earnings – resident analysis 2020*.

#### Industrial Structure

9.3.34 The retail and wholesales trade employs the largest number of people in the LEA, accounting for 16.0% of employment area compared to 15.5% in the regional area and 14.7% in the UK as a whole (ONS, 2021e).

9.3.35 As shown in Table 9.3.5, the second highest proportion of employment in the LEA in 2020 was in manufacturing (14.6%), which accounts for a higher share of employment compared to the regional area (11.4%) and the UK as a whole (7.7%).

9.3.36 Workers in the LEA are also likely to be employed in the health sector (13.6%), which is slightly above the average of the regional area (13.1%) and the entirety of the UK (13.2%).

9.3.37 The construction sector employs a higher-than-average share of the workforce in the LEA, accounting for 5.4% of employment. In the regional area and the entirety of the UK, construction accounts for 4.9% and 5.0% of total employment respectively.

9.3.38 Accommodation and food services, associated with tourism, accounts for 6.5% of employment in the LEA, fairly average compared to the regional area (6.5%), but below the proportion accounted for by this sector across the UK as a whole (7.1%). Within the LTRA this sector accounts for 8.6% of the workforce.

Table 9.3.5: Industrial Structure, 2020

	LTRA	LEA	Regional Area	UK
Agriculture, forestry and fishing	9.0%	3.8%	1.8%	1.6%
Mining and quarrying	0.1%	0.1%	0.1%	0.2%
Manufacturing	13.7%	14.6%	11.4%	7.7%
Electricity, gas, steam and air conditioning supply	0.1%	0.3%	0.5%	0.4%
Water supply; sewerage, waste management and remediation activities	0.6%	1.0%	0.7%	0.7%
Construction	4.3%	5.4%	5.0%	4.9%
Wholesale and retail trade; repair of motor vehicles and motorcycles	17.6%	16.0%	15.5%	14.7%
Transportation and storage	5.8%	5.1%	6.1%	5.0%
Accommodation and food service activities	8.6%	6.5%	6.3%	7.1%
Information and communication	0.8%	1.8%	2.8%	4.3%
Financial and insurance activities	0.6%	0.8%	2.3%	3.4%
Real estate activities	1.6%	1.7%	2.0%	1.9%
Professional, scientific and technical activities	2.8%	4.7%	6.9%	8.8%
Administrative and support service activities	10.1%	8.2%	8.2%	8.6%
Public administration and defence; compulsory social security	2.0%	4.0%	4.1%	4.4%
Education	6.4%	8.4%	9.0%	8.6%
Human health and social work activities	11.4%	13.6%	13.1%	13.2%
Arts, entertainment and recreation	2.9%	2.5%	2.5%	2.3%

Source: ONS (2021e), Business Register and Employment Survey 2020

#### Qualifications

9.3.39 The level of educational attainment is lower in the LEA than other parts of the UK (ONS, 2021c).

- 9.3.40 In the LEA, 86.0% of the population have received at least a National Vocational Qualification (NVQ)1 qualification, slightly below average in the regional area (86.9%) and below the national average of 87.6%. The proportion of people in the LEA who have received at least a NVQ2 qualification (74.0%) is also below the regional average (76.0%) and the national average (78.0%). 52.3% of the local population have received at least a NVQ3 qualification, while 57.7% of people in the regional area have achieved this qualification and 61.2% of people across the UK have.
- 9.3.41 A NVQ4 qualification, equivalent to a higher education certificate, was achieved by 31.4% of LEA residents. This is significantly less than the average across the regional area (37.1%) and the UK as a whole, where 43.0% of people have achieved at least this level of qualification, suggesting low engagement in higher education.

Table 9.3.6: Qualifications, 2020

	LTRA	LEA	Regional Area	UK
None	9.7%	7.6%	6.7%	6.6%
NVQ1+	83.1%	86.0%	86.9%	87.6%
NVQ2+	70.3%	74.0%	76.0%	78.0%
NVQ3+	48.8%	52.3%	57.7%	61.2%
NVQ4+	24.7%	31.4%	37.1%	43.0%

Source: ONS (2021c), Annual Population Survey 2020

#### House Prices

- 9.3.42 House prices within the LEA increased significantly between March 2016 and March 2021, however the value of houses in the LEA and Regional Area are typically significantly lower than other parts of the UK. In this time period, house prices in the LEA increased by 29.0% to £191,300. This is 28% lower than the average house price across England and Wales, which is £267,500.
- 9.3.43 There are over three quarters of a million homes within the LEA and 4.5 million across the Regional Area.

Table 9.3.7: House Price Values and Changes, March 2016 - March 2021

	March 2016	March 2021	Change	Number of Units*
LTRA	£147,200	£189,700	29%	139,000
LEA	£148,700	£191,300	29%	775,000
Regional Area	£152,500	£196,750	29%	4,544,000
UK	£210,000	£267,500	27%	28,203,000

Source: ONS (2021f), House Price Statistics for Small Areas, \* ONS (2021h) Subnational estimates of dwellings by Tenure



### Onshore Tourism and Recreation Baseline

- 9.3.44 The Onshore Tourism and Recreation baseline in this section identifies the scale and key attractions of the tourism economy within the LTRA defined above. The PEIR and subsequent ES chapter will include more details on the tourism and recreational assets which are within the defined AoS for the onshore infrastructure. At the time of writing, the final location of the onshore infrastructure has not been identified.
- 9.3.45 In total, there were 16 million tourism trips within the LTRA, with a total associated spend of £706 million. Of this, 90% of the trips and 59% of the spend was associated with day trips.

#### *Visits and Spend of Tourists*

- 9.3.46 Kantar (2020) produces annual statistics regarding tourism in Great Britain, including at local authority level. Due to low sample data, figures for the local authorities that constitute the LTRA and the LEA represent an average over a 3-year period (2017 – 2019).
- 9.3.47 As shown below, latest figures estimate that in 2019 there was a total of 16 million visits to the LTRA, spending a total of £706 million in the local economy. This represented approximately 6% of all visitors to the Regional Area in 2019 and 5% of total tourist spend that year.
- 9.3.48 Day visitors represented 90% of all visitors to the LTRA in 2019, spending a total of £416 million. This indicates an average spend of £29 per day visitor, this is significantly lower than the regional average of £40. Domestic overnight visitors accounted for 9% of all visitors to the region and a lower than average spend per visitor of £160 (compared to £200 for the UK as a whole). International overnight visitors represented the remaining 0.6% of visitors to the LTRA (Table 9.3.8).

Table 9.3.8: Visits and Spending, 2019

	LTRA	LEA	Regional Area	Great Britain
<b>Visits (million)</b>				
Day Visitors	14	47	249	1,653
Domestic Overnight	1	4	17	123
International Overnight	0	0	3	41
<b>Total Visits</b>	<b>16</b>	<b>52</b>	<b>269</b>	<b>1,817</b>
<b>Spend (£ million)</b>				
Day Visitors	416	1,365	9,988	66,978
Domestic Overnight	237	563	2,843	24,651
International Overnight	54	125	1,101	28,303
<b>Total Spend</b>	<b>706</b>	<b>2,053</b>	<b>13,932</b>	<b>119,932</b>

Source: Kantar TNS (2021) Great British Day Visitor Survey; Kantar TNS (2021) Great British Tourism Survey.

#### *Geographic Distribution of Tourism Activity within the LTRA*

9.3.49 The tourism economy within the LTRA is more highly concentrated in some areas, in particular around Skegness. The cluster of tourism assets to the north of Skegness, such as Butlins and Fantasy Island Theme Park, drive significant tourism activity in the area. In particular, this supports 2,500 jobs in bars, restaurants, hotels and other accommodation providers. This is equivalent to 25% of all of the employment in these sectors across the LTRA (Figure 9.3.2).

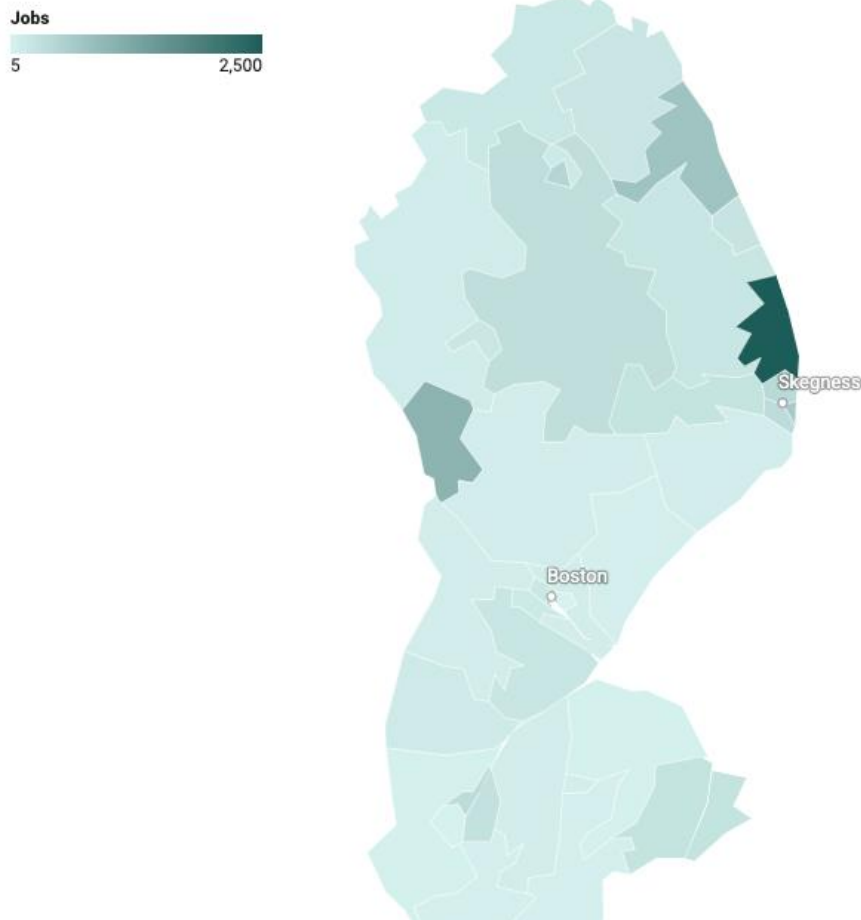


Figure 9.3.2: Distribution of accommodation, food and drink service employment within the LTRA

Source: ONS (2021e) *Business Register and Employment Survey*.

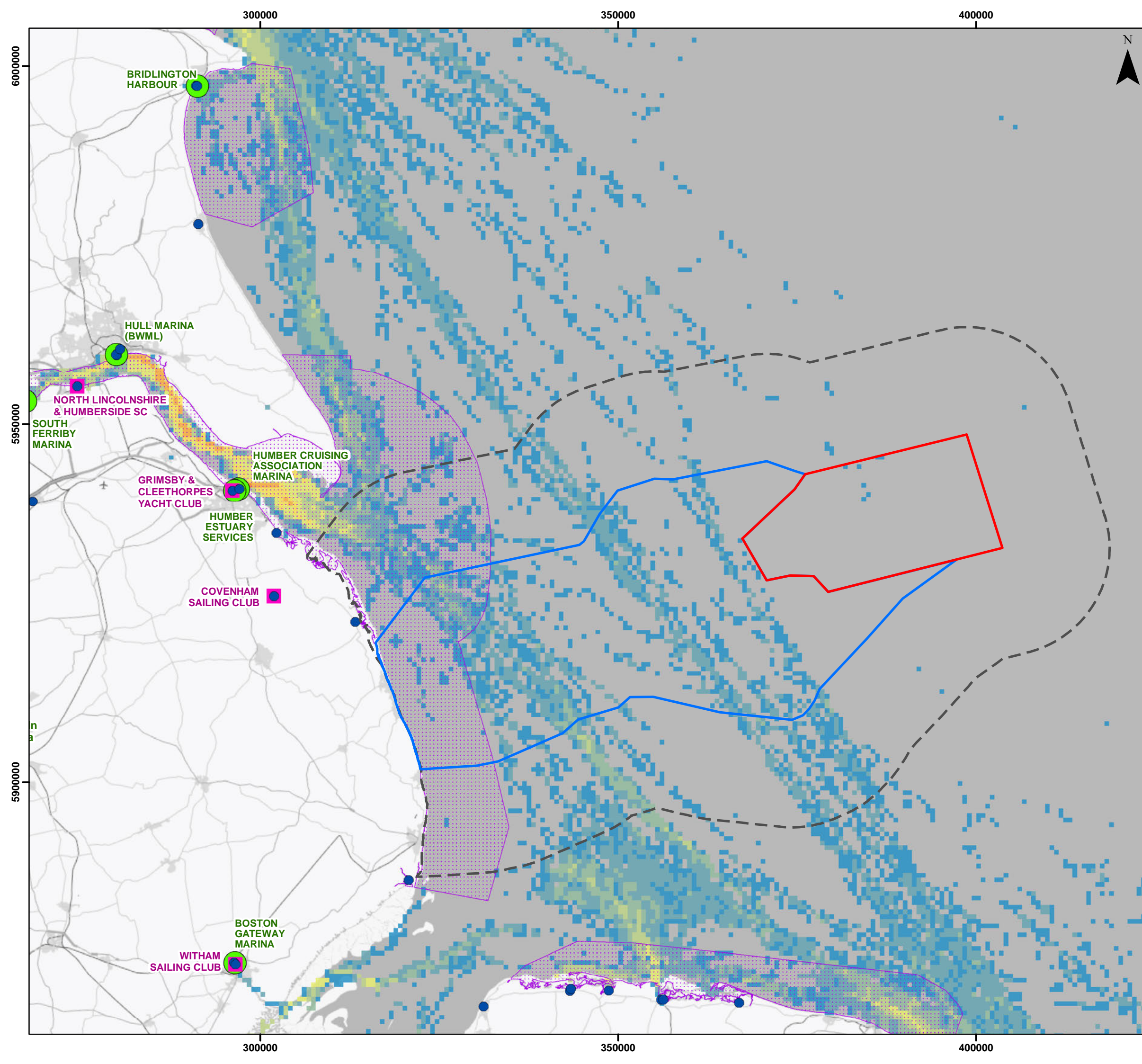
### *Regional Tourism and Recreational Attractions*

9.3.50 Data on visits to regional tourism and recreational attractions, both paid and free, are published each year by Visit England through the Annual Survey of Visits to Visitor Attractions. This identified the top 20 paid and free attractions in both Yorkshire and the Humber and the East Midlands. In addition, using a web search, additional attractions in the LTRA were identified.

## Marine Recreational Baseline

### *Marine Recreational Activities: Boating*

- 9.3.51 As shown in Figure 9.3.3, as for most of the northeast coast, there is generally a low density of recreational boating within the study area, with exception of the entrance to the Humber Estuary and areas off the North Norfolk coast. Whilst outside of the study area, the main marinas affecting vessel movements are in the Humber estuary, at Grimsby and Hull. In addition, there are RYA training centres and clubs also around the Humber and along the North Norfolk coast, one of which is within the study area: Saltfleet Haven Boat Club (south of the Humber). These locations also relate broadly to the vessel usage heatmap, which represents Automatic Identifier System (AIS) recreational vessel data, as provided by the RYA Coastal Atlas (2021), with highest usage in the Humber estuary, just outside of the study area; and similarly correspond to the main RYA (2021) boating area delineated across the same areas, but with the Humber activity extending south across the study area to the mouth of the Wash and the North Norfolk coast. These focus points lead to bands of routes concentrated across the western part of the study area and ECC AoS. There is also a light usage route from Scarborough to Northeast Norfolk across the middle of the study area and ECC AoS. Vessel usage further offshore in the study area and the Project's array area is low, mostly absent. Vessel usage is reported to be generally low in this region due to the lack of suitable weather and therefore vessel safety (Sea Search Northeast Coast Coordinator, pers. comms).
- 9.3.52 Recreational vessel activity will be captured through consultation with recreational stakeholders, including the RYA, as per guidance in the MCA's Marine Guidance Note (MGN) 654 to identify any recreational vessels not required to (or choosing not to) broadcast via AIS.



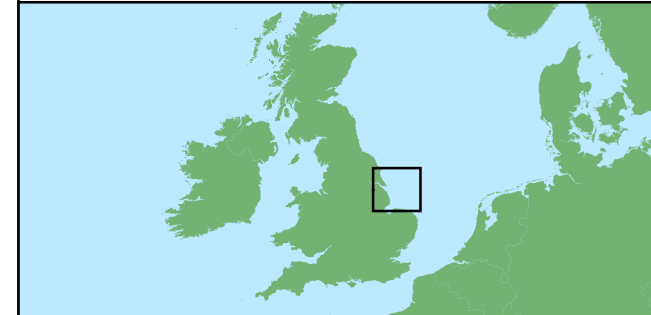
**Legend**

- Site Boundary
- Offshore ECC Area of Search
- Study Area (15km)
- RYA Club
- RYA Training Centre
- Marina
- General Boating Area

**Vessel usage (summer 2014 and 2017) implied by Automatic Identification System intensity**

- Low
- 
- 
- 
- 
- 
- High

RYA, Marinas, Offshore Routes, Boating Areas and AIS Intensity  
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Coordinate System: WGS 1984 UTM Zone 31N

0 10 20 km

Scale: 1:500,000

Marine Sailing and Boating

Figure 9.1.3

OUTER DOWSING  
OFFSHORE WIND

Date: 15/07/2022  
 Produced By: BPHB  
 Revision: 0.1

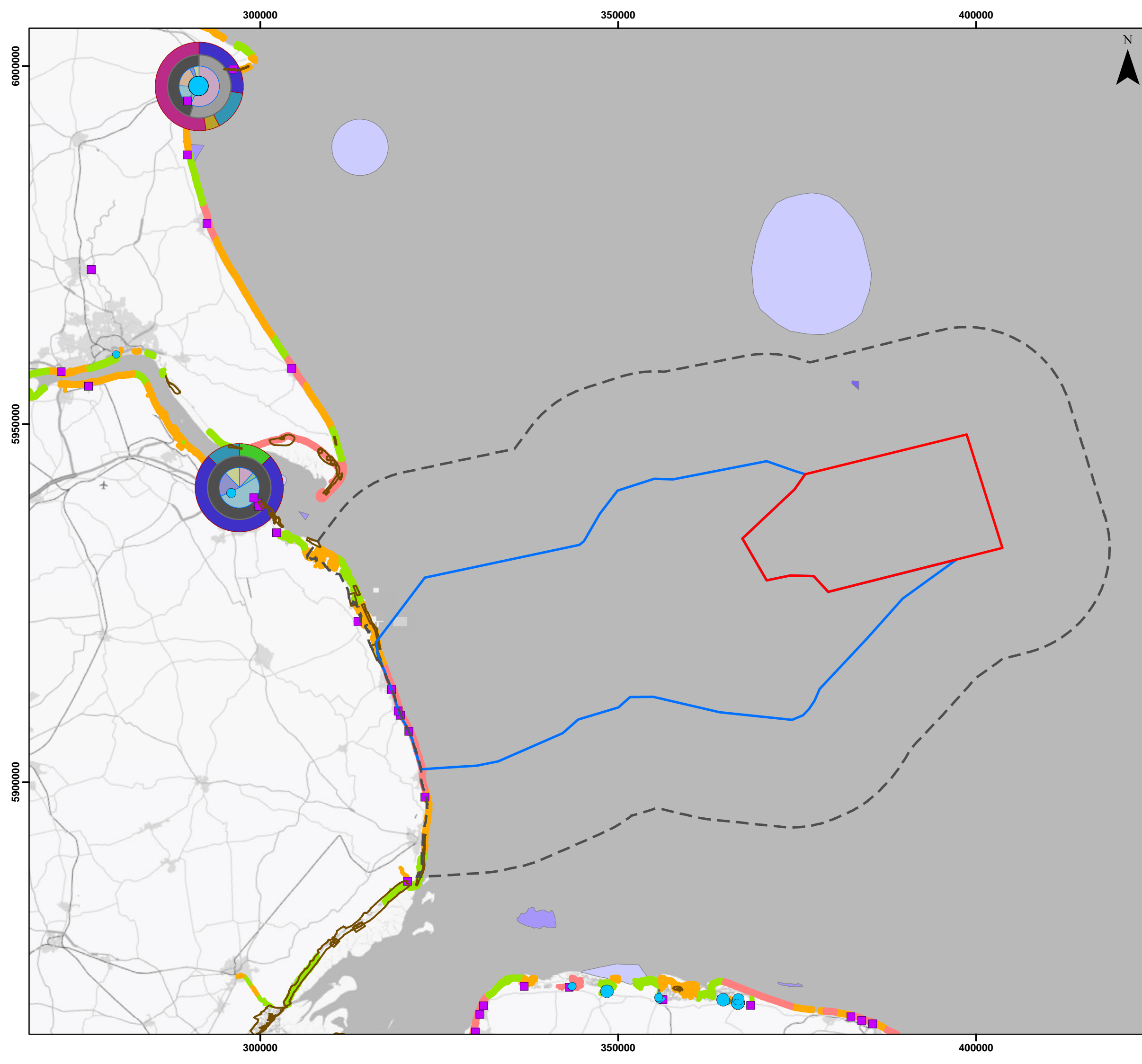
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Contains ESRI Basemapping;  
 Contains OS data © Crown  
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### *Marine Recreational Activities: Angling*

- 9.3.53 Recreational fishing, in terms of both shore and sea angling, has recently been characterised throughout English waters (MMO, 2020), as shown in Figure 9.3.4. Whilst this data is proxy and indicative, informed by selective surveys, data collection, online searches and other sources, it provides the first complete coverage to date and is the best source to inform the Scoping Report. The majority of UK recreational fishing is angling and so MMO (2020) is the predominant data source for this section.
- 9.3.54 Sea angling operates out of Bridlington (north), Grimsby (Humber Estuary) and the North Norfolk Coast, where boats are moored, though these are outside the study area these vessels may operate within the study area. There are also a number of slipways throughout the area, mostly south of the Humber; six of which are within the study area, on concrete, sand or unknown substrate / structure. The data shows there are no known fishing locations delineated within the offshore part of the study area, though there are some to the north and south, of low to medium intensity of use.
- 9.3.55 Therefore, the survey indicates that Bridlington or Grimsby are unlikely to regularly provide chartered fishing trips to the study area. However, as the surveyed data is indicative, it is of note that data aggregated for Bridlington shows that trips are mainly targeting wrecks, ground and rough areas, with species caught being mainly cod, bass and flatfish. Similarly for Grimsby, chartered fishing boat data aggregated are mainly targeting ground, rough and estuary areas, with species caught being mainly skate / ray and bream. Whilst most of the chartered boats out of Grimsby carry out trips up to 60 days a year, in Bridlington this is more variable, from 20 to 60 days.
- 9.3.56 Shore based angling is shown to take place along all of the study area's shoreline. Activity is high where the cable corridor crosses the coastline and reduces to medium / low either side.
- 9.3.57 Lastly, there are pockets of shoreline where bait collection takes place, only at the very northern and southern parts of the coastline within the study area (MMO, 2021).



### Legend

- Site Boundary
- Offshore ECC Area of Search
- Study Area (15km)
- Bait collection
- Slipways
- Angling boats on moorings, harbours & marinas**
  - 1
  - 5
  - 10
- Angling trips per km2**
  - < 20%
  - 20% - 40%
  - 40% - 60%
  - 60% - 80%
  - > 80%
- Shore angling activity**
  - Low
  - Medium
  - High
- Charter boat species captured**
  - cod
  - bass
  - skate\_ray
  - flatfish
  - bream
  - sport\_shar
- Charter boat angler trips per year**
  - three
  - twenty
  - sixty
- Grounds favoured by charter boats**
  - banks
  - estuary
  - ground
  - rough
  - shark
  - wreck

Datasets obtained from Marine Management Organisation, MMO1163, Year 2020

Coordinate System: WGS 1984 UTM Zone 31N  
 0 10 20 km  
 Scale: 1:500,000

Marine Recreational Angling  
 Figure 9.1.4

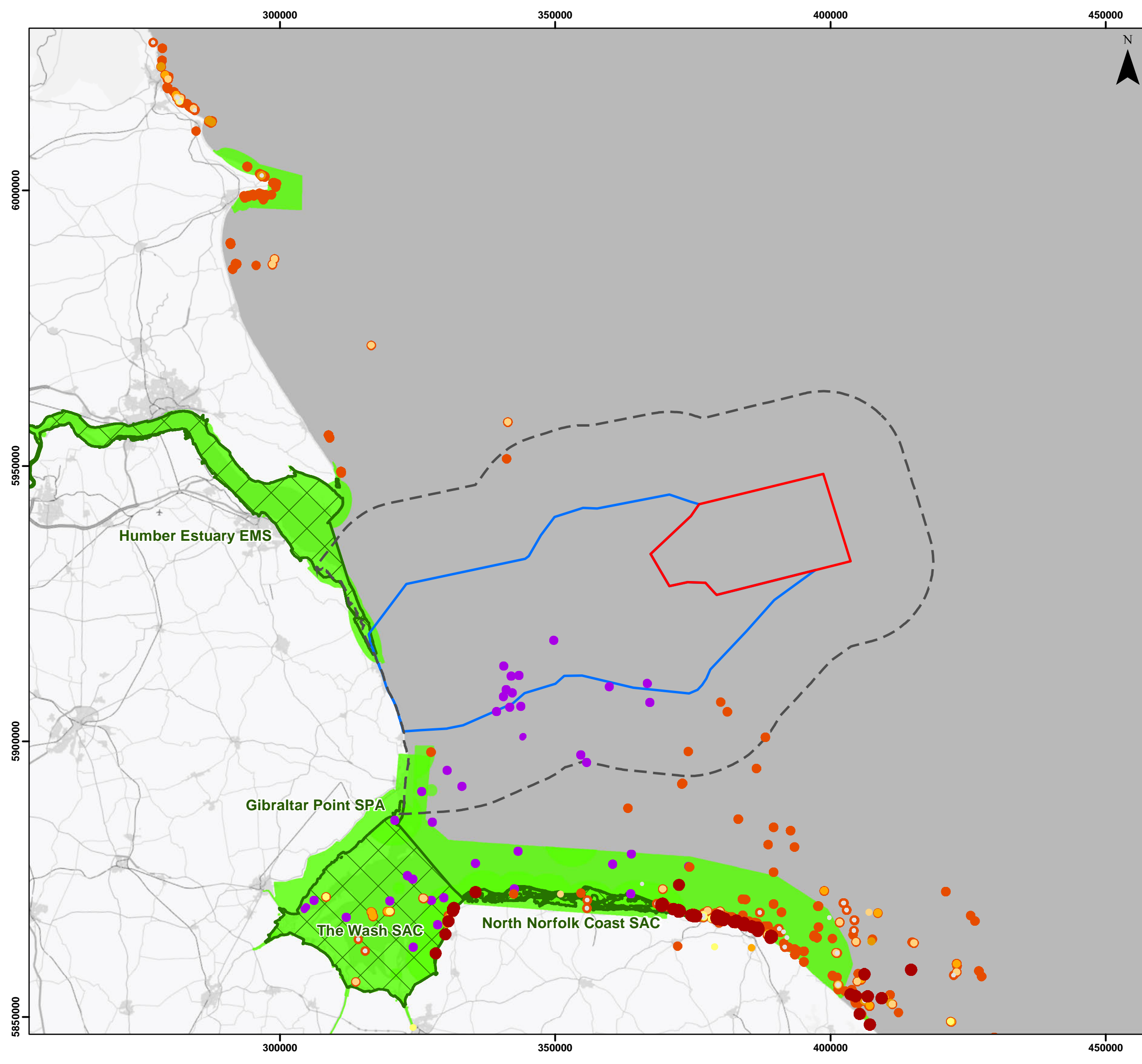


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### *Marine Recreational Activities: Scuba Diving*

- 9.3.58 Unlike many parts of England’s coast, it is thought that little Scuba diving takes place in the study area (Sea Search Northeast Coast Coordinator, pers. comms). This is reflected by nature conservation diving reports at specific locations over multiple years (Seasearch, 2021: full coverage data), though these are carried out by volunteers in their personal leisure time and may provide an initial proxy for general diving areas. There are only six areas where Seasearch diving is shown to take place within the south of the study area (south of the ECC and array plus near the mid northern boundary), all of which report one to two dives between 2014 and 2020 (Table 9.3.9).
- 9.3.59 Additional data on diving, specifically recreational scuba diving recently mapped in MPAs only has been informed by stakeholder engagement (MMO 2021). This shows some additional diving locations in the western part of the study area. These are clustered within the cable corridor 17-24km offshore and one at approximately 45km offshore, as well as some other scattered sites, thought to be associated with known wreck sites.
- 9.3.60 Diving from vessels is reported to be relatively low in this region compared to some other parts of the UK due to the lack of suitable weather and therefore vessel safety (Seasearch Northeast Coast Coordinator, pers. comms). Whilst this is likely to explain the sparsity of dives reported in the study area, there are a number of known wrecks in the area (Section 7.7) with potential to dive in the right conditions and so evidence for diving locations will be confirmed during consultation with Seasearch, regional diving clubs and potentially vessel operators during the pre-application phase.



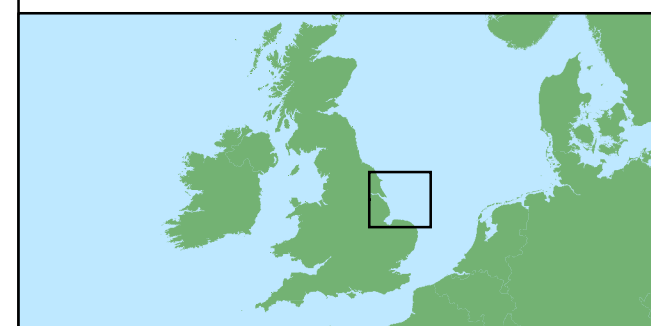


**Legend**

- Site Boundary
- Offshore ECC Area of Search
- Study Area (15km)
- Designations
- General Recreation (MMO 2019; 2021)
- Estimated scuba diving areas (MMO 2021)

**Recorded Dives by Year (Seasearch)**

- Unknown
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020



Coordinate System: WGS 1984 UTM Zone 31N

0 20 40 km

Scale: 1:650,000

Scuba Diving and General Marine Recreation Activities

Figure 9.1.5



**OUTER DOWSING**  
OFFSHORE WIND



**GoBe**

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Revision: 0.1

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2020

### Marine Recreational Activities: Other General Activities

9.3.61 Marine recreation activities will take place at locations across the coastline of the study area, including beaches. Data is restricted to within MPAs and the other marine recreational assets within the MPAs, which is shown in Table 9.3.9 (MMO 2021; MMO 2019), and is informed primarily by stakeholder consultation within the Project. The whole area covered by these activities is also shown in Figure 9.3.5.

Table 9.3.9: Summary of general marine recreation activities within MPAs and within the study area

MPA	General Recreational Activity*
Humber Estuary European Marine Site (EMS) (south nearshore coastline) and Gibraltar Point SPA coastline	Swimming / snorkelling
Humber Estuary EMS coastline (south nearshore coastline out to <1.5km offshore)	Gliding (unpowered)
Wash SAC (nearshore coastal)	Motorsports
Humber Estuary EMS and Gibraltar Point SPA,	Access, beach recreation, board sports, land boarding, watersports (towed and untowed), wildlife watching from land.
Humber Estuary EMS, Gibraltar Point SPA, Wash SAC (coastline out to <5km offshore)	Aircraft (powered), jet skis, gliding

\*Excludes recreational boating, sailing, diving, angling and bait collection (covered in other sections)

## Proposed Approach to the Environmental Impact Assessment

### Proposed Assessment Methodology

9.3.62 The socio-economic effects of the Project, including both the offshore and onshore activities, will be assessed together and presented in a single section.

9.3.63 The approach to EIA will follow the general approach outlined in Section 5 of this Scoping Report. In addition to the general approach and guidance outlined in Section 5, the assessment of Socio-economics will also comply with the following guidance and policy documents where they are specific to this topic:

- NPS EN-1 Overarching National Policy Statement for Energy (2011<sup>43</sup>); and
- NPS EN-3 Overarching National Policy Statement for Renewable Energy Infrastructure (2011).

9.3.64 This guidance outlines the impacts which will need to be considered as part of any socio-economic impact assessment of an OWF. The impacts to be considered are described in Table 9.3.10.

<sup>43</sup> At the time of writing, the Project note that the NPSs are subject to review. The PEIR and subsequent ES will refer to the most up-to-date and relevant versions as appropriate.

Table 9.3.10: Impacts to Include in the Assessment

Impacts to include	Section Considered	
The creation of jobs and training opportunities. The Project may provide information on the sustainability of the jobs created, including where they will help to develop the skills needed for the UK's transition to net zero	Economic Assessment	Impact
The contribution to the development of low-carbon industries at the local and regional level as well as nationally	Economic Assessment,	Impact Strategic Context
The provision of additional local services and improvements to local infrastructure	Demographic and Social Impact Assessment	
Any indirect beneficial impacts for the region hosting the infrastructure, in particular in relation to use of local support services and supply chains	Economic Assessment	Impact
Effects on tourism, onshore and offshore recreational activity	Tourism and Recreation Assessment	
The impact of a changing influx of workers during the different construction, operation and decommissioning phases of the Project. This could change the local population dynamics and could alter the demand for services and facilities in the settlements nearest to the construction work (including community facilities and physical infrastructure such as energy, water, transport and waste). There could also be effects on social cohesion depending on how populations and service provision change as a result of the development	Demographic and Social Impact Assessment	
Cumulative effects - if development consent were to be granted to for a number of projects within a region and these were developed in a similar timeframe, there could be some short-term negative effects, for example a potential shortage of construction workers to meet the needs of other industries and major projects within the region.	Cumulative Assessment	Impact

### Economic Impacts

9.3.65 The economic impacts which will be considered will be reported in terms of:

- GVA – this is a measure of economic value added by an organisation or industry and is typically estimated by subtracting the non-staff operational costs from the revenues of an organisation;

- Years of Employment – this is a measure of employment which is equivalent to one person being employed for an entire year and is typically used when considering short term employment impacts, such as those associated with the development and construction phase of the Project; and
  - Jobs – this is a measure of employment which considers the headcount employment in an organisation or industry. This measure is used when considering long term impacts such as the jobs supported during the operational phase of the Project.
- 9.3.66 The economic impacts associated with the supply chain and will be assessed in line with the approach considered in the UK Offshore Wind Sector Deal (UK Government, 2020), the focus of the assessments will be the direct and indirect (supply chain) effects. In addition to this, the Project shall also consider the effects of staff spending and the economic impact that this subsequent increase in demand stimulates (the induced effect).
- 9.3.67 The offshore elements will include the construction and installation of new foundations and turbines, the OSP and the construction and installation of new inter-array cables and export cabling. The onshore elements considered will include all of the onshore cable infrastructure, up to and including the onshore substation
- 9.3.68 It is acknowledged that at the time of writing, the exact levels of expenditure shall be unknown by the Applicant. This expenditure is what shall drive the positive economic impacts. The socio-economic assessment shall therefore consider the ‘Worst Case Scenario’ of the lowest, realistic levels of expenditure associated with the Project. This value may change between the production of the PEIR and ES to reflect any agreements reached between the Applicant and potential suppliers and any changes in the market that shall impact prices.
- 9.3.69 The analysis for the Project will cover the three stages of the project, namely:
- the development stage;
  - the construction stage; and
  - the operational and maintenance stage.
- 9.3.70 The impacts during the development and construction phases will be based on the actual expenditure that has occurred to date as well as the planned expenditure associated with these stages. In addition to the total impact over the period, the assessment will also consider the timings of impacts during this stage to understand the peaks and troughs of this activity.
- 9.3.71 The impacts during the operational phase for the Project will be based on projected operational expenditure.
- 9.3.72 In instances where impacts are expected to occur over a number of years, such as the operational phase, a discount rate will be applied. This allows impacts that occur sooner to be valued more highly than impacts that occur in the future, a concept known as time preference. In this instance a discount rate of 3.5% will be chosen, which is in line with the UK Government’s Green Book (UK Government, 2020). The enhanced scale and scope of the new community benefit fund will also be estimated and assessed.

9.3.73 In addition to data provided by the Applicant and BiGGAR Economics own previous experience, the sources that shall be used in this assessment will include:

- ONS (2021b) Business Register and Employment Survey;
- ONS (2022) Annual Business Survey;
- Offshore Wind Industry Council (2021) People Skills Survey 2021 – 2026;
- Offshore Wind Industry Council (2020) Collaborating for Growth: Strategies for Expanding the UK Offshore Wind Supply Chain;
- Oxford Brookes University (2020) Guidance on assessing the socio-economic impacts of OWFs (OWFs);
- ORE Catapult (2020) Offshore Wind Operations and Maintenance a £9 billion per year opportunity by 2030 for the UK to seize;
- BVG Associates (2019) Guide to an Offshore Wind Farm; and
- RenewableUK (2022) Offshore Wind Industry Council media release – Monday 13<sup>th</sup> June 2022.

#### Tourism and Recreation Impacts

9.3.74 There is also no formal legislation or guidance on the methods that should be used to assess the effects that wind farm developments may have on tourism. The link between wind energy developments and the tourism sector is a well-researched subject and the most recent research has not found any link between the performance of the general tourism economy and wind energy developments.

9.3.75 The tourism assessment shall consider the baseline assessment of the regional tourism economy in the LEP areas of Greater Lincolnshire and Hull and East Yorkshire LEP areas. This will consider the key drivers of the tourism economy in these areas and the assessment shall consider how the development of the Project will affect these drivers.

9.3.76 This assessment will consider the potential effects that the development could have on specific tourism attractions, recreational assets and local accommodation providers within the AoS, which will cover the proposed ECC, ZTV of the offshore WTGs and key port locations. The assessment of the magnitude of the impacts, both positive and negative, will build on the evidence available on behaviour changes as a result of similar developments.

9.3.77 The assessment of marine recreational boating/sailing and recreational fishing will also comply with the following guidance documents where they are specific to this topic:

- Department for Levelling Up, Housing and Communities guidance notes; and
- The Inspectorate’s advice notes.

9.3.78 The sources that will be used in this assessment will include:

- Industry studies on the relationship between energy infrastructure and tourism;
- Greater Lincolnshire Nature Partnership (2016) Developing Nature Tourism in Greater Lincolnshire, Leeds Beckett University;
- Visit England(2021) Great British Day Visitor Survey;

- Visit England (2021) Great British Tourism Survey;
- Natural England (2020) Monitoring Engagement with the Natural Environment Survey (2009 – 2019);
- Consultations with relevant stakeholders;
- Data derived from other EIA studies (such as shipping and navigation and fisheries studies); and
- Online searches to identify tourism and recreational assets and receptors.

### Demographic and Social Impacts

- 9.3.79 The demographic and social impacts assessment shall follow on from the economic impact assessment, which shall identify the number of workers that are likely to travel into the area to work.
- 9.3.80 This will then consider the capacity of the study areas, and the service provision within, to accommodate this temporary increase in population. In particular, it shall consider:
- the likely demand for accommodation and the ability of the market to meet this demand; and
  - the demand on services such as health and education and the ability of the local providers to meet this demand.
- 9.3.81 The change in demand as a result of the Project will be assessed against the baseline demand for these services in the study areas. This will allow the magnitude of impact and sensitivity of each receptor to be identified. The significance of each impact will then be assessed in line with the general approach outlines in Section 5.
- 9.3.82 The assessment shall build on the data used to create a socio-economic baseline, including:
- ONS (2021d) House Price Statistics for Small Areas (HPSSAs);
  - ONS (2021e) Private rental affordability, England;
  - ONS (2021c) Annual Population Survey; and
  - ONS (2021a) Population Estimates.
- 9.3.83 The impact on community infrastructure as a result of environmental factors, such as noise or transport, shall be considered in these sections.
- 9.3.84 This assessment will only consider the development and construction phase, as the activity during the operational phase will be a smaller magnitude.
- 9.3.85 The effects on the transport network shall be considered within Section 8.8.

### Assessing the Significance of Effects

- 9.3.86 There is no formalised technical guidance on assessing the scale (and therefore significance) of socio-economic effects. Therefore, the magnitude of the effects, and the sensitivity of each receptor will be based on professional judgment.
- 9.3.87 The significance of effects, and relationship between magnitude and sensitivity, will be assessed in line with the general approach outlined in Section 5.

## Relevant Embedded Mitigation Measures

9.3.88 The Applicant will take a proactive approach to mitigation and enhancement measures to maximise the positive effects of the Project and minimise any negative effects that are identified. The assessment of effects has not been completed at this stage; however, it is expected that the following mitigation and enhancement measures will be embedded by the Applicant.

### Measures to Maximise Local Economic Benefit

9.3.89 The Applicant will consider:

- proactively engaging with local economic development stakeholders and industry groups, including Grimsby Renewables Partnership, The Humber Offshore Wind Cluster and Team Humber Marine Alliance, to understand the capacity for local companies to be involved in the supply chain for the Project;
- work with local economic development stakeholders to identify any potential barriers to entry for this market and actively work towards removing these barriers, for example this could involve managing all contract opportunities generated by the Project in a manner that reduces the administrative burden on SMEs;
- engage at an early stage with education and training providers to identify potential skills gaps and opportunities for collaboration;
- engage with other developers in the area to improve opportunities for the local supply chain; and
- include reporting requirements on the level of UK content as part of the tendering process for Tier 1 contracts.

### Measures to Minimise Negative Impacts During Construction

9.3.90 Any negative socio-economic, tourism and recreational impacts associated with the construction of the Project will be a secondary effect of other identified environmental impacts, such as those identified in Traffic and Transport (Section 8.8), Landscape and Visual Impacts Assessment (Section 8.9), and Noise and Vibration (Section 8.7). The Applicant shall develop and adhere to a Code of Construction Practice (CoCP) which shall identify potential negative environmental effects and identify specific measure to mitigate against these.

## Potential Impacts Scoped In

9.3.91 A range of potential impacts on Socio-economics, Tourism and Recreation have been identified which may occur during the construction, O&M, and decommissioning phases of the Project. These impacts have been identified based on the scope of potential impacts identified in the guidance (NPS EN-1 Overarching National Policy Statement for Energy (2021)). The impacts that have been scoped into the Project's EIA are outlined in Table 9.3.11, together with a description of any proposed additional data collection (e.g., site-specific surveys) and/or supporting analyses (e.g., modelling) to enable an assessment of the impact, or references to where in this document more details on such methodology can be found.

Table 9.3.11: Impacts Proposed to be Scoped in to the Assessment for Socio-economics, Recreation and Tourism

Impact	Description	Proposed Approach To Assessment Including Description Of Any New Data Collation Required And Any Analyses (Such As Modelling)
<b>Construction</b>		
Economy	Employment and GVA impacts associated with the development and construction of the Project. This will include impacts within all of the study areas.	Quantitative input-output economic modelling based on expected level of expenditure in each area.
Tourism Economy	Changes to visitor behaviour as a result of the construction of the offshore and onshore elements of the Project, which will impact on the performance of the tourism economy	This assessment will be informed by the comparative performance of the tourism economy in areas that have experienced similar effects due to the construction of energy infrastructure.
Recreational Assets	Changes to behaviour and outcomes of recreational users as a result of the offshore and onshore elements of the Project.	This assessment will be informed by the likely effects that may be experienced by individual assets due to the construction of energy infrastructure and how this is likely to change visitor behaviour. In particular it will consider the likely magnitude of any effect, such as visual, traffic or noise, and the sensitivity of each asset to such effects.
Increased vessel movements associated with the construction and installation of WTGs, platforms and export cables	Increased vessel movements associated with the construction and installation of WTGs, platforms and export cables may impact on recreation activities and other socio-economic and tourism activities.	This assessment will be informed by the maximum number of return trips and types of vessels associated with the construction of the Project. The sensitivity of each of the potential receptors will be considered for increased vessel activity. This assessment will also be informed by and draw on, the conclusions of the Shipping and Navigation PEIR (and ES) chapter and the Navigation Risk Assessment (NRA).
Activity or access displacement	Displacement of activities or access associated with construction activities,	This assessment will consider the presence of the Project's vessels engaged in active construction, such as foundation or



Impact	Description	Proposed Approach To Assessment Including Description Of Any New Data Collation Required And Any Analyses (Such As Modelling)
	potentially affecting recreation activities and other socio-economic and tourism activities.	platform installation, and the associated activity or displacement effects on each of the identified receptors.
Direct disturbance and damage to existing marine assets and infrastructure	Direct interaction with other assets which could result in direct damage or alteration in operation of the asset, including marine recreation and other socioeconomic and tourism activities.	This assessment will consider the mitigation measures and will determine the sensitivity of receptors to the proposed activities with these measures in place.
Demographic and Service Demand Impacts, including short term accommodation demand	The potential influx of new people into the area to support the development and construction the Project may have impacts on the demand for community services and structure of the population.	The change in demand as a result of the Project will be assessed against the baseline demand for these services in the study areas. This will allow the magnitude of impact and sensitivity of each receptor to be identified. The significance of each impact will then be assessed in line with the general approach outlined in Section 5.
<b>Operation and Maintenance</b>		
Economy	Employment and GVA impacts associated with the O&M of the Project. This will include impacts within all of the study areas.	Quantitative input-output economic modelling based on expected level of expenditure in each area.
Tourism Economy	Changes to visitor behaviour as a result of the O&M of the offshore and onshore elements of the Project, which will impact on the performance of the tourism economy	This assessment will be informed by the comparative performance of the tourism economy in areas that have experienced similar effects due to the operation of energy infrastructure.
Recreational Assets	Changes to behaviour and outcomes of recreational users as a result of the offshore and onshore elements of the Project.	This assessment will be informed by the likely effects that may be experienced by individual assets due to the construction of energy infrastructure and how this is likely to change visitor behaviour. In particular it will consider the likely magnitude of any effect, such as visual, traffic or noise, and the sensitivity of each asset to such effects.

Impact	Description	Proposed Approach To Assessment Including Description Of Any New Data Collation Required And Any Analyses (Such As Modelling)
Increased vessel traffic	Increased vessel movements associated with O&M may impact on marine recreation users.	The same approach will be adopted as impact 'Construction: Increased vessel movements associated with the construction and installation of WTGs, platforms and export cables'.
Activity or access displacement	Displacement of activities or access associated with O&M activities.	See Section 9.3.74 on Proposed Methodology: Tourism and Recreational Assessment.
Physical presence of infrastructure	Physical presence of infrastructure could interfere with socio-economic factors, including: recreation activities and other socio-economic and tourism activities	This assessment will consider the mitigation measures and will determine the sensitivity of receptors to the physical presence of infrastructure. The impact on receptors will then be assessed by the degree of spatial and temporal overlap with such activities, both directly and with a buffer.
<b>Decommissioning</b>		
Economy	Employment and GVA impacts associated with the development and operation of the Project. This will include impacts within all of the study areas.	See section above on Proposed Methodology.
Tourism Economy	Changes to visitor behaviour as a result of the decommissioning of the offshore and onshore elements of the Project, which will impact on the performance of the tourism economy	The same approach will be adopted as impact 'Construction: Tourism Economy'.
Recreational Assets	Changes to behaviour and outcomes of recreational users as a result of the offshore and onshore elements of the Project.	The same approach will be adopted as impact 'Construction: Onshore Recreational Assets'.
Increased vessel movements associated with the construction and installation of WTGs,	Increased vessel movements associated with the decommissioning of WTGs, platforms and export cables.	The same approach will be adopted as impact 'Construction: Increased vessel movements associated with the construction and installation of WTGs, platforms and export cables'.

Impact	Description	Proposed Approach To Assessment Including Description Of Any New Data Collation Required And Any Analyses (Such As Modelling)
platforms and export cables.		
Activity or access displacement	Displacement of activities or access associated with decommissioning activities.	The same approach will be adopted as impact 'Construction: Activity or access displacement'.
Direct disturbance and damage to existing assets and infrastructure resulting from increased vessel movements	Direct interaction during decommissioning with assets could result in direct damage or alteration in operation of the asset.	The same approach will be adopted as impact 'Operation: Increased vessel movement'.

- 9.3.92 It is likely that there will be cumulative effects requiring assessment due to the spatial scope of the Project and associated assessment. A list of socio-economic receptors requiring consideration for the assessment will be provided at PEIR. Cumulative effects on socio-economic aspects resulting from the effects of the Project and other developments will be assessed in accordance with the guidance and methodologies set out above and considering the other developments that have been screened in as part of the CEA screening exercise.
- 9.3.93 All impacts considered for the Project alone have the potential to act cumulatively with other plans and projects within the study area. Cumulative effects occur when there is both a temporal overlap, and a spatial overlap (or overlap of the zones of influence (Zol)) of activities from projects not part of the baseline environment (i.e., planned, or areas of growth) or existing activities that have ongoing effects. Due to the close proximity of the Project and a number of socio-economic receptors, it is likely that there will be potentially significant cumulative effects requiring assessment. Therefore, at PEIR, all impacts considered for the Project alone will also be considered cumulatively with other plans and projects.

### Impacts Proposed to be Scoped Out

- 9.3.94 Based on the baseline environment information currently available and the project description (outlined in Section 3) a number of impacts are proposed to be scoped out of the EIA for Socio-economics, Tourism and Recreation. These impacts are outlined in Table 9.3.12 together with a justification for scoping them out.

Table 9.3.12: Impacts Proposed to be Scoped out of Assessment for Socio-economics, Tourism and Recreation

Impact	Justification for Scoping Out
<b>All Phases</b>	
Transboundary effects	These will not be considered as part of the economic impact assessment because the economic impacts will be dependent on properties of the national economies for where this activity occurs. At the stage of the assessment, it will not be known what these countries will be and therefore it will not be possible to reliably model these impacts.
<b>Operation and Maintenance</b>	
Demographic and Service Demand Impacts – including long term housing/accommodation	There is unlikely to be a significant increase in population within the study areas as a result of the operational phase of the Project.
<b>Decommissioning</b>	
Demographic and Service Demand Impacts	There is unlikely to be a significant increase in population within the study areas as a result of the decommissioning phase of the Project.

## Potential Transboundary Effects

- 9.3.95 The approach to assessment of potential transboundary effects is described in Section 5 of this Scoping Report.
- 9.3.96 In general, the majority of socio-economic effects generated by the Project, and considered within the assessment will be localised and relevant to the study area and ZoI, including impacts on recreation and tourism.
- 9.3.97 The widest study area used in this assessment is the UK. However, the Project will result in supply chain expenditure abroad, in addition to demand for specialist skills which are not available locally. This will, in turn lead to socio-economic impacts to areas outside the UK in the form of job creation and contribution to GVA/ Gross Domestic Product (GDP) growth. These will not be considered as part of the economic impact assessment because the economic impacts will be dependent on properties of the national economies for where this activity occurs. At the stage of the assessment, it will not be known what these countries will be and therefore it will not be possible to reliably model these impacts.
- 9.3.98 Given the limited spatial extent of the effects and issues related to economic and supply chain assessment beyond the UK it is proposed to scope transboundary impacts out of the further EIA process for socioeconomic receptors.

## Summary of Next Steps

- 9.3.99 The next steps for socio-economics will be as follows:
- Undertake a comprehensive review of baseline data from published sources;
  - Develop the Project's community engagement strategy;
  - Assemble the Project's specific data and/ or assumptions regarding likely investment and procurement strategy as basis for economic modelling;
  - Use the Project's specific data and/ or assumptions to model the influx of workers to allow assessment of impact on community services and accommodation;
  - Engage with other specialist EIA teams such as Traffic and Transport, Seascape, Landscape and Visual Impact Assessment and Landscape and Visual Impact Assessment to understand likely impacts on tourism, recreation and community receptors; and
  - Consult with relevant bodies for economic and recreation/tourism effects and supply chain engagement.

## Further Consideration for Consultees

- Do you agree that the data sources identified are sufficient to inform the socio-economics, tourism and recreational baseline for the Project's PEIR and ES?
- Have all potential impacts resulting from the Project's been identified for socio-economic receptors?
- Do you agree that the impacts described in Table 9.3.12 can be scoped out?

- For those impacts scoped in (Table 9.3.11), do you agree that the methods described are sufficient to inform a robust impact assessment?
- Do you agree that the embedded mitigation measures described provide a suitable means for managing and mitigating the potential effects of the Project on Socio-economic, Tourism and Recreation receptors?
- Do you have any specific requirements for the Socio-economic, Tourism and Recreational modelling methodology?

## 10 Summary and Next Steps

### 10.1 Overview

- 10.1.1 The information set out in this EIA Scoping Report is provided to support the Applicant's request for a Scoping Opinion from the SoS in relation to the development of the Project due to the Project being an offshore generating station of greater than 100 MW capacity located in English waters and thereby qualifying as an NSIP projects requiring a DCO under the Planning Act 2008.
- 10.1.2 The Project will have a generating capacity of up to 1500 MW and is located approximately 54 km off the coast of Lincolnshire. The Applicant intends to reduce the size of the array area from 500 km<sup>2</sup> to an area of up to 300 km<sup>2</sup> prior to consent. Connection to the onshore transmission grid to be made by offshore and onshore export cables to a grid connection point in Lincolnshire.
- 10.1.3 Sections 7 and 8 of this Scoping Report identify potential impacts based upon an understanding of the environmental conditions likely to be encountered within the relevant AoS utilising publicly available data sources, and the known or expected potential effects arising from the construction, operation and decommissioning of the Project alongside a consideration of the adopted commitments and mitigation applied by the Applicant at this stage. Where potential impacts have been scoped out, justification has been provided within the relevant subsections of this report.
- 10.1.4 Table 10.1.1 lists the impacts which, it is proposed, during construction, operation and/or decommissioning phases, will be scoped in for further consideration in the EIA process and those impacts which will be scoped out of the Project from consideration in the EIA process.

Table 10.1.1: Impacts To be Scoped In and Scoped Out for Further Assessment

(✓ means the impact is scoped in and X means the impact is scoped out)

Potential Impact	Relevant Project Phase		
	Construction	Operations & Maintenance	Decommissioning
<b>Offshore Technical Topics</b>			
<b>Marine Physical Processes</b>			
Seabed scouring	✓	X	✓
Cumulative modifications to the wave and tidal regime and associated potential impacts to the sediment transport regime	✓	X	✓
<b>Marine Water and Sediment Quality</b>			
Accidental releases or spills of materials or chemicals	X	X	X
Deterioration in water quality due to re-suspension of sediments and contaminants resulting from scour	✓	X	✓
<b>Benthic Subtidal and Intertidal Ecology</b>			
Accidental Pollution Event	X	X	X
Increased risk of introduction or spread of Marine INNS	✓	X	✓
Changes in physical processes resulting from the presence of the OWF subsea infrastructure e.g., scour effects, changes in wave/ tidal current regimes and resulting effects on sediment transport	✓	X	✓
EMFeffects generated by inter-array and export cables. This may have indirect effects on benthic ecology	✓	X	✓
<b>Fish and Shellfish Ecology</b>			
Accidental pollution	X	X	X
Direct disturbance	✓	X	✓
Impacts on fishing pressure due to displacement	X	X	X
<b>Marine Mammals</b>			
Accidental pollution	X	X	X



Potential Impact	Relevant Project Phase		
	Construction	Operations & Maintenance	Decommissioning
Barrier effects	✓	X	✓
EMF	✓	X	✓
Disturbance at haul-outs	X	✓	✓
<b>Intertidal and Offshore Ornithology</b>			
Disturbance and displacement: Intertidal ECC	X	X	✓
Barrier effects: Array	✓	X	✓
<b>Marine Archaeology</b>			
No impacts have been identified at this stage to be scoped out for the assessment			
<b>Commercial Fisheries</b>			
Additional steaming to alternative fishing grounds for vessels that would otherwise fish within the Project area	X	X	X
<b>Shipping and Navigation</b>			
No impacts have been identified at this stage to be scoped out for the assessment			
<b>Aviation, Radar and Military</b>			
Impact on civil and military PSR systems	X	✓	✓
Impacts from the offshore ECC	X	X	X
Impact on civil and military SSR systems	✓	X	✓
Impact on Humberside Airport PSR, Norwich Airport PSR, RAF Coningsby PSR, RAF Marham PSR and RAF Waddington PSR	✓	X	✓
Creation of an aviation obstacle environment	✓	✓	X
Impact on NERL Cromer and Claxby, and MoD Staxton Wold and Trimingham AD PSR systems	✓	✓	X
<b>Seascape, Landscape and Visual</b>			
Construction and decommissioning phase seascape, landscape and visual effects as a result of the Project array area	X	✓	X

Potential Impact	Relevant Project Phase		
	Construction	Operations & Maintenance	Decommissioning
Construction and decommissioning phase seascape, landscape and visual impacts of the Project outside the 60km radius SLVIA study area	X	✓	X
Construction and decommissioning phase landscape impacts of the Project on the character of landscapes (LCTs) located outside the ZTV and/or inland from the coast, where the land is unlikely to have a strong visual relationship with the sea or intervisibility of the Project	X	✓	X
Impacts of the construction and decommissioning of the Project on physical aspects of landscape character	X	✓	X
The seascape, landscape and visual impacts of the offshore cable route construction	X	✓	✓
Impact of the Project array area lighting on seascape, landscape and visual receptors at night during construction and decommissioning	X	✓	X
Construction and decommissioning phase seascape, landscape and visual impacts of the Project outside the 60km radius SLVIA study area	X	✓	X
The seascape, landscape and visual effects of the operation of the offshore cable route, array area and outside the 60km radius SLVIA study area	✓	X	✓
Impact of the Project array area aviation and marine navigation lighting on seascape, landscape and visual receptors at night during O&M i.e. night-time effects	✓	X	✓
Impact of the O&M of the Project array area on the views experienced by offshore visual receptors	✓	X	✓
<b>Infrastructure and Other Marine Users</b>			
Effects on OWF	X	X	X
Effects on wave and tidal energy sites.	X	X	X
Effects on oil and gas activity	X	X	X
Effects on CCUS	X	X	X
Effects on nuclear facilities	X	X	X
Effects on electricity interconnector and telecommunication cables	X	X	X

Potential Impact	Relevant Project Phase		
	Construction	Operations & Maintenance	Decommissioning
Effects on waste water assets	X	X	X
Effects on marine disposal	X	X	X
Effects on aggregate dredging	X	X	X
<b>Onshore Technical Topics</b>			
<b>Air Quality</b>			
Emissions generated from operation of NRMM during the construction phase	X	✓	✓
Operational phase traffic movements	✓	X	✓
Decommissioning phase traffic movements and other works	✓	✓	X
<b>Archaeology and Cultural Heritage</b>			
The consideration of indirect (setting) effects caused by the construction of the onshore export cable on designated heritage assets located in excess of 500m from the route	X	✓	✓
The consideration of indirect (setting) effects caused by the presence of the substation(s) on designated heritage assets in excess of 2km from the installations	✓	X	✓
The consideration of indirect (setting) effects caused by the offshore turbines and substations on terrestrial designated heritage assets not highlighted by stakeholders or identified as being potentially sensitive by the heritage consultant	✓	X	✓
<b>Onshore Ecology</b>			
No impacts have been identified at this stage to be scoped out for the assessment			
<b>Geology, Ground Conditions and Land Quality</b>			
Operational impacts on geology/ground conditions and associated longer term risks to human and environmental receptors	✓	X	✓
Loss of agricultural land from operation of underground cables	X	X	✓
Routine maintenance effects on sterilisation of minerals and loss of agricultural land	✓	X	✓
<b>Hydrology, Hydrogeology and Flood Risk</b>			
Accidental spillages and leakages of oils, fuel and other polluting substances which could potentially enter the water environment	X	X	X

Potential Impact	Relevant Project Phase		
	Construction	Operations & Maintenance	Decommissioning
Any impact on WFD status for assessed surface water or groundwater bodies	✓	X	✓
<b>Land Use</b>			
Highway infrastructure	X	✓	✓
Agricultural Productivity	✓	X	✓
Drainage	✓	X	✓
Outdoor Recreation Land	✓	X	✓
PRoW	✓	X	✓
Tourism	✓	X	✓
<b>Noise and Vibration</b>			
Construction and decommissioning of the offshore extent of the ECC and the Project array areas on the nearest onshore NSRs	X	✓	X
Vibration effects arising from the operation of the OnSS	✓	X	✓
Noise and vibration effects associated with the operation of the underground cable	✓	X	✓
Operation of the Project array area on the nearest onshore NSRs	✓	X	✓
<b>Traffic and Transport</b>			
Noise	X	✓	✓
Disruption to the railway	X	✓	✓
Any impacts during operation	✓	X	✓
<b>Landscape and Visual Impact Assessment</b>			
Effect of export cable landfall	✓	X	✓
Effect of onshore ECC	✓	X	✓
<b>Wider Topics</b>			
<b>Human Health</b>			
Impact on health due to air emissions including dust and emissions	✓	X	✓
Impact on health due to water environment	✓	X	✓
Impacts on health due to soil emissions (including hazardous waste and substances)	✓	X	✓

Potential Impact	Relevant Project Phase		
	Construction	Operations & Maintenance	Decommissioning
Disruption to local road network (reduced access to services and amenities)	✓	X	✓
Impacts on health due to exposure of EMFs	X	X	X
Impacts on health due to pests	X	X	X
Impacts on health due to odours	X	X	X
<b>Climate Change</b>			
Impacts on climate resilience during the construction and decommissioning phase	X	✓	X
<b>Socio-Economic</b>			
Transboundary effects	X	X	X
Demographic and Service Demand Impacts – including long term housing/accommodation	✓	X	✓
Demographic and Service Demand Impacts	✓	✓	X

## 10.2 Cumulative Effects

10.2.1 A detailed CEA will be undertaken as part of the EIA process and will be reported in the final ES to support the DCO application. A preliminary draft will also be provided as part of the PIER and this will be subject to statutory consultation prior to the application being made. The methodology will follow current industry best practice and be consistent with the advice provided by the Inspectorate (in Advice Note Seventeen: Cumulative Effects Assessment (The Inspectorate, 2019)).

## 10.3 Transboundary Impacts

10.3.1 As part of this Scoping Report, and in line with the advice provided by the Inspectorate (Advice Note Twelve: Transboundary Impacts and Process (The Inspectorate, 2020)), a transboundary impacts screening exercise has been completed. Transboundary impacts have been screened out for all onshore topics and for most offshore topics, except in relation to the following topics where, based on current information available, the Project has the potential to have significant effects on the environment in other EEA States:

- Marine Mammals;
- Offshore and Intertidal Ornithology;
- Commercial Fisheries;
- Shipping and Navigation; and
- Aviation, Radar, Military and Communication.

## 10.4 Consultation

10.4.1 In developing the EIA, throughout the pre-application and in addition to and alongside the statutory pre-application consultation process prescribed by the Planning Act 2008, the Applicant has and expects to continue to undertake detailed consultation. This will include engagement with a range of bodies, interested groups and local communities to both seek views on the proposed Project and to continue to refine and develop the approach to the EIA, whilst taking full account of the views expressed in the Scoping Opinion.

## 10.5 Proposed Structure of the EIA

10.5.1 The structure of the PEIR and the final ES will be designed to enable robust and consistent consideration of the likely significance of effects, including cumulative effects, that are most likely to arise from the development of the Project.

- 10.5.2 The matters that the Applicant considers are suitable to be included in the PEIR and ES as well as those matters that it is considered appropriate to scope out, are summarised within each of the technical sections above and in Table 10.1.1. The technical chapters of the PEIR and ES will be refined and informed by the Scoping Opinion and ongoing consultation throughout the pre-application process. Technical supporting information and principal drawings will be provided as appendices to the main PEIR and ES. A non-technical summary will also accompany the main technical element of the PEIR and ES. The approach to the PEIR and ES will be in accordance with good practice guidance provided by recognised bodies such as IEMA.
- 10.5.3 The assessment of each technical topic will address the following (adapted as necessary to meet the specific technical and assessment characteristics of each topic):
- **Statutory and policy context:** A summary of the relevant legislation and national policy that have been taken into account in assessing each individual topic;
  - **Consultation:** A summary of the consultation responses received to date from statutory consultees and outcomes of the Scoping process, PEIR and the ongoing EPP;
  - **Scope and methodology:** Detail confirming the extent of the study area, describing baseline data sources and survey methodology and topic specific detail on the approach to the impact assessment;
  - **Existing environment:** Description of the existing and likely evolving future environment;
  - **Identification of future scenarios** in the baseline and key uncertainties likely to materially affect the assessment process;
  - **Key parameters for assessment and definition of the MDS:** A summary of the key parameters of proposed activities and/ or infrastructure and justifies the maximum adverse scenario assessed for each potential effect;
  - **Embedded mitigation:** Detail on any mitigation measures that have been identified and adopted as part of the evolution of the Project design (i.e. embedded into the Project design) of relevance to the topic;
  - **Environmental assessment of those effects scoped into the EIA:** An assessment of the significance of any identified effects and the magnitude of the potential impacts that may arise during the construction, operation and decommissioning phases of the development. This section will take account of any embedded mitigation and identify any further relevant mitigation measures required to avoid, reduce and if possible, remedy any adverse effects and will present an assessment of the confidence of any assessments of effect;
  - **Residual Impacts:** Identification of residual impacts (taking into account embedded and further mitigation, where relevant);
  - **Inter-relationships:** An assessment of the potential for, and significance of, any effects on the topic area from multiple impacts arising from the Project (for example direct impacts of noise from piling plus indirect impacts from potential sediment plumes changing the nature of feeding or spawning grounds on fish and shellfish together could have an effect significance greater than either impact assessed individually);

- **Cumulative impacts:** An assessment of any cumulative impacts arising from interaction with other projects, plans or activities (onshore and in UK territorial waters) where these impacts have not been scoped out for further consideration;
- **Transboundary impacts (offshore only):** An assessment of any impacts from the Project on the environment of other European Economic Zones where these impacts have not been scoped out for further consideration; and
- **Further Monitoring:** Identification of any further monitoring required and, where relevant, in principle monitoring plans will be drafted to accompany the DCO application

## 10.6 Next Steps

- 10.6.1 Consultees responding to the request for views on the scope of the EIA in response to this Scoping Report are encouraged to respond in as much detail as possible and specifically to address the specific questions set out at the end of each section of the Scoping Report. This will be helpful to the Applicant in understanding the response, in determining the acceptability of the proposed scope of the EIA and the approach to be adopted in undertaking the remaining EIA process, and to focus further discussions during the ongoing consultation planned post scoping and throughout the pre-application phase.
- 10.6.2 Subsequently the Applicant will prepare the PEIR to support the statutory consultation which will be intended to be, as far as possible, a substantially complete version of the final ES noting that nonetheless amendments to the draft will be required post consultation to account for change to the Project, additional data collected subsequently and the views of consultees. The Applicant expects to publish the PEIR and undertake the statutory consultation process in Q1 2023.
- 10.6.3 Following the statutory consultation, the Applicant expects to refine the Project and develop the final form of the DCO application, before making an application to the SoS by the end of 2023 accompanied by the final ES.



## References

### Introduction

HM Government (2008) Planning Act 2008. Available at:

<https://www.legislation.gov.uk/ukpga/2008/29/contents> [Accessed: January 2022]

HM Government (2017) The Infrastructure Planning (Environmental Impact Assessment)

Regulations 2017. Available at: <https://www.legislation.gov.uk/uksi/2017/572/contents/made> [Accessed: January 2022]

HM Government (2020) The Infrastructure Planning (Publication and Notification of Applications, etc.) (Amendment) Regulations 2020. Available at:

<https://www.legislation.gov.uk/uksi/2020/1534/contents> [Accessed: January 2022]

The Inspectorate (2020) Advice Note Seven: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping. Available at:

<https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-environmental-statements/> [Accessed: October 2021].

### Need, Policy and Legislative Context

DECC (2011a). Overarching National Policy Statement for Energy (NPS EN-1). Available online:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/47854/1938-overarching-nps-for-energy-en1.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf) [Accessed: December 2021]

DECC 2014. Updated energy and emissions projections. Available online:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/368021/Updated\\_energy\\_and\\_emissions\\_projections2014.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/368021/Updated_energy_and_emissions_projections2014.pdf) [Accessed: December 2021]

DECC (2011b). National Policy Statement for Renewable Energy Infrastructure (NPS EN-3). Available online:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/47856/1940-nps-renewable-energy-en3.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47856/1940-nps-renewable-energy-en3.pdf) [Accessed: December 2021]

DECC (2011c). National Policy Statement for Electricity Networks Infrastructure (NPS EN-5).

Available online:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/47858/1942-national-policy-statement-electricity-networks.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47858/1942-national-policy-statement-electricity-networks.pdf) [Accessed: December 2021]

Department for Environment, Food & Rural Affairs (Defra) (2018). At a glance: summary of targets in our 25 year environment plan. Policy paper, UK Government. Available online:

<https://www.gov.uk/government/publications/25-year-environment-plan/25-year-environment-plan-our-targets-at-a-glance> [Accessed: October 2021]

Department for Environment, Food & Rural Affairs (Defra) (2021). Policy paper Changes to the Habitats Regulations 2017. Published 1 January 2021

HM Government (2022) British Energy Security Strategy. Available at: British energy security strategy - GOV.UK ([www.gov.uk](http://www.gov.uk)) [Accessed: May 2022]

HM Government (2008) Climate Change Act 2008. Available at: <https://www.legislation.gov.uk/ukpga/2008/27/contents> [Accessed: January 2022]

National Infrastructure Commission (NIC) (2018). National Infrastructure Assessment. Available online: [https://nic.org.uk/app/uploads/CCS001\\_CCS0618917350-001\\_NIC-NIA\\_Accessible-1.pdf](https://nic.org.uk/app/uploads/CCS001_CCS0618917350-001_NIC-NIA_Accessible-1.pdf) [Accessed: October 2021]

## **Description of Project**

DECC, (2011a), ‘Overarching National Policy Statement for Energy (NPS EN-1)’, Available from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/47854/1938-overarching-nps-for-energy-en1.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf) [Accessed: December 2021]

DECC, (2011b), ‘National Policy Statement for Renewable Energy Infrastructure (NPS EN-3)’, Available from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/47856/1940-nps-renewable-energy-en3.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47856/1940-nps-renewable-energy-en3.pdf) [Accessed: December 2021]

The Inspectorate (the Inspectorate) (2012a), ‘Advice Note Nine: Rochdale Envelope’, Available from: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-nine-rochdale-envelope/> [Accessed: December 2021]

The Inspectorate (the Inspectorate) (2012b), ‘National Policy Statements’, Available from: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/national-policy-statements/> [Accessed: December 2021]

## **Site Selection and Consideration of Alternatives**

BEIS (2022). Policy paper: British energy security strategy. Available at: <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy#foreword-from-the-prime-minister> [Accessed: May 2022]

## **EIA Methodology**

Centre for Environment, Fisheries and Aquaculture Science (Cefas) (2004) Offshore Wind Farms: Guidance Note for Environmental Impact Assessment in Respect of Food and Environment Protection Act 1985 and Coastal Protection Act 1949 requirements – Version 2.

Centre for Environment, Fisheries and Aquaculture Science (Cefas) (2012) Guidelines for data acquisition to support marine environmental assessments of offshore renewable energy projects. Report reference: ME5403 – Module 15.

Chartered Institute of Ecology and Environmental Management (CIEEM) (2019) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.

Institute of Environmental Management & Assessment (IEMA) (2004) Guidelines for Environmental Impact Assessment, IEMA Lincoln.

Institute of Environmental Management & Assessment (IEMA) (2016) Environmental Impact Assessment Guide to: Delivering Quality Development, IEMA Lincoln.

Institute of Environmental Management & Assessment (IEMA) (2017) Delivering Proportionate EIA - A Collaborative Strategy for Enhancing UK, IEMA Lincoln.

OSPAR Commission (2008), OSPAR Guidance on Environmental Considerations for Offshore Wind Farm Development. Reference number: 2008-3.

Natural England (2021) Natural England's Approach to Offshore Wind: Our ambitions, aims and objectives. Available at: <http://publications.naturalengland.org.uk/publication/5400620875120640> [Accessed: June 2022]

The Inspectorate (2017) Advice Note Three: EIA Consultation and Notification. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-three-eia-notification-and-consultation-2/> [Accessed: December 2021]

The Inspectorate (date unknown) Advice Note Six: Preparation and Submission of Application Documents. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-six-preparation-and-submission-of-application-documents/> [Accessed: December 2021]

The Inspectorate (2020a) Advice Note Seven: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-environmental-statements/> [Accessed: December 2021]

The Inspectorate (2018) Advice Note Nine: Rochdale Envelope. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-nine-rochdale-envelope/> [Accessed: December 2021]

The Inspectorate (2020b) Advice Note Twelve: Transboundary Impacts and Process. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-twelve-transboundary-impacts-and-process/> [Accessed: December 2021]

The Inspectorate (2019) Advice Note Seventeen: Cumulative effects assessment. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-17/> [Accessed: December 2021]

RenewableUK (2013) Cumulative Impact Assessment Guidelines - Guiding Principles for Cumulative Impact Assessment in Offshore Wind Farms.

## Consultation Process

The Inspectorate (2017a) Advice Note Three: EIA Consultation and Notification. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-three-eia-notification-and-consultation-2/> [Accessed: December 2021]

The Inspectorate (2017b) Advice Note Eleven, Annex H – Evidence Plans for Habitats Regulations Assessments of Nationally Significant Infrastructure Projects. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/an-eleven-annex-h/> [Accessed: December 2021]

The Inspectorate (2021) Advice Note Fourteen: Compiling the Consultation Report. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-fourteen-compiling-the-consultation-report/> [Accessed: June 2022]

## Marine Physical Processes

ABPmer (2017), 'Atlas of UK Marine Renewable Energy'. Interactive Map. Available at: <https://www.renewables-atlas.info/explore-the-atlas/>

ABPmer & HR Wallingford (2009), 'Coastal Process Modelling for Offshore Wind farm Environmental Impact Assessment: Best Practice Guide'. For COWRIE. Available at: <http://www.offshorewindfarms.co.uk>.

ABPmer and METOC, (2002), 'Potential effects of offshore wind developments on coastal processes'.

ABPmer, Cefas and HR Wallingford (2007), 'Review of Round 1 Sediment process monitoring data - lessons learnt. (Sed01)'.

ABPmer, HR Wallingford & Cefas (2010), 'Further review of sediment monitoring data'. (COWRIE ScourSed-09).

ABPmer, Met Office and SeaRoc UK Ltd (2008), 'Guidelines in the use of metocean data through the lifecycle of a marine renewables development'.

Balson, P. S. 1999, 'The Holocene Coastal Evolution of Eastern England: Evidence from the southern North Sea'. Proceedings of Coastal Sediments '99. pp1284-1293

BERR, (2008), 'Review of Cabling Techniques and Environmental Effects applicable to the Offshore Wind farm Industry'. Department for Business Enterprise and Regulatory Reform in association with Defra.

Bonaduce, A., Staneva, J., Behrens, A., Bidlot, J-R., and Wilcke, R.A.I, (2019). 'Wave Climate Change in the North Sea and Baltic Sea'. Journal of Marine Science and Engineering, 2019(7), DOI:10.3390/jmse7060166.

Briggs, K., Thomson, K., and Gaffney, V., (2007). 'A geomorphological investigation of submerged depositional features within the Outer Silver Pit, Southern North Sea.'

- Brooks, A.J., Whitehead, P.A., Lambkin, D.O. (2018). 'Guidance on Best Practice for Marine and Coastal Physical Processes Baseline Survey and Monitoring Requirements to inform EIA of Major Development Projects. NRW Report No: 243, 119 pp, Natural Resources Wales, Cardiff.
- Brown, S., Barton, M.E., and Nicholls, R.J., 2012. 'The effect of coastal defences on cliff top retreat along the Holderness coastline'. Proceedings of the Yorkshire Geological Society, 59 (1), 1 – 13. DOI: 10.1144/pygs.59.1.288.
- BSI (2015), 'Environmental impact assessment for offshore renewable energy projects.' Standard number PD 6900:2015.
- Cathie (2021). Desktop Study and Preliminary Ground Model. UK Round 4 Offshore Windfarm – Outer Dowsing. Report for Total E&P.
- Cefas (2004), 'Offshore Wind Farms: Guidance Note for Environmental Impact Assessment in Respect of Food and Environment Protection Act 1985 and Coastal Protection Act 1949 requirements – Version 2 - June 2004'. Prepared by CEFAS on behalf of the Marine Consents and Environment Unit (MCEU).
- Cefas (2011), 'Guidelines for data acquisition to support marine environmental assessments of offshore renewable energy project's. Report reference: ME5403 – Module 15.
- Cefas (2016), 'Sediment Climatologies around the UK'. Report for the UK Department for Business, Energy & Industrial Strategy offshore energy Strategic Environmental Assessment programme.
- Centrica (RBW) Ltd (2008). 'Race Bank Environmental Statement. Chapter 5: Physical Environment'.
- Defra (2002). 'Futurecoast'.
- DONG energy (2009). 'Westermost Rough Offshore Wind Farm: Environmental Statement'.
- EDF ENERGY, SZC and CGN (2020). 'The Sizewell C Project. Volume 2 Main Development Site, Chapter 20 Coastal Geomorphology and Hydrodynamics'. Revision 1.0. The Inspectorate Reference Number: EN010012.
- Environment Agency (2019a). 'Saltfleet to Gibraltar Point Strategy'.
- Environment Agency (2019b). 'Saltfleet to Gibraltar Point Strategy. Strategic Environmental Assessment: Environmental Report'.
- Environment Agency (2010). 'The Wash Shoreline Management Plan 2: Gibraltar Point to Old Hunstanton.
- E.ON (2008). 'Humber Gateway Offshore Wind Farm: Offshore ES. Section 7 Description of the Physical Baseline Environment'.
- Flather, R.A., (1987), 'Estimates of extreme conditions of tide and surge using a numerical model of the north-west European continental shelf'. Estuarine, Coastal and Shelf Science, 24, 69-93.
- Folk, R.L. (1954), 'The Distinction between Grain Size and Mineral Composition in Sedimentary-Rock Nomenclature'. Journal of Geology, 62, 344-359.

Fugro-Emu (2014), 'Review of environmental data associated with post-consent monitoring of licence conditions of OWFs'. MMO Project No: 1031.

Lambkin, D.; Harris, J.; Cooper, W.; Coates, T. (2009), 'Coastal Process Modelling for Offshore Windfarm Environmental Impact Assessment: Best Practice Guide' (Report No. COWRIE COAST-07-08). Report by ABP Marine Environmental Research Ltd (ABPmer).

Hill, A.E., James, I.D., Linden, P.F., Matthews, J.P., Prandle, D., Simpson, J.H., Gmitrowicz, E.M., Smeed, D.A., Lwiza, K.M.M., Durazo, R., Fox, A.D., Bowers, D.G., and Weydert, M., 1993, 'Dynamics of Tidal Mixing Fronts in the North Sea'. Philosophical Transactions: Physical Sciences and Engineering, Volume 343 (1669).

Holmes, R., and Wild, J.B.I (2003), 'DTI Strategic Environmental Assessment Area 2 (SEA2) geological processes (interpretation of multibeam, sidescan sonar, chirp and grain size data acquired in 2001 from the seafloor of the Norfolk Banks and Dogger Bank, southern North Sea)'. BGS Internal Report CR/03/188.

HR Wallingford (2012). 'Westermost Rough OWF: Review of potential impacts on Spurn Head'. Technical Note EBR4895-02.

HR Wallingford, ABPmer and Cefas (2007), 'Dynamics of scour pits and scour protection - Synthesis report and recommendations' (Sed02).

HR Wallingford, Cefas/UEA, Posford Hakoning and D'Olier, B. (2002), 'Southern North Sea Sediment Transport Study, Phase 2'. Report EX 4526.

JNCC and Natural England (2011), 'General advice on assessing potential impacts of and mitigation for human activities on MCZ features, using existing regulation and legislation'.

Kenyon, N., and Cooper, B. (2005), 'Sand banks, sand transport and OWFs'.

Lee, M., and Pethick, J (2018). 'Spurn: Geomorphological Assessment'. Natural England Commissioned Reports, Number 255.

Natural England (2022). 'Best Practice Advice for Evidence and Data Standards for offshore renewables projects'.

Humber Aggregate Dredging Association (HADA) (2012). 'Marine Aggregate Regional Environmental Assessment of the Humber and Outer Wash Regions'. May 2012.

MetOceanWorks (2021), 'Outer Dowsing Offshore Wind Farm: Metocean Design Criteria'. Location: central. Commercial in Confidence.

Meucci, A., Young, I.R., Hemer, M., Kirezci, E., and Ranasinghe, R., 2020. 'Projected 21st century changes in extreme wind-wave events'. Science Advances, 6 (24). DOI:10.1126/aciadv.aaz7295. Visualised in Coastal Futures, available online: <https://coastal-futures.org/>

Museum of London Archaeology (2010), 'England's Historic Seascapes: Withernsea to Skegness [data-set]'. York: Archaeology Data Service [distributor] <https://doi.org/10.5284/1000104>

Palmer., M, Howard., T, Tinker., J, Lowe., J, Bricheno., L, Calvert., D, Edwards., T, Gregory., J, Harris., G, Krijnen., J, Pickering., M, Roberts., C and Wolf., J., 2018, 'UKCP18 Marine report'. November 2018.

Pye, K., and Blott, S.J., 2015. 'Spatial and temporal variations in soft-cliff erosion along the Holderness coast, East Riding of Yorkshire, UK'. *Journal of Coastal Conservation*, 19 (785 – 808).

Scott Wilson, 2010. 'Flamborough Head to Gibraltar Point Shoreline Management Plan'. Final. December 2010. Prepared for the Humber Estuary Coastal Authorities Group.

Tappin, D R, Pearce, B, Fitch, S, Dove, D, Gearey, B, Hill, J M, Chambers, C, Bates, R, Pinnion, J, Diaz Doce, D, Green, M, Gallyot, J, Georgiou, L, Brutto, D, Marzialetti, S, Hopla, E, Ramsay, E, and Fielding, H. 2011, 'The Humber Regional Environmental Characterisation'. BGS Open Report OR/10/54. 357pp.

Triton Knoll OWFLimited, (2015). 'Environmental Statement: Physical Processes'.

Vousdoukas, M.I., Ranasinghe, R., Mentaschi, L., Plomaritis, T.A., Athanasiou, P., Luijendijk, A., and Feyen, L., 2020. 'Sandy coastlines under threat of erosion'. *Nature climate change*, 10, 260 – 263. Visualised in Coastal Futures, available online: <https://coastal-futures.org/>

## **Marine Water and Sediment Quality**

BERR. (2008). Review of Cabling Techniques and Environmental Effects applicable to the Offshore Wind farm Industry. Department for Business Enterprise and Regulatory Reform in association with Defra.

British Standards Institution (BSI). (2015). Environmental impact assessment for offshore renewable energy projects. Standard number PD 6900:2015

Cefas, (2001). The impact of disposal of marine dredged material on the Thanet Coast and Sandwich Bay Candidate Special Areas of Conservation. Cefas Contract Report AA001.

Cefas, (2011). Guidelines for Data Acquisition to Support Marine Environmental Assessments of Offshore Renewable Energy Projects.

Cefas, (2016). Suspended Sediment Climatologies around the UK. Produced for the UK Department for Business, Energy and Industrial Strategy offshore energy Strategic Environmental Assessment programme.

Collaborative Offshore Wind Energy Research into the Environment (COWRIE). (2009). Coastal Process Modelling for OWF Environmental Impact Assessment: Best Practice Guidance.

Defra (2016). List of shellfish water protected areas in England. <https://www.gov.uk/government/publications/water-framework-directive-shellfish-protected-areas> [Accessed January 2022].

DONG Energy. (2009). Environmental Statement. Westernmost Rough Offshore Wind Farm. October 2009.

- Environment Agency. (2016a). Anglian river basin district river basin management plan. <https://www.gov.uk/government/publications/anglian-river-basin-district-river-basin-management-plan> [Accessed January 2022].
- Environment Agency. (2016b). Humber river basin district river basin management plan. <https://www.gov.uk/government/publications/humber-river-basin-district-river-basin-management-plan> [Accessed January 2022].
- Environment Agency. (2016c). Water Framework Directive assessment: estuarine and coastal waters. <https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters> [Accessed January 2022].
- Equinor. (2021). Dudgeon and Sheringham Shoal OWF Extensions Preliminary Environmental Information Report (PEIR). Chapter 9 – Marine water and sediment quality. April 2021. <https://dudgeonoffshorewind.co.uk/extensionproject/documents> [Accessed January 2022].
- Gohin, F. (2011). Annual cycles of chlorophyll-a, non-algal suspended particulate matter, and turbidity observed from space and in-situ in coastal waters. *Ocean Science* 7: 705-732.
- Humber Aggregate Dredging Association (HADA). (2012). Marine Aggregate Regional Environmental Assessment of the Humber and Outer Wash Region. May 2012.
- Orsted. (2018). Hornsea Project Three Offshore Wind Farm. Environmental Statement: Volume 2, Chapter 2 - Benthic Ecology. Planning Inspectorate Document Reference: A6.2.2. APFP Regulation 5(2)(a).
- Orsted. (2021). Hornsea Project Four: Environmental Statement (ES). Planning Inspectorate Document Reference: A2.2. APFP Regulation: 5(2)(a). Volume A2, Chapter 2: Benthic and Intertidal Ecology.
- OSPAR. (2009). Assessment of the environmental impact of cables.
- OSPAR. (2017). OSPAR Intermediate Assessment 2012. <https://oap.ospar.org/en/ospar-assessments/intermediate-assessment-2017> [Accessed January 2022].
- Planning Inspectorate. (2017). Advice Note Eighteen: The Water Framework Directive. [https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2017/06/advice\\_note\\_18.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2017/06/advice_note_18.pdf) [Accessed January 2022].
- Royal Haskoning. (2009). Dudgeon OWF Environmental Statement. Section 8: Marine and coastal water quality.
- RPS Group Plc. (2009). Triton Knoll Wind Farm Environmental Statement.
- Scira Offshore Energy Ltd. (2006). Sheringham Shoal OWF Environmental Statement.
- SMart Wind Limited. (2013). Hornsea Offshore Wind Farm. Project One – Environmental Statement. Volume 2. Chapter 2 – Benthic Subtidal and Intertidal Ecology.
- SMart Wind Limited. (2015). Hornsea Offshore Wind Farm. Project Two – Environmental Statement. Volume 2 – Offshore. Chapter 2 – Benthic Subtidal and Intertidal Ecology.



Whalley, C., Rowlett, S., Bennett, M. and Lovell, D. (1999). Total arsenic in sediments from the Western North Sea and the Humber Estuary. *Marine Pollution Bulletin* 38(5): 394-400.

The Inspectorate (2017a) Advice Note Three: EIA Consultation and Notification. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-three-eia-notification-and-consultation-2/> [Accessed: December 2021]

The Inspectorate (2017b) Advice Note Eleven, Annex H – Evidence Plans for Habitats Regulations Assessments of Nationally Significant Infrastructure Projects. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/an-eleven-annex-h/> [Accessed: December 2021]

## **Benthic Subtidal and Intertidal Ecology**

AMEC (2002) Lynn and Inner Dowsing Offshore Wind Farms Pre-construction characterisation survey report. Available at: [https://portal.medin.org.uk/portal/browse\\_step.php?step=00115&count=101](https://portal.medin.org.uk/portal/browse_step.php?step=00115&count=101) [Accessed November 2021].

Ashley, M. C., Mangi, S. C. and Rodwell, L. D. (2014), 'The potential of offshore windfarms to act as marine protected areas – A systematic review of current evidence'. *Marine Policy*, 45, 301-309.

Cefas, (2004), Guidance note for Environmental Impact Assessment in respect of FEPA (Food and Environment Protection Act 1985) and CPA (Coastal Protection Act 1949) requirements. Version 2 - June 2004. Prepared by CEFAS on behalf of the Marine Consents and Environment Unit (MCEU)

Chartered Institute of Ecology and Environment Management (CIEEM) (2018), 'Guidelines for Ecological Impact Assessment in the UK and Ireland'. Terrestrial, Freshwater and Coastal. Chartered Institute of Ecology and Environmental Management, Winchester.

Department for Community and Local Government (DCLG) (2017), 'EIA Planning Practice Guidance'. July 2017. [online]. Available at: <https://www.gov.uk/guidance/environmental-impact-assessment> [Accessed January 2022].

EMODnet. (2021), 'EMODnet broad scale seabed habitat map for Europe (EUSeaMap) (2021) EUNIS 2019 habitat type'. [online]. Available at: <https://www.emodnet-seabedhabitats.eu/access-data/launch-map-viewer/> [Accessed January 2022].

EGS International (2010) Lynn and Inner Dowsing Geophysical and Biological Survey report. Available at: <https://www.marinedataexchange.co.uk/details/1031> [Accessed January 2022].

EGS International (2011) Year 1 Lynn and Inner Dowsing wind farms post-construction monitoring survey report

EMU (2005) Lincs OWFBenthic Baseline Survey Report.

Envision (2004) Sabellaria spinulosa mapping surveys. Produced for the Lynn and Inner Dowsing Offshore Wind Farm. Available at: <https://www.marinedataexchange.co.uk/details/726/2004-envision-mapping-ltd-lynn-lincs-and-inner-dowsing-offshore-windfarms-sabellaria-spinulosa-survey/summary> [Accessed January 2022].

Forewind. (2013), 'Creyke Beck – Environmental Statement'. [online]. Available at: <https://www.marinedataexchange.co.uk/details/2467/packages> [Accessed 5 January 2022].

Gardline and Titan (2013) Pre-construction benthic survey report. Available at: [https://portal.medin.org.uk/portal/browse\\_step.php?step=00115&count=301](https://portal.medin.org.uk/portal/browse_step.php?step=00115&count=301) [Accessed January 2022].

GoBe Consultants Ltd (2015) Subtidal Ecology Technical Report. Commissioned by Triton Knoll Electrical Systems. Available at: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020019/EN020019-000288-6.2.4.4.1%20Benthic%20Ecology%20-%20Subtidal%20Ecology%20Technical%20Report.pdf> [Accessed January 2022].

GOV.UK, (2021), 'Marine Management Organisation Guidance: Invertebrates'. <https://www.gov.uk/government/publications/protected-marine-species/invertebrates> [Accessed: October 2021].

Hutchison, Z. L., Gill, A. B., Sigray, P., He, H., King, J. W., (2021), 'A modelling evaluation of electromagnetic fields emitted by buried subsea power cables and encountered by marine animals: Considerations for marine renewable energy development', *Renewable Energy*, 177, 72-81pp

Institute of Estuarine and Coastal Studies (IECS) (2006) Baseline Study of the Marine Ecology at the Humber Gateway OWFDevelopment. Report ZBB649-F-2006 for Environmental Resources Management, January 2006.

IMO, (2019), 'Ballast Water Management Convention and Guidelines'. <https://www.imo.org/en/OurWork/Environment/Pages/BWMConventionandGuidelines.aspx> [Accessed: November 2021].

Joint Nature Conservation Committee (JNCC). (2007), 'UK BAP List of UK Priority Species'. [online]. Available at: <https://hub.jncc.gov.uk/assets/98fb6dab-13ae-470d-884b-7816afce42d4#UKBAP-priority-fish.pdf> [Accessed January 2022].

Joint Nature Conservation Committee (JNCC) & Natural England (2010) 'Special Area of Conservation (SAC): Inner Dowsing, Race Bank and North Ridge, SAC Selection Assessment'. Assessment Document Version 5.0. <https://data.jncc.gov.uk/data/a29c186f-6241-47dd-8077-58bbb0819522/IDRBNR-SAC-selection-assessment-v5-0.pdf> [Accessed: March 2022].

Judd, A. (2012), 'Guidelines for Data Acquisition to Support Marine Environmental Assessments of Offshore Renewable Energy Projects'. Cefas Report: ME5403, 1-99.

MarLIN (2022) 'Marine Evidence based Sensitivity Assessment (MarESA)', [https://www.marlin.ac.uk/sensitivity/sensitivity\\_rationale](https://www.marlin.ac.uk/sensitivity/sensitivity_rationale) [Accessed: January 2022].

Orsted, (2018), 'Hornsea Project Three Offshore Wind Farm: Environmental Statement - Volume 5, Annex 2.1 - Benthic Ecology Technical Report. Document Reference: A6.5.2.1, 1-100.

OSPAR (2008), 'Guidance on Environmental Considerations for OWFDevelopment'. OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic, 1-19.

PMSL (2012) Benthic monitoring programme Year 1 Report

[https://portal.medin.org.uk/portal/start.php?tpc=015\\_ec9be8d78a9a9d872c9c3f5ca4a881b1](https://portal.medin.org.uk/portal/start.php?tpc=015_ec9be8d78a9a9d872c9c3f5ca4a881b1)

[Accessed: January 2022].

PMSL (2013) Benthic monitoring programme Year 2 Report. Available at:

<https://www.marinedataexchange.co.uk/details/691/summary> [Accessed: January 2022]

Precision Marine Surveys Limited (2014). Triton Knoll Electrical System Recreational Fisheries

Technical Report. RenewableUK. (2013), 'Cumulative Impact Assessment Guidelines Guiding

Principles For Cumulative Impacts Assessment In Offshore Wind Farms'. RenewableUK, June 2013.

RPS (2014) Year 3 Lynn and Inner Dowsing wind farms post-construction monitoring survey report.

Available at: <https://www.marinedataexchange.co.uk/details/1042/summary> [Accessed January

2022].

RWE Innogy UK (2014) Triton Knoll Export Cable EIA Intertidal Characterisation 2014. Volume 4,

Annex 4.2, Environmental Statement. Report produced by Precision Marine Survey Ltd

Saad, S. A., Wade, C. M. (2017) 'Seasonal and Spatial Variations of Saltmarsh Benthic Foraminiferal

Communities from North Norfolk, England', *Microb Ecol*, 73: 539-555

Tappin, D. R., Pearce, B., Fitch, S., Dove, D., Gearey, B., Hill, J.M., Chambers, C., Bates, R., Pinnion, J.,

Diaz Doce, D., Green, M., Gallyot, J., Georgiou, L., Brutto, D., Marzialetti, S., Hopla, E., Ramsay, E.,

Fielding, H. (2011), 'The Humber Regional Environmental Characterisation', Marine Aggregate Levy

Sustainability Fund, 345pp. (OR/10/054).

Tyler-Walter, H., Tillin, H. M., d'Avack, E. A. S., Perry, F., Stamp, T. (2018), 'Marine Evidence-based

Sensitivity Assessment (MarESA) – A GUIDE. Marine Life Information Network (MarLIN)', Marine

Biological Association of the UK, Plymouth, pp. 91 <https://www.marlin.ac.uk/publications>

Westermost Rough Ltd (2014) Westermost Rough pre-construction environmental monitoring

survey reports. Available at:

[https://portal.medin.org.uk/portal/browse\\_step.php?step=00115&count=301](https://portal.medin.org.uk/portal/browse_step.php?step=00115&count=301) [Accessed: January

2022]

## **Fish and Shellfish Ecology**

Andersson, M. H., (2011), 'Offshore wind farms – ecological effects of noise and habitat alteration

on fish'. Stockholm University, Faculty of Science, Department of Zoology, 48. [online]. Available at:

<http://su.diva-portal.org/smash/record.jsf?pid=diva2:391860> [Accessed 5 January 2022].

Ashley, M. C., Mangi, S. C. and Rodwell, L. D. (2014), 'The potential of offshore windfarms to act as

marine protected areas – A systematic review of current evidence'. *Marine Policy*, 45, 301-309.

Atkinson, C. J. L., Bergmann, M. and Kaiser, M. J. (2004), 'Habitat selection in whiting'. *Journal of*

*Fish Biology*, 64/3, 788-793.

Barreto, E. and Bailey, N. (2015), 'Fish and Shellfish Stocks 2015 Edition'. Marine Scotland Science.

Brown and May Marine Ltd. (2005), 'Lynn and Inner Dowsing, Pre-construction Fish Surveys.

Callaway, R., Alsvag, J., De Boois, I., Cotter, J., Ford, A., Hinz, H., Jennings, S., Kroncke, I., Lancaster, J., Piet, G., Prince, P. and Ehrich, S. (2002), 'Diversity and Community Structure of Epibenthic Invertebrates and Fish in the North Sea'. ICES Journal of Marine Science, 59, pp. 1199-1214.

Chartered Institute of Ecology and Environment Management (CIEEM) (2018), 'Guidelines for Ecological Impact Assessment in the UK and Ireland'. Terrestrial, Freshwater and Coastal. Chartered Institute of Ecology and Environmental Management, Winchester.

Cefas, (2004), 'Offshore Wind Farms: Guidance note for Environmental Impact Assessment In respect of FEPA and CPA requirements'. Version 2 - June 2004. Prepared by CEFAS on behalf of the Marine Consents and Environment Unit (MCEU)

Cefas, (2010), 'Strategic Review of OWF Monitoring Data Associated with FEPA Licence Conditions, Fish. Contract ME1117'. Report by Centre for Environment Fisheries and Aquaculture Science (CEFAS). 1-42.

Coull, K. A., Johnstone, R. and Rogers, S. I. (1998), 'Fisheries Sensitivity Maps in British Waters'. Published and distributed by UKOOA Ltd.

Department for Community and Local Government (DCLG) (2017), 'EIA Planning Practice Guidance'. July 2017. [online]. Available at: <https://www.gov.uk/guidance/environmental-impact-assessment> [Accessed 5 January 2022].

Department for Energy and Climate Change (DECC) (2011a), 'Overarching National Policy Statement for Energy (NPS EN-1)'. [online]. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/47854/1938-overarching-nps-for-energy-en1.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf) [Accessed 6 January 2022].

Department for Energy and Climate Change (DECC) (2011b), 'National Policy Statement for Renewable Energy Infrastructure (EN-3)'. [online]. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/37048/1940-nps-renewable-energy-en3.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37048/1940-nps-renewable-energy-en3.pdf) [Accessed 6 January 2022].

Eaton, D.R., Brown, J., Addison, J.T., Milligan, S.P. and Fernand, L.J. (2003), 'Edible Crab (*Cancer pagurus*) Larvae Surveys off the East Coast of England: Implications for Stock Structure'. Fisheries Research, 65, pp. 191-199.

Ellis, J.R., Milligan, S.P., Readdy, L., South, A., Taylor, N. and Brown, M. (2010), 'MB5301 Mapping spawning and nursery areas of species to be considered in Marine Protected Areas (Marine Conservation Zones)'. Report No. 1: Final Report on development of derived data layers for 40 mobile species considered to be of conservation importance.

Ellis, J. R., Milligan, S. P. Readdy, L. Taylor, N. and Brown, M. J. (2012), 'Spawning and nursery grounds of selected fish species in UK waters'. Cefas Scientific Series Technical Report, 147, 1-56.

EMODnet. (2021), 'EMODnet broad scale seabed habitat map for Europe (EUSeaMap) (2021) EUNIS 2019 habitat type'. [online]. Available at: <https://www.emodnet-seabedhabitats.eu/access-data/launch-map-viewer/> [Accessed 5 January 2022].

EMU (2005) Lincs OWFBenthic Baseline Survey Report.

Forewind. (2013), 'Creyke Beck – Environmental Statement'. [online]. Available at: <https://www.marinedataexchange.co.uk/details/2467/packages> [Accessed 5 January 2022].

Hawkins, A.D., Pembroke, A.E. and Popper A.N. (2014), 'Information gaps in understanding the effects of noise on fishes and invertebrates'. *Reviews in Fish Biology and Fisheries*, 25, pp. 39–64.

Hawkins, A.D. and Popper, A.N. (2016), 'A sound approach to assessing the impact of underwater noise on marine fishes and invertebrates'. *ICES Journal of Marine Science*, 74/3, pp. 635–651.

HM Government. (2011), 'UK Marine Policy Statement'. [online]. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69322/pb3654-marine-policy-statement-110316.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69322/pb3654-marine-policy-statement-110316.pdf) [Accessed 6 January 2022].

Institute of Estuarine and Coastal Studies (IECS) (2006) Baseline Study of the Marine Ecology at the Humber Gateway OWFDevelopment. Report ZBB649-F-2006 for Environmental Resources Management, January 2006.

International Council for the Exploration of the Sea (ICES). (2006), 'ICES Fish Map. North Sea fish species fact sheets'. [online] Available at: <https://www.ices.dk/about-ICES/projects/EU-RFP/Pages/ICES-FishMap.aspx> [Accessed 5 January 2022].

International Council for the Exploration of the Sea (ICES). (2019), 'Offshore beam trawl surveys (1987-2011)'. [online] Available at: <https://obis.org/dataset/c238cd9b-50c0-4185-9ed2-0bccb25e6386> [Accessed 5 January 2022].

International Council for the Exploration of the Sea (ICES). (2020a), 'North Sea International Bottom Trawl Survey (1965-2011)'. [online] Available at: <https://obis.org/dataset/ad65221f-0539-44aa-925e-4acf62ad0c6a> [Accessed 5 January 2022].

International Council for the Exploration of the Sea (ICES), (2020b). The International Herring Larvae Surveys.

International Council for the Exploration of the Sea (ICES). (2021), 'ICES Working Group on Surveys on Ichthyoplankton in the North Sea and adjacent Seas (WGSINS; outputs from 2020 meeting)'. *ICES Scientific Reports*. 3/14. 1-31.

Jensen, H., Rindorf, A., Wright, P. J., Mosegaard, H. (2011), 'Inferring the location and scale mixing between habitat areas of lesser sandeel through information from the fishery'. *ICES Journal of Marine Science*, 68/1, 43-51.

Jessop, R.W. and Maxwell, E. (2011), 'Eastern Sea Fisheries Joint Committee Research Report'. Eastern Sea Fisheries Joint Committee, pp. 1-252.

Joint Nature Conservation Committee (JNCC). (2007), 'UK BAP List of UK Priority Species'. [online]. Available at: <https://hub.jncc.gov.uk/assets/98fb6dab-13ae-470d-884b-7816afce42d4#UKBAP-priority-fish.pdf> [Accessed 5 January 2022].

Judd, A. (2012), 'Guidelines for Data Acquisition to Support Marine Environmental Assessments of Offshore Renewable Energy Projects'. Cefas Report: ME5403, 1-99.

MMO (2021), 'UK sea fisheries annual statistics report 2020'. [online]. Available at: <https://www.gov.uk/government/statistics/uk-sea-fisheries-annual-statistics-report-2020> [Accessed 5 January 2022].

Natural England. (2021a), 'Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards - Phase I: Expectations for pre-application baseline data for designated nature conservation and landscape receptors to support offshore wind application V2'.

Natural England. (2021b), 'Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards – Phase III: Expectations for data analysis and presentation at examination for offshore wind applications V1'.

Normandeau (Normandeau Associates, Inc.), Exponent, Inc., Tricas, T., and Gill, A., (2011), 'Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species'. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Regulation, and Enforcement, Pacific OCS Region, Camarillo, CA. OCS Study BOEMRE 2011-09.

Ørsted, (2018), 'Hornsea Project Three Offshore Wind Farm: Environmental Statement - Volume 5, Annex 2.1 - Benthic Ecology Technical Report. Document Reference: A6.5.2.1, pp. 1-100.

Ørsted, (2020a), 'Hornsea Project Four Offshore Wind Farm: Environmental Statement - Volume A5, Annex 2.1 - Benthic and Intertidal Ecology Technical Report. Document Reference: A5.2.1, pp. 1-608.

Ørsted, (2020b), 'Hornsea Project Four Offshore Wind Farm: Environmental Statement - Volume A5, Annex 3.1 – Fish and Shellfish Ecology Technical Report. Document Reference: A5.3.1, pp. 1-85.

OSPAR (2008), 'Guidance on Environmental Considerations for OWFDevelopment'. OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic, 1-19.

Popper, A.N., Hawkins, A.D., Fay, R.R., Mann, D., Bartol, S., Carlson, T., Coombs, S., Ellison, W.T., Gentry, R., Halvorsen, M.B., Lokkeborg, S., Rogers, P., Southall, B.L., Zeddies, D.G. and Tavolga, W.N. (2014), 'ASA S3/SC1.4 TR-2014 Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report prepared by ANSI-Accredited Standards Committee S3/SC1 and registered with ANSI'. Springer and ASA Press, Cham, Switzerland. pp.1–21.

Precision Marine Surveys Limited (PMSL). (2014). Triton Knoll Electrical System Recreational Fisheries Technical Report.

Reiss, H., Degraer, S., Duineveld, G.C., Kröncke, I., Aldridge, J., Craeymeersch, J.A., Eggleton, J.D., Hillewaert, H., Lavaleye, M.S., Moll, A. and Pohlmann, T. (2010), 'Spatial patterns of infauna, epifauna, and demersal fish communities in the North Sea'. ICES Journal of Marine Science, 67/2, pp. 278-293.

RenewableUK. (2013), 'Cumulative Impact Assessment Guidelines Guiding Principles For Cumulative Impacts Assessment In Offshore Wind Farms'. RenewableUK, June 2013.

Rogers, S. and Stocks, R. (2001). Strategic Environmental Assessment - SEA2 Technical Report 003 - Fish and Fisheries.

RPS (2018), 'Hornsea Three Offshore Windfarm Environmental Statement. Fish and Shellfish Ecology Technical Report'. [online]. Available at: [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010080/EN010080-000575-HOW03\\_6.5.3.1\\_Volume%20%20-%203.1%20-%20Fish%20and%20Shellfish%20Ecology%20Technical%20Report.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010080/EN010080-000575-HOW03_6.5.3.1_Volume%20%20-%203.1%20-%20Fish%20and%20Shellfish%20Ecology%20Technical%20Report.pdf) [Accessed 5 January 2022].

Tappin, D.R., Pearce, B., Fitch, S., Dove, D., Gearey, B., Hill, J.M., Chambers, C., Bates, R., Pinnion, J., Diaz Doce, D., Green, M., Gallyot, J., Georgiou, L., Brutto, D., Marzialetti, S., Hopla, E., Ramsay, E. and Fielding, H. (2011), 'The Humber Regional Environmental Characterisation'. Marine Aggregate Levy Sustainability Fund (OR/10/054), pp. 1–345.

TKOWFL. (2012), 'Triton Knoll OWE Environmental Statement'.

Wahlberg, M. and Westerberg, H. (2005), 'Hearing in fish and their reactions to sounds from OWFs'. Marine Ecology Progress Series, 288, 295-309.

Westermose Rough Ltd (2014), 'Westermose Rough pre-construction environmental monitoring survey reports'. [online]. Available at: [https://portal.medin.org.uk/portal/browse\\_step.php?step=00115&count=301](https://portal.medin.org.uk/portal/browse_step.php?step=00115&count=301) [Accessed 7 January 2022]

## Marine Mammals

Benhemma-Le Gall, A., I. Graham, N. Merchant, and P. Thompson. 2021. Broad-scale responses of harbor porpoises to pile-driving and vessel activities during offshore windfarm construction. *Frontiers in Marine Science* **8**.

Brandt, M. J., A.-C. Dragon, A. Diederichs, M. A. Bellmann, V. Wahl, W. Piper, J. Nabe-Nielsen, and G. Nehls. 2018. Disturbance of harbour porpoises during construction of the first seven offshore wind farms in Germany. *Marine Ecology Progress Series* **596**:213-232.

Brasseur, S., G. Aarts, E. Meesters, T. van Polanen Petel, E. Dijkman, J. Cremer, and P. Reijnders. 2012. Habitat preference of harbour seals in the Dutch coastal area: analysis and estimate of effects of offshore wind farms.

British Standards Institute. 2015. PD 6900:2015 Environmental impact assessment for offshore renewable energy projects – Guide.

Carter, M., L. Boehme, C. Duck, W. Grecian, G. Hastie, B. McConnell, D. Miller, C. Morris, S. Moss, D. Thompson, P. Thompson, and D. Russell. 2020. Habitat-based predictions of at-sea distribution for grey and harbour seals in the British Isles. Sea Mammal Research Unit, University of St Andrews, Report to BEIS, OESEA-16-76/OESEA-17-78.

CEFAS. 2010. Strategic review of offshore wind farm monitoring data associated with FEPA licence conditions – annex 4: underwater noise., Cefas report ME1117.

CIEEM. 2019. Guidelines for ecological impact assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. September 2018 Version 1.1 - updated September 2019. Chartered Institute of Ecology and Environmental Management, Winchester.

Copping, A. 2018. The State of Knowledge for Environmental Effects Driving Consenting/Permitting for the Marine Renewable Energy Industry. Prepared for Ocean Energy Systems On behalf of the Annex IV Member Nations, January 2018.

Czech-Damal, N. U., G. Dehnhardt, P. Manger, and W. Hanke. 2013. Passive electroreception in aquatic mammals. *Journal of Comparative Physiology A-Neuroethology Sensory Neural and Behavioral Physiology* **199**:555-563.

Diederichs, A., G. Nehls, M. Dähne, S. Adler, S. Koschinski, and U. Verfuß. 2008. Methodologies for measuring and assessing potential changes in marine mammal behaviour, abundance or distribution arising from the construction, operation and decommissioning of offshore wind farms.

Dunlop, R. A., M. J. Noad, R. D. McCauley, L. Scott-Hayward, E. Kniest, R. Slade, D. Paton, and D. H. Cato. 2017. Determining the behavioural dose–response relationship of marine mammals to air gun noise and source proximity. *Journal of Experimental Biology* **220**:2878-2886.

GoBe. 2021. Sofia Offshore Wind Farm: Unexploded Ordnance (UXO) Marine Licence Application Supporting Environmental Information and Report to Inform Appropriate Assessment (RIAA).

Hammond, P., C. Lacey, A. Gilles, S. Viquerat, P. Börjesson, H. Herr, K. Macleod, V. Ridoux, M. Santos, M. Scheidat, J. Teilmann, J. Vingada, and N. Øie. 2021. Estimates of cetacean abundance in European Atlantic waters in summer 2016 from the SCANS-III aerial and shipboard surveys - revised June 2021.

Heinänen, S., and H. Skov. 2015. The identification of discrete and persistent areas of relatively high harbour porpoise density in the wider UK marine area. JNCC Report No. 544, JNCC, Peterborough.

IAMMWG. 2021. Updated abundance estimates for cetacean Management Units in UK waters. JNCC Report No. 680, JNCC Peterborough, ISSN 0963-8091.

JNCC. 2010a. JNCC guidelines for minimising the risk of injury to marine mammals from using explosives.

JNCC. 2010b. Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise.

JNCC. 2019a. European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC) Fourth Report by the United Kingdom under Article 17 on the implementation of the Directive from January 2013 to December 2018 Conservation status assessment for the species: S1351 - Harbour porpoise (*Phocoena phocoena*) UNITED KINGDOM.

JNCC. 2019b. European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC) Fourth Report by the United Kingdom under Article 17 on the implementation of the Directive from January 2013 to December 2018 Conservation status assessment for the species: S1364 - Grey seal (*Halichoerus grypus*) UNITED KINGDOM.



JNCC. 2019c. European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC) Fourth Report by the United Kingdom under Article 17 on the implementation of the Directive from January 2013 to December 2018 Conservation status assessment for the species: S1365 - Common seal (*Phoca vitulina*) UNITED KINGDOM.

JNCC. 2020. Guidance for assessing the significance of noise disturbance against Conservation Objectives of harbour porpoise SACs (England, Wales & Northern Ireland). Report No. 654, JNCC, Peterborough.

JNCC, Natural England, and CCW. 2010. The protection of marine European Protected Species from injury and disturbance. Guidance for the marine area in England and Wales and the UK offshore marine area.

Judd, A. 2012. Guidelines for data acquisition to support marine environmental assessments of offshore renewable energy projects. Center for Environment, Fisheries, and Aquaculture Science.

Lindeboom, H. J., H. J. Kouwenhoven, M. J. N. Bergman, S. Bouma, S. Brasseur, R. Daan, R. C. Fijn, D. de Haan, S. Dirksen, R. van Hal, R. Hille Ris Lambers, R. ter Hofstede, K. L. Krijgsveld, M. Leopold, and M. Scheidat. 2011. Short-term ecological effects of an offshore wind farm in the Dutch coastal zone; a compilation. *Environmental Research Letters* **6**:1-13.

Lonergan, M., C. Duck, S. Moss, C. Morris, and D. Thompson. 2013. Rescaling of aerial survey data with information from small numbers of telemetry tags to estimate the size of a declining harbour seal population. *Aquatic Conservation-Marine and Freshwater Ecosystems* **23**:135-144.

Macleod, K., S. Du Fresne, B. Mackey, C. Faustino, and I. Boyd. 2010. Approaches to marine mammal monitoring at marine renewable energy developments.

Madsen, P. T., M. Wahlberg, J. Tougaard, K. Lucke, and P. Tyack. 2006. Wind turbine underwater noise and marine mammals: implications of current knowledge and data needs. *Marine Ecology Progress Series* **309**:279-295.

Marine Scotland. 2014. Guidance on the Offence of Harassment at Seal Haul-out Sites.

Natural England. 2021a. Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards. Phase I: Expectations for pre-application baseline data for designated nature conservation and landscape receptors to support offshore wind applications.

Natural England. 2021b. Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards. Phase III: Expectations for data analysis and presentation at examination for offshore wind applications.

Normandeau, Exponent, T. Tricas, and A. Gill. 2011. Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Regulation, and Enforcement, Pacific OCS Region, Camarillo, CA. OCS Study BOEMRE 2011-09.

OSPAR. 2008. OSPAR Guidance on Environmental Considerations for Offshore Wind-Farm Development.

Paxton, C., L. Scott-Hayward, M. Mackenzie, E. Rexstad, and L. Thomas. 2016. Revised Phase III Data Analysis of Joint Cetacean Protocol Data Resources.

The Inspectorate, 2019. Cumulative Effects Assessment. Advice note seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects.

The Inspectorate, 2020. EIA: Process, Preliminary Environmental Information, and Environmental Statements Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements.

Quick, N. J., M. Arso Civil, B. Cheney, V. Islas, V. Janik, P. M. Thompson, and P. S. Hammond. 2014. The east coast of Scotland bottlenose dolphin population: Improving understanding of ecology outside the Moray Firth SAC. This document was produced as part of the UK Department of Energy and Climate Change's offshore energy Strategic Environmental Assessment programme.

Russell, D., C. Duck, C. Morris, and D. Thompson. 2016a. SCOS –BP-16/03: Independent estimates of grey seal population size: 2008 and 2014.

Russell, D. J., S. M. Brasseur, D. Thompson, G. D. Hastie, V. M. Janik, G. Aarts, B. T. McClintock, J. Matthiopoulos, S. E. Moss, and B. McConnell. 2014. Marine mammals trace anthropogenic structures at sea. *Current Biology* **24**:R638-R639.

Russell, D. J. F., G. D. Hastie, D. Thompson, V. M. Janik, P. S. Hammond, L. A. S. Scott-Hayward, J. Matthiopoulos, E. L. Jones, and B. J. McConnell. 2016b. Avoidance of wind farms by harbour seals is limited to pile driving activities. Pages 1642-1652 *Journal of Applied Ecology*.

Scheidat, M., J. Tougaard, S. Brasseur, J. Carstensen, T. van Polanen Petel, J. Teilmann, and P. Reijnders. 2011. Harbour porpoises (*Phocoena phocoena*) and wind farms: a case study in the Dutch North Sea. *Environmental Research Letters* **6**:1-10.

SCOS. 2021. Scientific Advice on Matters Related to the Management of Seal Populations: 2020.

Sinclair, R., S. Kazer, M. Ryder, P. New, and U. Verfuss. 2021. Review and recommendations on assessment of noise disturbance for marine mammals. NRW Evidence Report No. 529.

Southall, B., J. J. Finneran, C. Reichmuth, P. E. Nachtigall, D. R. Ketten, A. E. Bowles, W. T. Ellison, D. Nowacek, and P. Tyack. 2019. Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. *Aquatic Mammals* **45**:125-232.

Southall, B. L., D. P. Nowacek, A. E. Bowles, V. Senigaglia, L. Bejder, and P. L. Tyack. 2021. Marine Mammal Noise Exposure Criteria: Assessing the severity of marine mammal behavioral responses to human noise. *Aquatic Mammals* **47**:421-464.

Teilmann, J., J. Carstensen, R. Dietz, S. M. C. Edrén, and S. M. Andersen. 2006a. Final report on aerial monitoring of seals near Nysted Offshore Wind Farm.

Teilmann, J., J. Tougaard, and J. Carstensen. 2006b. Summary on harbour porpoise monitoring 1999-2006 around Nysted and Horns Rev Offshore Wind Farms.

Thompson, P., B. Cheney, S. Ingram, P. Stevick, B. Wilson, and P. Hammond. 2011. Distribution, abundance and population structure of bottlenose dolphins in Scottish waters. Scottish Government and Scottish Natural Heritage funded report. Scottish Natural Heritage Commissioned Report No. 354.

Tyack, P., and L. Thomas. 2019. Using dose–response functions to improve calculations of the impact of anthropogenic noise. *Aquatic Conservation Marine and Freshwater Ecosystems*. **29(S1):**242-253.

Waggitt, J. J., P. G. H. Evans, J. Andrade, A. N. Banks, O. Boisseau, M. Bolton, G. Bradbury, T. Brereton, C. J. Camphuysen, J. Durinck, T. Felce, R. C. Fijn, I. Garcia-Baron, S. Garthe, S. C. V. Geelhoed, A. Gilles, M. Goodall, J. Haelters, S. Hamilton, L. Hartny-Mills, N. Hodgins, K. James, M. Jessopp, A. S. Kavanagh, M. Leopold, K. Lohrengel, M. Louzao, N. Markones, J. Martinez-Cediera, O. O’Cadhla, S. L. Perry, G. J. Pierce, V. Ridoux, K. P. Robinson, M. B. Santos, C. Saavedra, H. Skov, E. W. M. Stienen, S. Sveegaard, P. Thompson, N. Vanermen, D. Wall, A. Webb, J. Wilson, S. Wanless, and J. G. Hiddink. 2020. Distribution maps of cetacean and seabird populations in the North-East Atlantic. *Journal of Applied Ecology* **57**:253-269.

Wilson, S. 2013. The impact of human disturbance at seal haul-outs. A literature review for the Seal Conservation Society.

## **Intertidal And Offshore Ornithology**

Austin, G., Frost, T., Mellan, H. and Balmer, D.E. (2017). *Results of the third Non-estuarine Waterbird Survey, including population estimates for key waterbird species*. British Trust for Ornithology.

Balmer, D., Gillings, S., Caffrey, B., Swann, B., Downie, I. and Fuller, R. (2013) *Bird Atlas 2007-11: The Breeding and Wintering Birds of Britain and Ireland*. BTO Books, Thetford.

Band, W. (2012) Using a collision risk model to assess bird collision risks for OWFs. The Crown Estate Strategic Ornithological Support Services (SOSS) report SOSS-02. SOSS Website. Original published Sept 2011, extended to deal with flight height distribution data March 2012.

BirdLife International. (2004) *Birds in Europe: population estimates, trends and conservation status*. (Birdlife Conservation Series No. 12). BirdLife, Cambridge.

Bradbury G, Trinder M, Furness B, Banks AN, Caldow RWG, *et al.* (2014) Mapping Seabird Sensitivity to Offshore Wind farms. *PLoS ONE* 9(9): e106366. doi:10.1371/journal.pone.0106366

Brown, A. and Grice, P. (2005) *Birds in England*. T and AD Poyser, London.

CIEEM (2018; updated 2019) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1*. Chartered Institute of Ecology and Environmental Management, Winchester.

Cleasby, I.R., Owen, E., Wilson, L., Wakefield, E.D., O’Connell, P. and Bolton, M., (2020). Identifying important at-sea areas for seabirds using species distribution models and hotspot mapping. *Biological Conservation*, 241, p.108375.

- Cook, A.S.C.P., Humphries, E.M., Masden, E.A., and Burton, N.H.K. (2014). The avoidance rates of collision between birds and offshore turbines. BTO research Report No 656 to Marine Scotland Science
- Cook, A.S.C.P., Wright, L.J., and Burton, N.H.K. (2012). A review of flight heights and avoidance rates of birds in relation to OWFs. The Crown Estate Strategic Ornithological Support Services (SOSS). SOSS Website.
- Cook, A.S.C.P., Humphreys, E.M., Bennet, F., Masden, E.A. and Burton, N.H. (2018). Quantifying avian avoidance of offshore wind turbines: current evidence and key knowledge gaps. *Marine environmental research*, 140, pp.278-288.
- Cramp S. and Simmons K.E.L. (Eds.) (1977 - 1994). *The Birds of the Western Palearctic*. Oxford University Press, Oxford.
- Davies, T.E., Carneiro, A.P., Tarzia, M., Wakefield, E., Hennicke, J.C., Frederiksen, M., Hansen, E.S., Campos, B., Hazin, C., Lascelles, B. and Anker-Nilssen, T. (2021). Multispecies tracking reveals a major seabird hotspot in the North Atlantic. *Conservation Letters*, 14(5), p.e12824.
- Del Hoyo, J., Elliott, A. and Sargatal, J. (Eds.) (1992 – 2011) *Handbook of the Birds of the World*. Lynx Editions, Madrid.
- Dierschke, V., Furness, R.W., Gray, C.E., Petersen, I.K., Schmutz, J., Zydalis, R. and Daunt, F. 2017. Possible behavioural, energetic and demographic effects of displacement of red-throated divers. JNCC Report No 605. JNCC, Peterborough.
- Donovan, C. (2018) Stochastic Band CRM – GUI User Manual, Draft V1.0, 31/03/2017
- Drewitt, A.L. and Langston, R.H.W. (2006) Assessing the impacts of wind farms on birds. *Ibis*, 148 (Suppl. 1), 4-7.
- Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) *Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man*. *British Birds* 108, 708–746.
- Frederiksen, M., Moe, B., Daunt, F., Phillips, R.A., Barrett, R.T., Bogdanova, M.I., Boulinier, T., Chardine, J.W., Chastel, O., Chivers, L.S. and Christensen-Dalsgaard, S., 2012. Multicolony tracking reveals the winter distribution of a pelagic seabird on an ocean basin scale. *Diversity and distributions*, 18(6), pp.530-542.
- Frost, T.M., Austin, G.E., Calbrade, N.A., Mellan, H.J., Hearn, R.D., Robinson, A.E., Stroud, D.A., Wotton, S.R. and Balmer, D.E. (2019.) *Waterbirds in the UK 2017/18: The Wetland Bird Survey*. BTO, RSPB and JNCC, in association with WWT. British Trust for Ornithology, Thetford.
- Furness, R.W. (2015) Non-breeding season populations of seabirds in UK waters: Population sizes for Biologically Defined Minimum Population Scales (BDMPS). Natural England Commissioned Report Number 164.

Furness, R.W. and Wade, H. (2012). Vulnerability of Scottish seabirds to offshore wind turbines. The Scottish Government, Edinburgh. Available at:

<http://www.scotland.gov.uk/Resource/0040/00401641.pdf> [Accessed January 2022].

Furness, R.W., Wade, H.M. and Masden, E.A. (2013) Assessing vulnerability of marine bird populations to OWFs. *Journal of Environmental Management*, 119, 56-66.

Furness, R.W., Garthe, S., Trinder, M., Matthiopoulos, J., Wanless, S. & Jeglinski, J., (2018). Nocturnal flight activity of northern gannets *Morus bassanus* and implications for modelling collision risk at OWFs. *Environmental Impact Assessment Review*. [e-journal] 73, pp. 1-6. [doi.org/10.1016/j.eiar.2018.06.006](https://doi.org/10.1016/j.eiar.2018.06.006)

Garthe, S and Hüppop, O. (2004) Scaling possible adverse effects of marine wind farms on seabirds: developing and applying a vulnerability index. *Journal of Applied Ecology*, 41, 724-734.

Goodale, M.W. and Milman, A. (2020). Assessing Cumulative Exposure of Northern Gannets to Offshore Wind Farms. *Wildlife Society Bulletin*, 44(2), pp.252-259.

Holling, M. and the Rare Breeding Birds Panel. (2011). Rare breeding birds in the United Kingdom in 2009. *British Birds*, 104, 476–537.

Horswill, C., O'Brien, S.H. and Robinson, R.A. 2017. Density dependence and marine bird populations: are wind farm assessments precautionary? *Journal of Applied Ecology* 54, 1406-1414.

Jarrett, D., Cook, A.S.C.P., Woodward, I., Ross, K., Horswill, C., Dadam, D. and Humphreys, E.M. (2018). Short-term behavioural responses of wintering waterbirds to marine activity. *Scottish Marine and Freshwater Science* 9 (7).

JNCC/SNCBs (2017). Joint SNCB Interim Displacement Advice Note. Natural Resources Wales, Department of Agriculture, Environment and Rural Affairs / Northern Ireland Environment Agency, Natural England, Scottish Natural Heritage and Joint Nature Conservation Committee.

JNCC, 2020. Seabird Monitoring Programme Online Database. [online]. Available at: <http://jncc.defra.gov.uk/smp/> [Accessed March 2020].

Johnston, A., Cook, A.S.C.P., Wright, L.J., Humphreys, E.M. and Burton, E.H.K. (2014a) Modelling flight heights of marine birds to more accurately assess collision risk with offshore wind turbines. *Journal of Applied Ecology*, 51, 31-41.

Johnston, A., Cook, A.S.C.P., Wright, L.J., Humphreys, E.M. and Burton, N.H.K. (2014b) corrigendum. *Journal of Applied Ecology*, 51, doi:10.1111/1365-2664.12260.

Kober, K., Webb, A., Win, I., Lewis, M., O'Brien, S., Wilson, L.J. and Reid, J.B. (2010) An analysis of the numbers and distribution of seabirds within the British Fishery Limit aimed at identifying areas that qualify as possible marine SPAs. JNCC Report, No. 431. JNCC, Peterborough.

Langston, R.H.W. (2010) Offshore wind farms and birds: Round 3 zones, extensions to Round 1 and Round 2 sites and Scottish Territorial Waters. RSPB Research Report No. 39. RSPB, Sandy.

- Leopold, M.F. and Verdaat, H.J.P. 2018. Pilot field study: observations from a fixed platform on occurrence and behaviour of common guillemots and other seabirds in OWF Luchterduinen (WOZEP Birds-2). Wageningen Marine Research Report C068/18.
- Masden E.A., Reeve, R., Desholm, M., Fox, A.D., Furness, R.W. and Haydon, D.T. (2012) Assessing the impact of marine wind farms on birds through movement modelling. *Journal of the Royal Society Interface*, 9, 2120-2130.
- Masden, E.A., Haydon, D.T., Fox, A.D. and Furness, R.W. (2010) Barriers to movement: Modelling energetic costs of avoiding marine wind farms amongst breeding seabirds. *Marine Pollution Bulletin*, 60, 1085-1091.
- Mendel, B., Schwemmer, P., Peschko, V., Müller, S., Schwemmer, H., Mercker, M. and Garthe, S. 2019. Operational OWFs and associated ship traffic cause profound changes in distribution patterns of loons (*Gavia spp.*). *Journal of Environmental Management* 231, 429-438.
- Mitchell, P.I., Newton, S.F., Ratcliffe, N. and Dunn, T.E. (2004). Seabird populations of Britain and Ireland. *T. & AD Poyser, London*.
- Musgrove, A.J., Aebischer, N.J., Eaton, M.A., Hearn, R.D., Newson, S.E., Noble, D.G., Parsons, M., Risely, K. and Stroud, D.A. (2013) Population estimates on birds in Great Britain and the United Kingdom. *British Birds*, 106, 64–100.
- Natural England. (2021a) Phase I: Expectations for pre-application baseline data for designated nature conservation and landscape receptors to support offshore wind applications. *Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards*.
- Natural England. (2021b) Phase III: Expectations for data analysis and presentation at examination for offshore wind applications. *Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards*.
- Robinson, R.A. (2005) Bird Facts: profiles of birds occurring in Britain and Ireland. BTO Research Report 407, BTO, Thetford.
- SNCB. (2017). Joint SNCB Interim Displacement Advice Note. Advice on how to present assessment information on the extent and potential consequences of seabird displacement from OWF (OWF) developments.
- Speakman, J., Gray, H. and Furness, L. (2009) University of Aberdeen report on effects of OWFs on the energy demands of seabirds. Report to the Department of Energy and Climate Change.
- Stienen, E.W., Waeyenberge, V., Kuijken, E. and Seys, J. (2007) Trapped within the corridor of the southern North Sea: the potential impact of OWFs on seabirds. In *Birds and Wind farms*. de Lucas, M., Janss, G.F.E. and Ferrer, M. (Eds). Quercus, Madrid.
- Stone, C.J. Webb, A., Barton, C., Ratcliffe, N., Reed, T.C. Tasker, M.L. Camphuysen, C.J. and Pienkowski, M.W. (1995) An atlas of seabird distribution in north-west European waters. JNCC, Peterborough.

Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W. and Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying Marine Protected Areas. *Biological Conservation*, 156, 53-61.

Waggitt, J.J., Evans, P.G., Andrade, J., Banks, A.N., Boisseau, O., Bolton, M., Bradbury, G., Brereton, T., Camphuysen, C.J., Durinck, J. and Felce, T., (2020). Distribution maps of cetacean and seabird populations in the North-East Atlantic. *Journal of Applied Ecology*, 57(2), pp.253-269.

Wakefield, E.D., Bodey, T.W., Bearhop, S., Blackburn, J., Colhoun, K., Davies, R., Dwyer, R.G., Green, J.A., Grémillet, D., Jackson, A.L., Jessopp, M.J., Kane, A., Langston, R.H.W., Lescroël, A., Murray, S., Le Nuz, M., Patrick, S.C., Péron, C., Soanes, L.M., Wanless, S., Votier, S.C. and Hamer, K.C. (2013). Space Partitioning Without Territoriality in Gannets. *Science*, 341 (6141), 68-70.

Wakefield, E.D., Owen, E., Baer, J., Carroll, M.J., Daunt, F., Dodd, S.G., Green, J.A., Guilford, T., Mavor, R.A., Miller, P.I., Newell, M.A., Newton, S.F., Robertson, G.S., Shoji, A., Soanes, L.M., Votier, S.C., Wanless, S. and Bolton, M. (2017). Breeding density, fine-scale tracking, and large-scale modeling reveal the regional distribution of four seabird species. *Eco-logical Applications*, 27 (7). 2074 - 2091. ISSN 1051-0761

Wernham, C.V., Toms, M.P., Marchant, J.H., Clark, J.A., Siriwardena, G.M. and Baillie, S.R. (eds). (2002) *The Migration Atlas: Movements of the birds of Britain and Ireland*. T. and A.D. Poyser, London.

Woodward, I., Thaxter, C.B., Owen, E. and Cook, A.S.C.P. (2019). Desk-based revision of seabird foraging ranges used for HRA screening. Report of work carried out by the British Trust for Ornithology on behalf of NIRAS and The Crown Estate. BTO Research Report No. 724. The British Trust for Ornithology, Thetford.

Wright, L.J., Ross-Smith, V.H., Massimino, D., Dadam, D., Cook, A.S.C.P. and Burton, N.H.K. (2012) Assessing the risk of offshore windfarm development to migratory birds designated as features of UK Special Protection Areas (and other Annex I species). Strategic Ornithological Support Services. Project SOSS-05. BTO Research Report No. 592

## **Marine Archaeology**

Admiralty Maritime Data Solutions: Marine Data Portal (2020), UK Hydrographic Office, accessed 7 December 2021, <https://datahub.admiralty.co.uk/portal/apps/sites/#/marine-data-portal/items?tags=Inspire>

Bynoe, R. (2018), 'The submerged archaeology of the North Sea: Enhancing the Lower Palaeolithic record of northwest Europe', *Quaternary Science Reviews*, 191: 1-14.

Chartered Institute for Archaeologists (CIfA) (2014a) (revised 2020), 'Standard and guidance for the collection, documentation, conservation and research of archaeological materials. Reading.' 2014.

Chartered Institute for Archaeologists (CIfA) (2014b) (revised 2020), 'Standard and guidance for commissioning work on, or providing consultancy advice on, archaeology and the historic environment'. Reading. 2014.

Cohen, K.M., Westley, K., Erkens, G., Hijma, M.P. and Weerts, H.J.T. (2017), 'The North Sea', in N. C. Flemming, J. Harff, D. Moura, A. Burgess and G.N. Bailey (eds.), *Submerged Landscapes of the European Continental Shelf: Quaternary Palaeoenvironments* (Oxford: Wiley). 147-186.

COWRIE (2007), 'Historic Environment Guidance for the Offshore Renewable Energy Sector', Wessex Archaeology.

COWRIE (2008), 'Guidance for Assessment of Cumulative Impacts on the Historic Environment from Offshore Renewable Energy'.

COWRIE (2011), 'Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector'. EMU Ltd on behalf of COWRIE, London.

Department for Energy and Climate Change (2011a), 'Overarching National Policy Statement for Energy (NPS EN-1)' (London: The Stationary Office).

Department for Energy and Climate Change (2011b), 'National Policy Statement for Renewable Energy Infrastructure (NPS EN-3)' (London: The Stationary Office).

Fitch, S, Gaffney, V and Thomson, K, (2007), 'Heritage Management and the North Sea Palaeolandscapes Project', in Gaffney and Thomson with Fitch 2007, 105–26.

Flemming, N.C. (2002), 'The scope of Strategic Environmental Assessment of North Sea areas SEA3 and SEA2 in regard to prehistoric archaeological remains', Department of Trade and Industry.

Gaffney, V. *et al.* (2017). 'Doggerland and the Lost Frontiers Project (2015–2020)'. In: Bailey, G., Harff, J., Sakellariou, D. (eds) *Under the Sea: Archaeology and Palaeolandscapes of the Continental Shelf*. Coastal Research Library, vol 20. Springer, Cham. [https://doi.org/10.1007/978-3-319-53160-1\\_20](https://doi.org/10.1007/978-3-319-53160-1_20)

Historic England (2021) 'Peatlands and the Historic Environment: An Introduction to their Cultural and Heritage Value. HEAG300a (version 1.1) Portsmouth. Historic England.

Historic England (2021) 'Commercial renewable energy development and the historic environment Historic England Advice Note 15'. Swindon. Historic England.

Historic England (2022), *England's Historic Periods*, accessed 19 May 2022, <https://historicengland.org.uk/listing/the-list/historic-periods/>

Historic England (2017), 'Historic Seascape Characterisation (HSC) Thesaurus', Historic Places Investigation Team.

Joint Nautical Archaeology Policy Committee (2006), 'JNAPC Code of Practice for Seabed Development'.

Land Use Consultants (2017), 'Historic Seascape Characterisation (HSC): Consolidating the National HSC Database', Historic England.

Museum of London (2009), 'England's Historic Seascapes Marine HLC Pilot Study: Withernsea to Skegness, Revised Final Report', Museum of London Archaeology Service



Parfitt, S.A., Barendregt, R.W., Breda, M. Candy, I., Collins, M.J., Coope, R., Durbridge, P., Field, M.H., Lee, J.R., Lister, A.M., Mutch, R., Penkman, K.E.H., Preece, R.C., Rose, J., Stringer, C.B., Symmons, R., Whittaker, J.E., Wymer, J.J. and Stuart, A.J. (2005), 'The earliest record of human activity in northern Europe', *Nature*, 438: 1008-1012.

Parfitt, S.A., Ashton, N.M., Lewis, S.G., Abel, R.L., Coope, R., Field, M.H., Gale, R., Hoare, P.G., Larkin, N.R., Lewis, M.D., Karloukovski, V., Maher, B.A., Peglar, S.M., Preece, R.C., Whittaker, J.E. and Stringer, C.B. (2010), 'Early Pleistocene occupation at the edge of the boreal zone in northwest Europe', *Nature*, 466: 229-233.

Scottish Natural Heritage, (2012). 'Assessing the Cumulative Impact of Onshore Wind Energy Developments.'

The Crown Estate (2021), 'Archaeological Written Schemes of Investigation for OWFProjects', Wessex Archaeology.

The Crown Estate (2014), 'Protocol for Archaeological Discoveries: Offshore Renewables Project', Wessex Archaeology.

## **Commercial Fisheries**

Cefas, (2012), Guidelines for data acquisition to support marine environmental assessments of offshore renewable energy projects. Contract report: ME5403.  
[https://tethys.pnnl.gov/sites/default/files/publications/CEFAS\\_2012\\_Eenvironmental\\_Assessment\\_Guidance.pdf](https://tethys.pnnl.gov/sites/default/files/publications/CEFAS_2012_Eenvironmental_Assessment_Guidance.pdf) [Accessed January 2022].

Department for Business, Enterprise and Regulatory Reform (BERR) (2008), Fisheries Liaison with Offshore Wind and Wet Renewables Group (FLOWW) Recommendations For Fisheries Liaison: Best Practice guidance for offshore renewable developers.

Eastern Inshore Fisheries and Conservation Authority (IFCA) (2018), Marine Protected Areas Byelaw 2018.

EU Data Collection Framework (EU DCF) database (2021), Data by quarter-rectangle: Tables and maps of effort and landings by ICES statistical rectangles for 2012 to 2016.

EUMOFA (2021), European Market Observatory for Fisheries and Aquaculture Products online database. <https://www.eumofa.eu/en/web/eumofa/ad-hoc-query-first-sale-eu> [Accessed January 2022].

European Subsea Cable Association (ESCA) (2018), European Subsea Cable Association Statement on vessels operating in the vicinity of subsea cables. <https://www.escae.org/documents/> [Accessed January 2022].

Fisheries Liaison with Offshore Wind and Wet Renewables group FLOWW (2015), FLOWW Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Disruption Settlements and Community Funds.

<https://www.thecrownestate.co.uk/media/1776/floww-best-practice-guidance-disruption-settlements-and-community-funds.pdf> [Accessed January 2022].

FLOWW (2014), FLOWW Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Liaison. <https://www.thecrownestate.co.uk/media/1775/ei-km-in-pc-fishing-012014-floww-best-practice-guidance-for-offshore-renewables-developments-recommendations-for-fisheries-liaison.pdf> [Accessed January 2022].

Gray, M., Stromberg, P-L., Rodmell, D. (2016), 'Changes to fishing practices around the UK as a result of the development of offshore windfarms – Phase 1 (Revised).' <https://www.thecrownestate.co.uk/media/2600/final-published-ow-fishing-revised-aug-2016-clean.pdf> [Accessed January 2022].

ICES (2021), Spatial data layers of fishing intensity/pressure for EU vessels operating within ICES defined Celtic Seas Ecoregion and Greater North Sea Ecoregion.

International Cable Protection Committee (2009), Fishing and Submarine Cables - Working Together. <https://www.iscpc.org/publications/> [Accessed January 2022].

MMO (2022), The Dogger Bank Special Area of Conservation (Specified Area) Bottom Towed Fishing Gear Byelaw 2022.

MMO (2022), The Inner Dowsing, Race Bank and North Ridge Special Area of Conservation (Specified Areas) Prohibited Fishing Gears Byelaw 2022.

MMO (2021), IFISH database with landing statistics data for UK registered vessels for 2016 to 2020 with attributes for: landing year; landing month; vessel length category; country code; ICES rectangle; vessel/gear type; species; live weight (tonnes); and value; and landing year; landing month; vessel length category; country code; vessel/gear type; port of landing; species; live weight (tonnes); and value.

RenewableUK (2013), Cumulative impact assessment guidelines, guiding principles for cumulative impacts assessments in OWFs. <https://nerc.ukri.org/innovation/activities/energy/offshore/cumulative-impact-assessment-guidelines/> [Accessed January 2022].

Seafish (2012), Best Practice Guidance for Fishing Industry Financial and Economic Impact Assessments. <https://www.seafish.org/document/?id=AA0CB236-1E2A-4D2A-9F86-49CEB2B6DD5E> [Accessed January 2022].

The Crown Estate (2012), UK Fisheries Information Project (UKFIM) mapping.

UK Oil and Gas (2015), Fisheries Liaison Guidelines - Issue 6.

## **Shipping and Navigation**

IALA (2021). Guidance G1162 on the Marking of Man-Made Offshore Structures. Saint Germaine en Laye, France: IALA.

IALA (2021). Recommendation O-139 on the Marking of Man-Made Offshore Structures. Saint Germaine en Laye, France: IALA.

IMO (2018). Revised Guidelines for Formal Safety Assessment. London: IMO.

MCA (2008). MGN 372 (Merchant and Fishing) Offshore Renewable Energy Installations (OREIs) – Guidance to Mariners Operating in the Vicinity of UK OREIs, Southampton: MCA.

MCA (2021). MGN 654 (Merchant and Fishing) Offshore Renewable Energy Installations (OREI) – Guidance on UK Navigational Practice, Safety and Emergency Response, Southampton: MCA.

RYA (2019). The RYA’s Position on Offshore Energy Developments: Paper 1 – Wind Energy. Southampton: RYA.

RYA (2019). UK Coastal Atlas of Recreational Boating. Southampton: RYA.

UKHO (2021). NP54 Admiralty Sailing Directions North Sea (West) Pilot Book 12th Edition: UKHO.

## **Aviation, Radar and Military**

CAA (December 2021), ‘CAP032: UK Aeronautical Information Publication’.  
<https://www.aurora.nats.co.uk/htmlAIP/Publications/2021-12-30-AIRAC/html/index-en-GB.html>  
[Accessed: January 2022].

CAA (March 2019), ‘CAP 168: Licensing of Aerodromes’.  
[https://publicapps.caa.co.uk/docs/33/CAP%20168%20Issue11\\_Licensing%20of%20Aerodromes%2013032019.pdf](https://publicapps.caa.co.uk/docs/33/CAP%20168%20Issue11_Licensing%20of%20Aerodromes%2013032019.pdf) [Accessed: January 2022].

CAA (July 2021), ‘CAP 437: Standards for offshore helicopter landing areas’.  
[https://publicapps.caa.co.uk/docs/33/CAP437%20Ed8%20Am2%20\(July2021\).pdf](https://publicapps.caa.co.uk/docs/33/CAP437%20Ed8%20Am2%20(July2021).pdf) [Accessed: January 2022].

CAA (June 2019), ‘CAP 670: Air Traffic Services Safety Requirements’.  
[https://publicapps.caa.co.uk/docs/33/CAP670%20Issue3%20Am%201%202019\(p\).pdf](https://publicapps.caa.co.uk/docs/33/CAP670%20Issue3%20Am%201%202019(p).pdf) [Accessed: January 2022].

CAA (February 2016), ‘CAP 764: Policy and Guidelines on Wind Turbines’.  
<https://publicapps.caa.co.uk/docs/33/CAP764%20Issue6%20FINAL%20Feb.pdf> [Accessed: January 2022].

CAA (March 2021), ‘CAP1616: Airspace change’.  
[https://publicapps.caa.co.uk/docs/33/CAA\\_Airspace%20Change%20Doc\\_Mar2021.pdf](https://publicapps.caa.co.uk/docs/33/CAA_Airspace%20Change%20Doc_Mar2021.pdf) [Accessed: January 2022].

CAA (September 2021), ‘CAP2038A00: Air Navigation Order 2016’.  
<https://publicapps.caa.co.uk/docs/33/Air%20Navigation%20Order%202016%20Sept%202021.pdf>  
[Accessed: January 2022].

MoD (December 2021), ‘UK Military AIP’. <https://www.aidu.mod.uk/aip/aipVolumes.html>  
[Accessed: January 2022].

MoD (January 2020), ‘MoD Obstruction Lighting Guidance’.  
[https://cdn.ymaws.com/www.renewableuk.com/resource/collection/0B792CF1-8B8A-474B-95B6-17886BF724A7/20190002-Windfarm\\_lighting\\_review\\_\\_002\\_.pdf](https://cdn.ymaws.com/www.renewableuk.com/resource/collection/0B792CF1-8B8A-474B-95B6-17886BF724A7/20190002-Windfarm_lighting_review__002_.pdf) [Accessed: January 2022].

MCA (April 2021), 'MGN 654 Safety of navigation: OREIs – Guidance on UK navigational practice, safety and emergency response'.

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/980898/MGN\\_654\\_-\\_FINAL.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/980898/MGN_654_-_FINAL.pdf) [Accessed: January 2022].

MCA (November 2021), 'Offshore Renewable Energy Installations: Requirements, guidance and operational considerations for SAR and Emergency Response'.

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1034158/OREI\\_SAR\\_Requirements\\_v3.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1034158/OREI_SAR_Requirements_v3.pdf) [Accessed: January 2022].

ICAO (July 2018), 'Annex 14 – Aerodromes – Volume 1 – Aerodrome Design and Operations'.

<https://store.icao.int/en/annex-14-aerodromes> [Accessed: January 2022].

## **Seascape, Landscape and Visual**

East Lindsey District Council (2009), 'East Lindsey District Landscape Character Assessment'.

<https://www.e-lindsey.gov.uk/article/6163/Landscape-Character-Assessment> [Accessed: May 2022]

East Riding of Yorkshire Council (2018), 'East Riding of Yorkshire Landscape Character Assessment'.

<https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/landscape-character-assessment/> [Accessed: May 2022]

Landscape Institute (2019), 'Visual Representation of Development

Proposals'. [https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI\\_TGN-06-19\\_Visual\\_Representation.pdf](https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI_TGN-06-19_Visual_Representation.pdf) [Accessed: May 2022]

Landscape Institute with the Institute of Environmental Management and Assessment (2013), 'Guidelines for Landscape and Visual Impact Assessment, Third Edition'.

Marine Management Organisation (2018), 'A Seascape Character Area Assessment for the North East Inshore and Offshore Marine Plan Areas'.

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/750226/North\\_East\\_-\\_Seascape\\_character\\_assessment\\_report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/750226/North_East_-_Seascape_character_assessment_report.pdf) [Accessed: May 2022]

Natural England (2012), 'Seascape Characterisation around the English Coast (Marine Plan Areas 3 and 4 and Part of Area 6 Pilot Study)'.

<http://publications.naturalengland.org.uk/publication/2736726> [Accessed: May 2022]

Natural England (2012), 'An Approach to Seascape Character Assessment'.

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/396177/seascape-character-assessment.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/396177/seascape-character-assessment.pdf) [Accessed: May 2022]

Natural England (2014), 'An Approach to Landscape Character Assessment'.

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/691184/landscape-character-assessment.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691184/landscape-character-assessment.pdf) [Accessed: May 2022]

North Norfolk District Council, (2018) 'North Norfolk Landscape Assessment'. <https://www.north-norfolk.gov.uk/media/4720/north-norfolk-landscape-character-assessment-2018-final-draft-spd.pdf> [Accessed: May 2022]

North Norfolk District Council (2021), 'North Norfolk Landscape Sensitivity Assessment Supplementary Planning Document'. <https://www.north-norfolk.gov.uk/tasks/planning-policy/landscape-character-and-sensitivity-assessment/> [Accessed: May 2022]

Norfolk Coast Partnership (2019-2024), 'Norfolk Coast AONB Five Year Strategy'. <https://www.norfolkcoastaonb.org.uk/wp-content/uploads/2021/05/NCP-MP-Management-Plan.pdf> [Accessed: May 2022]

Planning Inspectorate (July, 2018), 'Advice Note 9: Rochdale Envelope'. <http://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/> [Accessed: May 2022]

Scottish Natural Heritage (2012), 'Assessing the Cumulative Impact of Onshore Wind Energy Developments'. <https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments> [Accessed: May 2022]

Scottish Natural Heritage (2017), 'Visual Representation of Windfarms. Version 2.2'. <https://www.nature.scot/doc/visual-representation-wind-farms-guidance> [Accessed: May 2022]

White Consultants (2020), 'Offshore Energy Assessment'. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/896084/White\\_Consultants\\_2020\\_Seascape\\_and\\_visual\\_buffer\\_study\\_for\\_offshore\\_wind\\_farms.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/896084/White_Consultants_2020_Seascape_and_visual_buffer_study_for_offshore_wind_farms.pdf) [Accessed: May 2022]

Kings Lynn and West Norfolk Borough Council (March, 2007), Kings Lynn and West Norfolk Borough Council Landscape Character Assessment. [https://www.west-norfolk.gov.uk/downloads/download/77/landscape\\_character\\_assessment](https://www.west-norfolk.gov.uk/downloads/download/77/landscape_character_assessment) [Accessed: May 2022]

## **Infrastructure and Other Marine Users (IOMU)**

Cefas (2021), 'UK Disposal Site Layer'. <https://data.cefas.co.uk/view/407> [Accessed: September 2021]

Civil Aviation Authority (2016), 'Policy and Guidelines on Wind Turbines', CAP 764, Sixth Edition, February 2016.

Energy Technology Institute (ETI) (2016), 'Strategic UK CCS Storage Appraisal Project (UKSAP)', authored by Pale Blue Dot Energy, Axis Well Technology, Costain, funded by DECC. [https://data.ukedc.rl.ac.uk/browse/edc/fossil/co2capture/UK\\_SAP/Reports/UKSAP\\_Final\\_Report.pdf](https://data.ukedc.rl.ac.uk/browse/edc/fossil/co2capture/UK_SAP/Reports/UKSAP_Final_Report.pdf) [Accessed: November 2021]

European Commission (2021), 'EC Urban Waste Water Treatment Directive (UWWTD) Treatment Plants -Treatment Map'. <https://uwwtd.eu/United-Kingdom/uwwtpps/treatment> [Accessed: November 2021]

KISORCA (2019), 'Utility Government Services undersea cable awareness data provided by Seafish KIS ORCA project' (Source not since updated).

<https://atlas.marine.ie/arcgis/rest/services/KISORCA/MapServer> [Accessed: September 2021]

Marine Management Organisation (2021), 'Public register'.

[https://marinelicensing.marinemanagement.org.uk/mmofox5/fox/live/MMO\\_PUBLIC\\_REGISTER/](https://marinelicensing.marinemanagement.org.uk/mmofox5/fox/live/MMO_PUBLIC_REGISTER/) [Accessed: January 2021]

Ocean Wise (2021), 'Marine Themes Vector – Administrative and Management Units: Cables; and Storm overflows'.

Oil and Gas Authority, 'Interactive Maps and Tools' <https://www.ogauthority.co.uk/data-centre/interactive-maps-and-tools/> [Accessed: December 2021]

The Crown Estate (2021a), 'Offshore Wind Cable Agreements (England, Wales & NI), The Crown Estate'. <https://opendata-thecrownestate.opendata.arcgis.com/search?groupIds=f0d0ec92da76434d9e91f2e4dcb3a99f> [Accessed: September 2021]

The Crown Estate (2021b), 'Offshore Wind Site Agreements (England, Wales & NI)'. <https://opendata-thecrownestate.opendata.arcgis.com/datasets/offshore-wind-site-agreements-england-wales-ni-the-crown-estate/explore?location=52.790200%2C-1.251504%2C6.77> [Accessed: September 2021]

The Crown Estate (2021c), 'Offshore Wave Cable Agreements (England, Wales & NI), The Crown Estate'. <https://opendata-thecrownestate.opendata.arcgis.com/search?groupIds=f0d0ec92da76434d9e91f2e4dcb3a99f> [Accessed: September 2021]

The Crown Estate (2021d), 'Offshore Wave Site Agreements (England, Wales & NI), The Crown Estate'. <https://opendata-thecrownestate.opendata.arcgis.com/search?groupIds=f0d0ec92da76434d9e91f2e4dcb3a99f> [Accessed: September 2021]

The Crown Estate (2021e), 'Offshore Tidal Cable Agreements (England, Wales & NI), The Crown Estate'. <https://opendata-thecrownestate.opendata.arcgis.com/search?groupIds=f0d0ec92da76434d9e91f2e4dcb3a99f> [Accessed: September 2021]

The Crown Estate (2021f), 'Offshore Tidal Site Agreements (England, Wales & NI), The Crown Estate'. <https://opendata-thecrownestate.opendata.arcgis.com/search?groupIds=f0d0ec92da76434d9e91f2e4dcb3a99f> [Accessed: September 2021]

The Crown Estate (2021g), 'Offshore Natural Gas Storage Site Agreements (England, Wales & NI), The Crown Estate'. <https://opendata-thecrownestate.opendata.arcgis.com/datasets/offshore-natural-gas-storage-site-agreements-england-wales-ni-the-crown-estate/explore?location=54.831771%2C-5.773132%2C14.00> [Accessed: September 2021]

The Crown Estate (2021h), 'Offshore Carbon Capture and Storage Site Agreements (England, Wales & NI), The Crown Estate'. <https://opendata-thecrownestate.opendata.arcgis.com/datasets/thecrownestate::offshore-carbon-capture-and-storage-site-agreements-england-wales-ni-the-crown-estate/explore?location=54.211389%2C1.022361%2C10.61> [Accessed: September 2021]

The Crown Estate (2021i), 'Offshore Minerals Aggregates Site Agreements (England, Wales & NI), The Crown Estate'. <https://opendata-thecrownestate.opendata.arcgis.com/datasets/thecrownestate::offshore-minerals-aggregates-site-agreements-england-wales-ni-the-crown-estate/about> [Accessed: September 2021]

The Crown Estate and BMAPA (2021), 'The area involved – 23rd annual report', ISBN: 978-1-906410-80-3. <https://www.thecrownestate.co.uk/media/3912/2021-area-involved-report.pdf> [Accessed: November 2021]

The Northern Endurance Partnership (2021), 'The Northern Endurance Partnership Enabling Net Zero Teesside and the East Coast Cluster'. <https://www.netzeroteesside.co.uk/northern-endurance-partnership/> [Accessed: November 2021]

The North Sea Transition Authority (NSTA) (2022a), 'North Sea Transition Authority Offshore Oil and Gas Activity', <https://www.arcgis.com/apps/webappviewer/index.html?id=f4b1ea5802944a55aa4a9df0184205a5> [Accessed 16 June 2022]

The North Sea Transition Authority (NSTA) (2022b), 'Bids invited in UK's first-ever carbon storage licensing round'. <https://www.nstauthority.co.uk/news-publications/news/2022/bids-invited-in-uk-s-first-ever-carbon-storage-licensing-round/> [Accessed 16 June 2022]

The Rivers Trust (2021), 'Raw Sewage in our Rivers [and coasts]'. <https://www.riverstrust.org/key-issues/sewage-in-rivers> [Accessed: November 2021]

World Nuclear Power (2021), 'Nuclear Power in the United Kingdom'. <http://www.world-nuclear.org/information-library/country-profiles/countries-t-z/united-kingdom.aspx> [Accessed: November 2021]

## **Air Quality**

Boston Borough Council (2020), *2020 Air Quality ASR*.

Defra (2020), *Defra Background Mapped Estimates (2018-Reference)*. <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>

Defra (2021), *Local Air Quality Management Technical Guidance (TG16)*.

EPUK and IAQM (2017), *Land-Use Planning & Development Control: Planning for Air Quality, v1.2*.

IAQM (2016), *Guidance on the Assessment of Dust from Demolition and Construction, v1.1*.

IAQM (2020), *A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites*.

National Highways, Transport Scotland, Welsh Government, and Department for Infrastructure (2019), *Design Manual for Roads and Bridges LA 105 - Air Quality*.

South Holland District Council (2020), *2020 Air Quality ASR*.

## **Archaeology and Cultural Heritage**

CifA (2020a) Standard and guidance for historic environment desk-based assessment.

CifA (2020b) Standard and guidance for archaeological field evaluation.

CifA (2020c) Standard and guidance for archaeological geophysical survey.

Historic England (2021) Commercial Renewable Energy Development and the Historic Environment  
Historic England Advice Note 15.

Historic England (2019) Statements of Heritage Significance Analysing Significance in Heritage  
Assets Historic England Advice Note 12.

Historic England (2017) The Setting of Heritage Assets Historic Environment Good Practice Advice in  
Planning Note 3 (second edition).

IEMA/IHBC/CIFA (2021) Principles of Cultural Heritage Impact Assessment in the UK.

## **Onshore Ecology**

Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P  
and Dunn F. (2014). Analytical and methodological development for improved surveillance of the  
Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great  
crested newt (*Triturus cristatus*) environmental DNA. Freshwater Habitats Trust, Oxford.

Bright P, Morris P and Mitchell-Jones T. (2006) *The Dormouse Conservation Handbook* (2nd  
Edition). Natural England, Peterborough.

Chanin P. (2003a) *Ecology of the European Otter*. Conserving Natura 2000 Rivers, Ecology Series No.  
10. English Nature, Peterborough.

Chanin P. (2003b) *Monitoring the Otter *Lutra lutra**. Conserving Natura 2000 Rivers Monitoring  
Series No 10. English Nature, Peterborough.

CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal*, 2nd edition. Chartered Institute of  
Ecology and Environmental Management, Winchester.

Collins J. (ed.) (2016) *Bat Surveys for Professional Ecologists, Good Practice Guidelines*. 3rd Edition.  
BCT

English Nature (2001) *Great crested newt mitigation guidelines*. English Nature, Peterborough.

Froglife (1999). *Reptile Survey: An Introduction to Planning, Conducting and Interpreting Surveys  
for Snakes and Lizard Conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.



Gent T and Gibson S. (1998). Herpetofauna Workers' Manual. Joint Nature Conservation Committee, Peterborough.

Gilbert, G., Gibbons, D.W. & Evans, J. (1998) Bird Monitoring Methods: A Manual of Techniques for Key UK Species. RSPB, Sandy.

Department for Environment Food & Rural Affairs. MAGIC Website. <https://magic.defra.gov.uk/> [accessed December 2021].

Neal E. and Cheeseman C. (1996). Badgers. Poyser Natural History

Sewell D, Griffiths R, Beebee T, Foster J and Wilkinson J (2013). Survey Protocols for the British Herpetofauna.

Strachan, R., Moorhouse, T., Gelling, M. (2011) Water Vole Conservation Handbook, Third Edition. WildCRU, University of Oxford

UK Habitat (UKHab) Classification (<https://ukhab.org/>)

## **Geology, Ground Conditions and Land Quality**

Environment Agency Guidance: Land contamination risk management (LCRM), <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm> [Accessed online: November 2021]

Defra (2009), 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/716510/pb13298-code-of-practice-090910.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/716510/pb13298-code-of-practice-090910.pdf) [Accessed: December 2021]

Standards for Highways (2019), 'Sustainability & Environment Appraisal. LA 109 Geology and Soils, Rev 0 (2019)'

Environment Agency (2020) Model Procedures; Contaminated Land Report (LCRM)

Defra (2012) Contaminated Land Statutory Guidance, PB13735

Rudland, D J., Lancefield R M., & Mayell P N. (2001) Contaminated Land Risk Assessment. A guide to good practice, DECC (2009), 'Overarching National Policy Statement for Energy (NPS EN-1)'

DECC (2009), 'Overarching National Policy Statement for Energy (NPS EN-1)'

DECC (2022), 'Draft Overarching National Policy Statement for Energy (NPS EN-1)'

DECC (2011), 'National Policy Statement for Electricity Networks Infrastructure (NPS EN-5)'

DECC (2022), 'Draft National Policy Statement for Electricity Networks Infrastructure (NPS EN-5)'

## **Hydrology, Hydrogeology and Flood Risk**

BGS, Onshore GeoIndex online maps. <http://mapapps2.bgs.ac.uk/geoindex/home.html> [Accessed: January 2022]

British Geology Survey, Geology viewer. <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> [Accessed: January 2022]

Cranfield Soil and Agrifood Institute, Soilscales. <http://www.landis.org.uk/soilscales> [Accessed: January 2022]

East Lindsey District Council (July 2018), East Lindsey Local Plan Core Strategy.

Environment Agency, Details on aquifer classification, SPZ, groundwater vulnerability, flood risk and Water Framework Directive classifications for groundwater and rivers. <http://environment.data.gov.uk> [Accessed: January 2022]

Environment Agency, Flood Map for Planning. <https://flood-map-for-planning.service.gov.uk/> [Accessed: January 2022]

Environment Agency, Groundwater protection guides. <https://www.gov.uk/government/collections/groundwater-protection> [Accessed: January 2022]

Environment Agency, LiDAR topographic data. <http://environment.data.gov.uk/ds/survey/#/survey> [Accessed: January 2022]

Environment Agency, Long Term Flood Risk Information. <https://flood-warning-information.service.gov.uk/long-term-flood-risk> [Accessed: January 2022]

Institute of Environmental Management and Assessment (July 2016), Environmental Impact Assessment Guide to Delivering Quality Development.

South East Lincolnshire Joint Strategic Planning Committee (March 2019), South East Lincolnshire Local Plan (2011-2036)

## **Land Use**

National Highways, Transport Scotland, Welsh Government, and Department for Infrastructure (2020), *Design Manual for Roads and Bridges LA 112 – Population and Human Health*.

Natural England (2020), *Provisional Agricultural Land Classification (ALC)*. <https://data.gov.uk/dataset/952421ec-da63-4569-817d-4d6399df40a1/provisional-agricultural-land-classification-al> [Accessed 21/01/2022]

## **Noise and Vibration**

*The Guidelines for Environmental Noise Impact Assessment*, produced by Institute of Environmental Management and Assessment (IEMA), 2014

British Standards Institution (BSI) (2014) *Code of practice for noise and vibration control on construction and open sites – Part 1: Noise*, BS5228-1:2009+A1:2014.

British Standards Institution (2014) *Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration*, BS5228-2:2009+A1:2014

Highways England (2020) Design Manual for Roads and Bridges (DMRB) - Note LA111 *Noise and Vibration*.

British Standards Institution (BSI) (2019) *Methods for rating and assessing industrial and commercial sound*, BS4142:2014+A1:2019

Moorhouse, AT , Waddington, DC and Adams, MD (2009), 'A procedure for the assessment of low frequency noise complaints' , The Journal of the Acoustical Society of America (JASA), 126 (3) , pp. 1131-1141.

L Ormerod, N Goodlad and K Horton (2005) AQTAG09 (*Air Quality Technical Advisory Group 09*), *Guidance on the effects of industrial noise on wildlife*, Environment Agency.

International Organisation for Standardisation (ISO) (1996) ISO9613-2 Acoustics – *Attenuation of sound during propagation outdoors – General method of calculation*.

Extrium *England Noise and Air Quality Viewer*. [www.extrium.co.uk/noiseviewer.html](http://www.extrium.co.uk/noiseviewer.html) [Accessed December 2021].

## **Traffic and Transport**

Planning Practice Guidance, Department for Levelling up, Housing and Communities (2017)

Guidance for Environmental Assessment of Road Traffic, Institute of Environmental Management and Assessment (2003)

Design Manual for Roads and Bridges LA 112 Population and Human Health, Highways England (2019)

## **Landscape and Visual Impact Assessment**

The Landscape Institute and Institute of Environmental Management and Assessment (2013) *Guidelines for the Assessment of Landscape and Visual Impacts*. Third Edition (GLVIA 3).

Landscape Institute (2019) *Visual Representation of Development Proposals*, Technical Guidance Note 06/19 (TGN 06/19).

Landscape Institute (2021) *Assessing landscape value outside national designations* (TGN 02/21).

Planning Inspectorate (2018) *Advice Note Nine: Rochdale Envelope*.

Planning Inspectorate (2019). *Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects*.

Natural England (2014) *An Approach to Landscape Character Assessment*.

Natural England (2019) *An approach to landscape sensitivity assessment – to inform spatial planning and land management*.

## Human Health

Cave, B., Fothergill, J., Pyper, R., Gibson, G., Saunders, P. (2017). Health in Environmental Impact Assessment: A Primer for a Proportionate Approach. Ben Cave Associates Ltd, IEMA and the Faculty of Public Health. Lincoln, England.

DECC (2011a), 'Overarching National Policy Statement for Energy (NPS EN-1)', Available from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/47854/1938-overarching-nps-for-energy-en1.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf) [Accessed July 2021]

DECC (2011b), 'National Policy Statement for Renewable Energy Infrastructure (NPS EN-3)', Available from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/47856/1940-nps-renewable-energy-en3.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47856/1940-nps-renewable-energy-en3.pdf) [Accessed: July 2021]

DECC (2011c), 'National Policy Statement for Electricity Networks Infrastructure (NPS EN-5)', Available from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/37050/1942-national-policy-statement-electricity-networks.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37050/1942-national-policy-statement-electricity-networks.pdf) [Accessed: July 2021]

DECC (2012a), 'Power Lines: Demonstrating compliance with EMF public exposure guidelines – a Voluntary Code of Practice (document dated March 2012 replacing document with the same title dated February 2011)'.

DECC (2012b), 'Optimum Phasing of high voltage double-circuit Power Lines – a Voluntary Code of Practice'.

East Riding of Yorkshire Health and Wellbeing Board (2019). Health and Wellbeing Strategy 2019 - 2022. Available at <https://intel-hub.eastriding.gov.uk/wp-content/uploads/2020/03/Health-and-Wellbeing-Strategy-2019-22.pdf> [Accessed: January 2022]

Energy Networks Association (ENA) (2017), EMFs The Facts. [http://www.emfs.info/wpcontent/uploads/2017/09/EMF\\_The\\_Facts\\_250917.pdf](http://www.emfs.info/wpcontent/uploads/2017/09/EMF_The_Facts_250917.pdf) [Accessed: July 2021]

European Union (1999), 'Council Recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz – 300 GHz)'. Official Journal of the European Communities 1999/519/EC.

International Commission on Non-Ionizing Radiation Protection (ICNIRP) (1998), 'Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz)'. Health Phys, 74: 494-522.

Lincolnshire County Council (2018). Joint Health and Wellbeing Strategy for Lincolnshire. Available at <https://www.lincolnshire.gov.uk/downloads/file/2345/joint-health-and-wellbeing-strategy> [Accessed: January 2022]

Lincolnshire Research Observatory (2021). Lincolnshire Joint Strategic Needs Assessment. Available at <https://www.research-lincs.org.uk/Joint-Strategic-Needs-Assessment.aspx> [Accessed: January 2022]

National Health Service (NHS) (2017) Healthy Urban Planning Checklist. Available at: <https://www.healthyrbandevelopment.nhs.uk/wp-content/uploads/2017/05/Healthy-Urban-Planning-Checklist-3rd-edition-April-2017.pdf> [Accessed: December 2021]

Public Health England (PHE) (2020) Health Impact Assessment in spatial planning. Available at: <https://www.gov.uk/government/publications/health-impact-assessment-in-spatial-planning> [Accessed: December 2021]

World Health Organization (WHO), 1999. Regional Office for Europe (WHO-EURO) and European Centre for Health Policy. Gothenburg consensus paper, December 1999. Health impact assessment: main concepts and suggested approach. Brussels: WHO-EURO and ECHP (online). Available at: [http://www.hiaconnect.edu.au/files/Gothenburg\\_Consensus\\_Paper.pdf](http://www.hiaconnect.edu.au/files/Gothenburg_Consensus_Paper.pdf) [Accessed: January 2022]

## Climate Change

BEIS (2020) UK Energy in Brief 2020. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/904503/UK\\_Energy\\_in\\_Brief\\_2020.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904503/UK_Energy_in_Brief_2020.pdf) [Accessed: Dec 2021]

CCC (2020a) Advice on reducing the UK's emissions. Available at: <https://www.theccc.org.uk/about/our-expertise/advice-on-reducing-the-uks-emissions/> [Accessed: December 2021]

CCC (2020b) The Sixth Carbon Budget: The UK's path to Net Zero. Available at: <https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf> [Accessed: December 2021]

Institute of Environmental Management & Assessment (IEMA) (2017) Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance. Available at: <https://www.iema.net/preview-document/assessing-greenhouse-gas-emissions-and-evaluating-their-significance> [Accessed: December 2021]

Institute of Environmental Management & Assessment (IEMA) (2020) Major Accidents and Disasters. Available at: <https://www.iema.net/resources/blog/2020/09/23/iema-major-accidents-and-disasters-in-eia-primer> [Accessed: December 2021]

Met Office (2018) UK Climate Projections data. Available at: <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/download-data> [Accessed: December 2021]

World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI) (2015) The Greenhouse Gas Protocol. Available at: <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf> [Accessed: December 2021]

## Socio-Economics

BVA BDRC (2021) Visitor Attraction Trends in England 2020 Full Report. Available at: [https://www.greaterlincolnshirelep.co.uk/assets/documents/GLLEP\\_Local\\_Industrial\\_Strategy\\_FIN\\_AL\\_DRAFT\\_%2810th\\_February\\_2021%29.pdf](https://www.greaterlincolnshirelep.co.uk/assets/documents/GLLEP_Local_Industrial_Strategy_FIN_AL_DRAFT_%2810th_February_2021%29.pdf)

BVG Associates (2019) Guide to an Offshore Wind Farm. Available at: <https://ore.catapult.org.uk/app/uploads/2019/04/BVGA-5238-Guide-r2.pdf>

NPS EN-1 Overarching National Policy Statement for Energy (2021)

Greater Lincolnshire LEP (2021) Local Industrial Strategy. Available at: [https://www.greaterlincolnshirelep.co.uk/assets/documents/GLLEP\\_Local\\_Industrial\\_Strategy\\_FIN\\_AL\\_DRAFT\\_%2810th\\_February\\_2021%29.pdf](https://www.greaterlincolnshirelep.co.uk/assets/documents/GLLEP_Local_Industrial_Strategy_FIN_AL_DRAFT_%2810th_February_2021%29.pdf)

HM Government (2022) British Energy Security Strategy. Available at: <https://www.gov.uk/government/publications/british-energy-security-strategy> [Accessed: May 2022]

HM Treasury (2020), The Green Book: an appraisal and evaluation in central Government

Humber Local Enterprise Partnership (2019) Humber Local Energy Strategy. Available at: <https://www.humberlep.org/wp-content/uploads/2020/02/Humber-LEP-Energy-Strategy-1.pdf>

Kantar (2020), The Great Britain Tourist Survey, 2019 Annual Report. Available at: [https://www.visitbritain.org/sites/default/files/vb-corporate/gb\\_tourist\\_annual\\_report\\_2019\\_final.pdf](https://www.visitbritain.org/sites/default/files/vb-corporate/gb_tourist_annual_report_2019_final.pdf)

Kantar TNS (2020), Great Britain Day Visitor Survey 2019 Annual Report. Available at: [https://www.visitbritain.org/sites/default/files/vb-corporate/gbdvs\\_2019\\_annual\\_report.pdf](https://www.visitbritain.org/sites/default/files/vb-corporate/gbdvs_2019_annual_report.pdf)

MMO (2020) Mapping recreational sea anglers in English waters: Non-technical summary. A report produced for the Marine Management Organisation, MMO Project No: 1163, February 2020, 33pp.

MMO (2021). High Priority Non-Licensable Activities in MPAs. A report produced for the Marine Management Organisation, MMO Project No: 1243 September 2021, 74pp

MMO (2019), 'Non-licensable Activity Impacts on Marine Protected Areas', A report produced for the Marine Management Organisation, MMO Project No: 1136, November 2019, 118pp.

Offshore Wind Industry Council (2020) Collaborating for Growth: Strategies for Expanding the UK Offshore Wind Supply Chain. Available at: <https://www.owic.org.uk/publications> [Accessed: May 2022]

Offshore Wind Industry Council (2021) People Skills Survey 2021 – 2026. Available at: <https://www.owic.org.uk/publications> [Accessed: May 2022]

ONS (2021a) Population Estimates. Available at: [www.nomisweb.co.uk](http://www.nomisweb.co.uk)

ONS (2021b) Population Projections, 2019-2043. Available at: [www.nomisweb.co.uk](http://www.nomisweb.co.uk)

ONS (2021c) Annual Population Survey. Available at: [www.nomisweb.co.uk](http://www.nomisweb.co.uk)

ONS (2021d), Annual Survey of Hours and Earnings – resident analysis 2020. Available at: [www.nomisweb.co.uk](http://www.nomisweb.co.uk)

ONS (2021e) Business Register and Employment Survey. Available at: [www.nomis.co.uk](http://www.nomis.co.uk)

ONS (2021f) House Price Statistics for Small Areas (HPSSAs). Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/housepricestatisticsforsmallareas/yearendingmarch2021/relateddata>

ONS (2021g) Private rental affordability, England. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/privaterentalaffordabilityengland/2012to2020/relateddata>

ONS (2021h) Subnational estimates of dwellings by Tenure, England. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/datasets/subnationaldwellingstockbytenureestimates>

ONS (2022) Annual Business Survey. Available at: <https://www.ons.gov.uk/businessindustryandtrade/business/businessservices/datasets/uknonfinancialbusinesseconomyannualbusinesssurveysectionsas>

ORE Catapult (2020) Offshore Wind Operations and Maintenance a £9 billion per year opportunity by 2030 for the UK to seize. Available at: [https://ore.catapult.org.uk/wp-content/uploads/2021/05/Catapult-Offshore-Wind-OM\\_final-050521.pdf](https://ore.catapult.org.uk/wp-content/uploads/2021/05/Catapult-Offshore-Wind-OM_final-050521.pdf)

Oxford Brookes University (2020) Guidance on assessing the socio-economic impacts of OWFs (OWFs). Available at: <https://group.vattenfall.com/uk/contentassets/c66251dd969a437c878b5fec736c32aa/best-practice-guidance---final-oct-2020.pdf>

RenewableUK (2022) Offshore Wind Industry Council media release – Monday 13th June 2022. Available at: <https://www.renewableuk.com/news/608235/New-report-shows-jobs-in-UK-offshore-wind-industry-to-grow-to-100000.htm> [Accessed: June 2022]

RYA (2021), 'UK Coastal Atlas of Recreational Boating 2.1', Version 2.1, licensed to the Project.

Seasearch (2021), 'Seasearch Marine Surveys in England', Occurrence dataset on the NBN Atlas. Available at: <https://registry.nbnatlas.org/public/show/dp119> [Accessed: September 2021]

UK Government (2020) UK Offshore Wind Sector Deal. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/790950/BEIS\\_Offshore\\_Wind\\_Single\\_Pages\\_web\\_optimised.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/790950/BEIS_Offshore_Wind_Single_Pages_web_optimised.pdf)

Planetware (2021), 12 Top-Rate Tourist Attractions in Hull.

Seasearch (2021), 'Seasearch Marine Surveys in England'. Available at: <https://registry.nbnatlas.org/public/showDataResource/dr690> [Accessed: September 2021]

Scottish Government (expected 2022), Defining 'Local Area' for assessing impact of offshore renewables and other marine developments: Guidance Principles, BiGGAR Economics

TripAdvisor (2021), Things to Do in East Riding of Yorkshire.

Visit England (2021) Annual Survey of Visits to Visitor Attractions

Visit Lincoln (2021), Visit Lincoln Expands into Greater Lincolnshire.

### **Summary and Next Steps**

The Inspectorate (2019) Advice Note Seventeen: Cumulative effects assessment. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-17/> [Accessed: December 2021]

The Inspectorate (2020) Advice Note Twelve: Transboundary Impacts and Process. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-twelve-transboundary-impacts-and-process/> [Accessed: May 2022]



# Outer Dowsing Offshore Wind

## Appendices

Date: July 2022

Rev: v1.0

# **Appendix A – Transboundary Screening Matrix**

# 1 Introduction

## 1.1 Purpose of this Document

- 1.1.1 Transboundary impacts relate to those impacts that may arise that significantly affect the environment or other interests of an European Economic Area (EEA) state.
- 1.1.2 The Planning Inspectorate (the Inspectorate) are required to undertake a screening for significant transboundary effects under Regulation 32 of the Conservation of Habitats and Species Regulations 2017 (as amended) (EIA Regulations).
- 1.1.3 This document identifies the transboundary receptors of relevance to the Project and considers the potential effects from construction, operation (including maintenance) and decommissioning of the offshore and onshore components of the Project on transboundary receptors, as well as evaluating the likelihood of significant transboundary effects occurring and the transboundary consultation with other member states which has been undertaken to date.

## 1.2 Legislative Context

- 1.2.1 The need to consider transboundary impacts has been embodied by The United Nations Economic Commission for Europe Convention on Environmental Impact Assessment in a Transboundary Context, adopted in 1991 in the Finnish city of Espoo and commonly referred to as the 'Espoo Convention'. The Espoo Convention requires that assessments are extended across borders between Parties of the Espoo Convention when a planned activity may cause significant adverse transboundary impacts.
- 1.2.2 The Espoo Convention has been implemented in the European Union (EU) via the European Council Directive 2014/52/EU (the EIA Directive) which (as noted above) is transposed into UK law by the EIA Regulations. Regulation 32 of the EIA Regulations requires that where the Secretary of State (SoS) is of a view that an EIA application will have significant effects on the environment of an EEA State, or the SoS receives a request for involvement from an EEA State, it must undertake a prescribed process of consultation and notification.
- 1.2.3 In relation to the UK's exit from the EU, the Environmental Assessments and Miscellaneous Planning (Amendment) (EU Exit) Regulations 2018 provide that the EIA regime under the EIA Regulations continue to apply in substantially the same form as they did prior to the UK leaving the EU.
- 1.2.4 The Inspectorate's Advice Note Twelve: Transboundary Impacts and Process (The Inspectorate, 2020) sets out the procedures for consultation in association with an application for a DCO, where such development may have significant transboundary impacts. The note sets out the roles of the Inspectorate, other EEA States and developers. In respect of the latter, developers have no formal role under the Regulation 32 process, as the duties prescribed by Regulation 32 in notifying and consulting with EEA States on potential transboundary impacts are the responsibility of the SoS. However, developers are advised to:
  - Carry out preparatory work to complete a transboundary screening matrix to assist the SoS in determining the potential for likely significant effects on the environment in EEA States;

- To submit the transboundary screening matrix along with the scoping request, if a Scoping Opinion is sought by the developer and with the DCO application; and
- Consider, when preparing documents for consultation and application, whether to undertake their own consultations with relevant EEA States.

1.2.5 This transboundary screening is provided in response to the Inspectorate's Advice Note Twelve and the bullet points noted above. It provides information about the Project which will be the subject of the DCO application and sets out information relating to the potential effects of the scheme and the interests of the other member states, to assist the Inspectorate in forming a view on the likelihood of significant transboundary effects arising from the Project.

1.2.6 Paragraph 2.6.124 of the NPS for Renewable Energy (NPS EN-3) notes the potential for impacts arising from offshore wind farms on fishermen from other nations who fish in UK waters. This is further considered in Section 7.8: Commercial Fisheries of this document.

### Habitats Regulations Assessment

1.2.7 Article 6(3) of the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and wild fauna and flora (the Habitats Directive), requires an 'appropriate assessment' to be prepared where a plan or project is likely to have a significant effect upon the network of European sites. These include Special Areas of Conservation (SACs), candidate SACs (cSAC), Special Protection Areas (SPAs), potential SPAs (pSPAs), Sites of Community Importance (SCIs), Ramsar sites and priority natural habitat types. These sites may be located within the UK or another state.

1.2.8 The Habitats Directive is transposed into UK law by the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) (the Offshore Habitats Regulations) for offshore sites beyond 12 nautical miles (nm) and the Habitats Regulations) for sites onshore and offshore sites laying within 12 nm. Regarding the UK's exit from the EU, the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 mean that the Habitats Regulations Assessment (HRA) regime under the Habitats Regulations continues to apply in substantially the same way as it did before the UK left the EU.

1.2.9 Regulation 24 of the Habitats Regulations sets out the procedure for the assessment of the implications of plans and projects on European sites. Regulation 28 of Offshore Habitats Regulations contain broadly similar statutory provisions to Regulation 24 of the Habitat Regulations. Under Regulation 24 of the Habitats Regulations and Regulation 28 of the Offshore Habitats Regulations respectively, if the proposed development is not directly connected with or necessary to the management of a site and is likely to significantly affect the site, the competent authority must undertake an appropriate assessment of the implications for that site in view of that site's conservation objectives. The Inspectorates Advice Note Ten Habitats Regulations Assessment relevant to nationally significant infrastructure projects (The Inspectorate, 2017) recommends a four-stage process:

- Stage 1 Screening - Test of Likely Significance: Determining whether the plan or project "either alone or in-combination with other plans and projects" is likely to have a significant effect upon a site(s);

- Stage 2 Appropriate Assessment - Where likely significant effects are identified during screening, determining whether, in view of the site's conservation objectives, the plan or project would have an adverse effect on the integrity of the site. If not, the plan can proceed;
- Stage 3 Alternatives - Where the plan or project cannot be shown to avoid an adverse effect on the integrity of a site, there should be an examination of alternative solutions; and
- Stage 4 Assessment of "imperative reasons of overriding public interest" (IROPI) - If it is not possible to identify alternative solutions that would avoid an adverse effect on integrity, it will be necessary to establish that IROPI exist. In the event of a negative appropriate assessment (stage 2 above), compensatory measures must also be included with HRA report, which are considered during Stage 4 if there are no alternatives identified during Stage 3.

1.2.10 The stages of the process are collectively referred to as the HRA to clearly distinguish from the appropriate assessment, which is a single step within the whole HRA process.

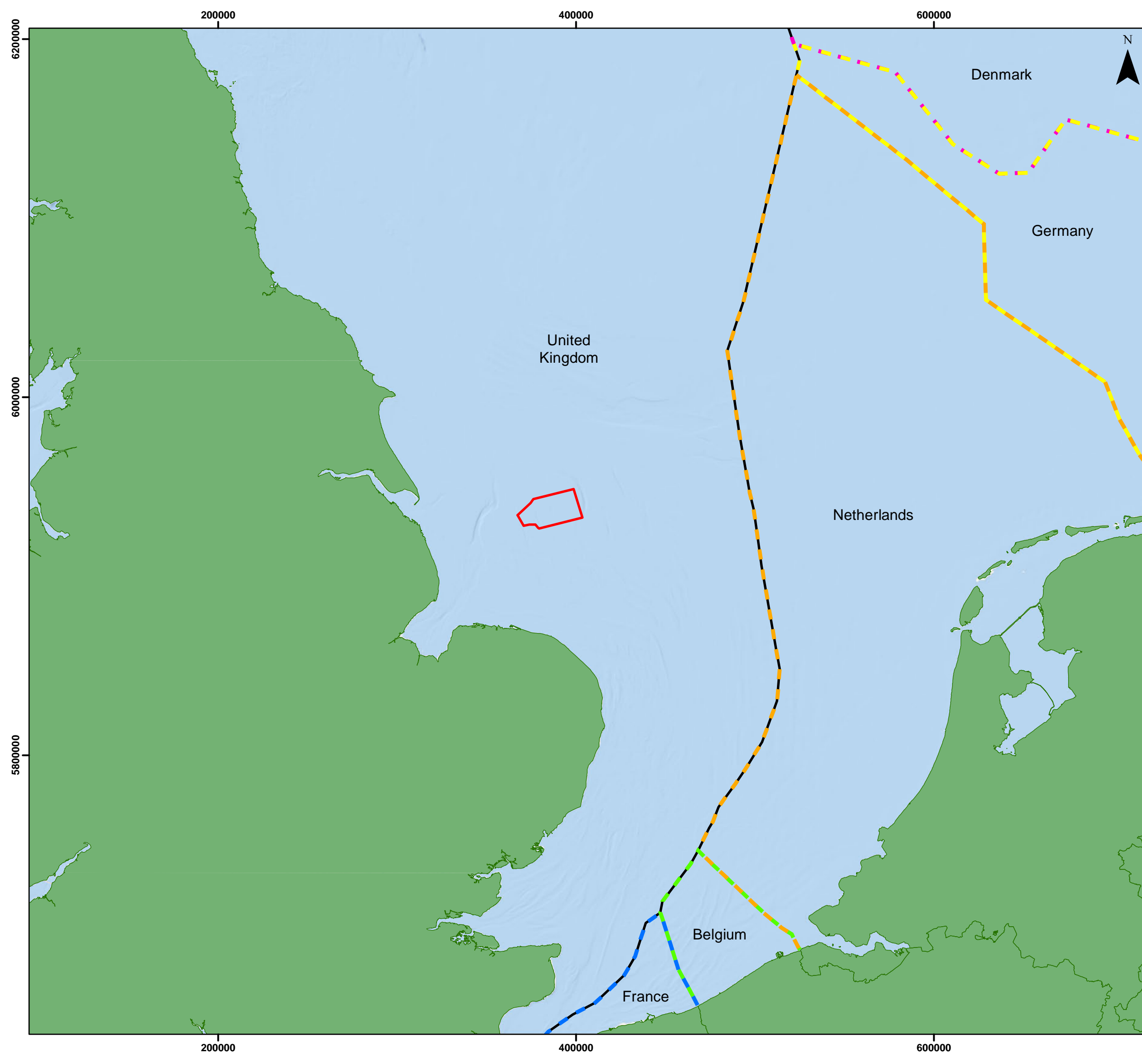
1.2.11 The Inspectorate's Advice Note Ten also describes the information which is required to be submitted with the DCO application and highlights the requirement for consultation and engagement with relevant bodies. Where significant effects are likely upon European sites in other EEA States, consultation is required with the competent authorities of those states. It follows therefore that developers should commence engagement with these authorities at the screening stage of the HRA. HRA screening will be carried out separately to the transboundary screening and scoping exercise and detailed in a separate HRA screening report.

### **1.3 Study Area**

1.3.1 The Project array area is located outside the 12 nautical mile (nm) limit in UK Exclusive Economic Zone (EEZ) waters. The distance of the Project from the boundary of the EEZ or 'median' of other EEA States considered is presented in Table A. 1 and Table A. 2.

Table A. 1: Summary of Approximate Distance to Nearest EEZ (median line) of Other EEA States

EEZ	Approximate Distance from the Project to nearest marine border (km)
The Netherlands	95
Belgium	196
France	225
Germany	263
Denmark	277
Norway	292



**Legend**

- Site Boundary
- Exclusive Economic Zone (EEZ)
  - Belgium
  - Denmark
  - France
  - Germany
  - Netherlands
  - United Kingdom


Coordinate System: WGS 1984 UTM Zone 31N

0 50 100 km


Scale: 1:2,000,000

The proximity to the EEZ of adjacent states to the Project Array Area

Figure A.1


**OUTER DOWSING**  
 OFFSHORE WIND

Date: 21/07/2022  
 Produced By: BPHB  
 Revision: 0.1


 Contains ESRI Basemapping; Esri, Garmin, GEBCO, NOAA NGDC, and other contributors

Document Path: G:\GIS\GIS - Projects\0152 Outer Dowsing EIA\GIS\Figures\Scoping\Transboundary\OD\_0152\_EEZ.mxd

## Consultation

1.3.2 The Project will conduct its statutory pre-application consultation in accordance with the Planning Act 2008 plus associated guidance and Regulations, which includes the aforementioned Habitats Regulations. As part of this consultation, the following EU Ministries and Industries will be consulted:

- Dutch Ministry of Infrastructure and the Environment;
- German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety;
- Flemish Government Environment, Nature and Energy Department, International Environmental Policy Division;
- Environmental Protection Agency, Ministry of the Environment and Food of Denmark;
- Norwegian Environment Agency;
- French Ministère de l'écologie, du développement durable et de l'énergie Commissariat général au développement durable;
- EU commercial fisheries organisations:
  - Rederscentrale (Belgian);
  - From Nord (French);
  - Cooperative Maritime Etaploise Producer Organisation (French);
  - VisNed (Dutch);
  - Danish Fishermen's Producer Organisation;
  - Swedish Pelagic Federation Producers Organisation;
  - Danish Pelagic Producers Organisation; and
  - Erzeugergemeinschaft der Nord-und Osteefischer GmbH (German).

1.3.3 The Project will also consult with any additional consultees identified by the EU Ministries and Industries.

## 1.4 Offshore Physical and Biological Baseline Environment

### Introduction

1.4.1 The Project has completed a transboundary screening matrix for the offshore transboundary effects for the physical and biological environment, in line with the suggested format set out in the Annex 1 of The Inspectorate's Advice Note Twelve. This screening matrix is set out in Table A. 2 below.

1.4.2 The conclusions of the transboundary screening for each physical and biological environment topic are presented, together with additional justification, in the following sections.



## Marine Processes

- 1.4.3 The offshore components of the Project will lie wholly within UK territorial waters and any impacts on marine processes will be confined to a localised area within the footprint of the Project array area and offshore Export Cable Corridor (ECC) plus one tidal ellipse.
- 1.4.4 In conclusion, any transboundary impacts upon marine processes will be limited to the UK EEZ, based on the current understanding of the baseline environment. Therefore, it is proposed that transboundary impacts upon marine processes are screened out of the EIA process.

## Marine Water Quality

- 1.4.5 The offshore components of the Project will lie wholly within UK territorial waters and any impacts on marine water quality will be confined to a localised area within the footprint of the Project array area and offshore ECC plus one tidal ellipse.
- 1.4.6 In conclusion, any impacts upon marine water quality will be limited to the UK EEZ, based on the current understanding of the baseline environment. Therefore, it is proposed that transboundary impacts upon marine water quality are screened out of the EIA process.

## Benthic Subtidal and Intertidal Ecology

- 1.4.7 The offshore components of the Project will lie wholly within UK territorial waters and any impacts on benthic subtidal and intertidal ecology will be confined to a localised area within the footprint of the Project's array area and offshore ECC plus one tidal ellipse.
- 1.4.8 In conclusion, any impacts upon benthic subtidal and intertidal ecology will be limited to the UK EEZ, based on the current understanding of the baseline environment. Therefore, it is proposed that transboundary impacts upon benthic subtidal and intertidal ecology are screened out of the EIA process.

## Fish and Shellfish Ecology

- 1.4.9 The offshore components of the Project will lie wholly within UK territorial waters and any impacts (excluding underwater noise) on fish and shellfish ecology will be confined to a localised area within the footprint of the Project's array area and offshore ECC plus one tidal ellipse.
- 1.4.10 Impacts from underwater noise can propagate over greater distances, however, based on the closest other EEZ being approximately 95 km from the Project, it is considered highly unlikely that any noise from the Project's construction, operation or decommissioning would be above background levels at this distance.
- 1.4.11 In conclusion, any impacts on fish and shellfish ecology will be limited to the UK EEZ, based on the current understanding of the baseline environment. Therefore, it is proposed that transboundary impacts on fish and shellfish ecology are screened out of the EIA process.

## Marine Mammals

- 1.4.12 There is the potential for transboundary impacts upon marine mammals due to the mobile nature of marine mammal species and the natural range of some of these species comprising the whole of the North Sea. The marine mammal species likely to be present in the Project's marine mammal study area are outlined in full in Section 7.5, and include harbour porpoise *Phocoena phocoena*, white-beaked dolphin *Lagenorhynchus albirostris*, bottlenose dolphin *Tursiops tursiops*, minke whale *Balenoptera acutrostrata*, grey seal *Halichoerus grypus* and harbour seal *Phoca vitulina*.
- 1.4.13 Direct impacts may occur due to underwater noise generated during construction and decommissioning, particularly piling during the installation of foundations. Indirect impacts may cause disturbance to prey (fish) species from loss of fish spawning and nursery habitat and suspended sediments and deposition. The operation and maintenance phase is considered less likely to result in significant transboundary impacts although the effects associated with the operational noise of turbines are, by nature, longer term effects which will be reversible.
- 1.4.14 The probability of transboundary impacts on marine mammals occurring during construction, particularly as a result of underwater noise from piling, is potentially high although the extent cannot be determined at this stage and will be subject to assessment in the EIA. The majority of impacts during construction are however considered likely to be short term and temporary.
- 1.4.15 It is proposed that impacts upon marine mammals and their nature conservation interests, in so far as they are scoped into the main EIA process will also be subject to transboundary assessment and are not screened out at this time. Likely significant effects upon European Sites with marine mammals as qualifying features, will be assessed within the HRA.

## Offshore and Intertidal Ornithology

- 1.4.16 Transboundary impacts upon ornithological receptors (up to Mean High Water Springs (MHWS)) are possible due to the wide foraging and migratory ranges of typical bird species in the North Sea. In addition, a number of bird species that have been recorded during previous surveys include those that are listed as qualifying features of European Sites in other EEA States.
- 1.4.17 The bird species likely to be present in the Project's array area and offshore ECC based upon the Project's aerial survey data gathered to date are outlined in full in Section 7.6 and include Kittiwake *Rissa tridactyla*, Razorbill *Alca torda*, Guillemot *Uria aalge*, Gannet *Morus bassanus* and Red Throated Diver *Gavia stellata* amongst others.

- 1.4.18 The key direct impacts for ornithological receptors are likely to arise during the operation and maintenance phase as a result of potential collisions (with rotating turbine blades which may result in direct mortality of individuals) and barrier effects (caused by the physical presence of structures which may prevent transit of birds between foraging and breeding sites, or on migration). Direct impacts to ornithological receptors may also occur due to temporary habitat loss/disturbance across all development phases of the Project and permanent habitat loss during the operation and maintenance phase. Indirect impacts may cause disturbance to prey (fish) species from important bird feeding areas or changes to prey availability due to changes to physical processes and habitat as a result of the presence of operational infrastructure.
- 1.4.19 It is possible that there will be transboundary impacts to ornithological receptors occurring during operation and maintenance, particularly as a result of displacement and collision risk. The magnitude of these effects is not known at this stage and will be subject to further assessment in the EIA. Unlike the majority of impacts during the construction phase, which are considered likely to be short term and temporary, potential impacts during the operation and maintenance phase are likely to be long term, continuous and of varying spatial extent depending on the species, although it is likely that they will be reversible following the decommissioning of the Project.
- 1.4.20 In conclusion, it is considered possible that there may be transboundary impacts upon certain species of birds and their nature conservation interests and these receptors will therefore be assessed further within the EIA and transboundary impacts are therefore not screened out at this time. Likely significant effects upon European Sites with birds as qualifying features, will be assessed within the HRA.

Table A. 2: Offshore Transboundary Screening Matrix for the Project – Physical and Biological Environment

Screening Criteria	Marine Processes	Marine Water Quality	Benthic and Intertidal Ecology	Fish and Shellfish Ecology	Marine Mammals	Offshore and Intertidal Ornithology
Characteristics of development (for a detailed description, see Section 3)	<p><b>Offshore</b></p> <p>The proposed development is an offshore generating station comprising of up to 100 wind turbines. A range of turbine models will be considered; however, it is anticipated that each turbine will have a maximum rotor diameter of 340 m and a maximum blade tip height of 403 m Lowest Astronomical Tide (LAT) (highest point of the structure).</p> <p>Foundation design has yet to be finalised with a final decision depending on final site investigation and procurement negotiations. The options under consideration include; monopile, a suction bucket, gravity base systems (GBS), pin piled jacket, suction bucket jacket and GBS jacket. Scour protection including rock and gravel dumping is being considered as part of the Project Description.</p> <p>Up to seven offshore platforms will be installed which, depending on the transmission system, may include an offshore converter substation and offshore High Voltage Alternating Current (HVAC) booster substation. Offshore platform supporting accommodation facilities for operation and maintenance will also be required. The exact number of platforms to be installed is yet to be determined.</p> <p>Subsea array cables, offshore interconnector cables and subsea export cables will be installed to connect the turbines to the substations and to connect the substations to the onshore transition pits at the landfall. Cable protection (type not specified) will also be installed.</p> <p>The project is described in full in Section 3.</p>					
Location of development and geographical area	The Project’s array area is located approximately 54 km east from the coast of Lincolnshire. The Project’s array area covers approximately 500 km <sup>2</sup> . The Applicant intends to reduce the size of the array area from 500 km <sup>2</sup> to an area of up to 300 km <sup>2</sup> prior to consent.					
Cumulative impacts	See Section 5.					
Carrier	No significant transboundary impacts are predicted.					
Environmental importance	No significant transboundary impacts are predicted.					
Extent	No significant transboundary impacts are predicted.					
	Transboundary assessment will be undertaken. See marine					
	Transboundary assessment will be undertaken. See offshore and intertidal					

Screening Criteria	Marine Processes	Marine Water Quality	Benthic and Intertidal Ecology	Fish and Shellfish Ecology	Marine Mammals	Offshore and Intertidal Ornithology
					mammals section above.	ornithology section above.
Magnitude	The magnitude of the impacts will be subject to the assessment to be undertaken for the EIA and have, therefore, not been determined here.					
Probability	No significant transboundary impacts are predicted.	No significant transboundary impacts are predicted.	No significant transboundary impacts are predicted.	No significant transboundary impacts are predicted.	Transboundary assessment will be undertaken. See marine mammals section above.	Transboundary assessment will be undertaken. See offshore and intertidal ornithology section above.
Duration						
Frequency						
Reversibility						

## 1.5 Offshore Human Baseline Environment

### Introduction

- 1.5.1 The Project has completed a transboundary screening matrix for offshore transboundary effects for the human environment, in line with the suggested format set out in Annex 1 of the Inspectorate's Advice Note Twelve. This screening is set out in Table A. 3 below.
- 1.5.2 The conclusions of the transboundary screening for each offshore human environment topic are presented, together with additional justification, in the following sections.

### Marine and Intertidal Archaeology

- 1.5.3 The marine and intertidal archaeology baseline for the Project's array area and the offshore AoS are outlined in full in paragraphs in Section 7.5.
- 1.5.4 The closest median line to the marine archaeology study area is that of the Dutch EEZ which is located approximately 95 km away at its closest point. Due to the localised nature (limited entirely to within the UK EEZ) of any potential impacts on known marine archaeological and cultural heritage receptors, transboundary impacts are unlikely to occur and therefore it is proposed that this impact will be scoped out from further consideration within the EIA.
- 1.5.5 It should be noted that, while all potential impacts will also be scoped out, should wrecks or aircrafts of non-British nationality be impacted by the Project, further archaeological investigations may be warranted as will be outlined in the Outline Marine Written Scheme of Investigation (WSI) that will be prepared for the Project. Further discussions on protection for such features would include the relevant organisation in the country of relevance. There is also a potential for paleochannels and palaeolandscapes within the North Sea to stretch beyond international boundaries. The impact on submerged landscapes in those cases is expected to be local within the Project and will be mitigated and offset by archaeological assessments of geotechnical data.

### Commercial Fisheries

- 1.5.6 Commercial fishing operates in the Project's study area as outlined in Section 7.8 and includes activity by a number of fleets from EEA States.
- 1.5.7 Due to the highly mobile nature of both commercial fish species and fishing fleets and the relative proximity of the Project's array area to Dutch and Danish waters (Table A. 1), together with the known presence of Dutch, Danish and French fishing vessels within the Project area, there is the potential for transboundary impacts upon commercial fisheries to arise from two sources;
- Effects on commercial fishing fleets as a result of impacts from the Project on commercial fish stocks in the waters of other EEA States; and
  - Effects on commercial fishing fleets from all EEA countries as a result of constraints on foreign commercial fishing activities operating in the Project, including demersal trawling, beam trawling, demersal seining and other gears. These effects may include reduction in access to fishing grounds and potential displacement of fishing effort from the Project to alternative fishing grounds in other EEA States, which will have direct implications to that fishing ground.

- 1.5.8 The probability of impacts occurring during operation, particularly as a result of the presence of the offshore infrastructure associated with the Project, is likely to be high although the extent cannot be determined at this stage. This will be determined by the final project design and the description of final designated safety zones and will therefore be subject to assessment in the EIA.
- 1.5.9 Although such effects have the potential to be long term, it is likely that following completion of construction that some fishing activity may be able to resume, depending upon the final design of the infrastructure. In addition, it is likely that any impact from the final installed design would be reversible after decommissioning, as it is anticipated that all structures above the seabed will be completely removed, and fishing activity would be able to resume once decommissioning is completed. The construction phase is considered less likely to result in significant effects although the effect associated with the interference caused by the presence of infrastructure will progressively increase as the development is progressed.
- 1.5.10 Therefore, it is proposed that transboundary impacts upon commercial fisheries are assessed further within the EIA and are not screened out at this time.

### Shipping and Navigation

- 1.5.11 The Project is situated in the southern North Sea where some of the busiest shipping routes presently operate. The shipping and navigation baseline for the Project's array area and the offshore AoS are outlined in Section 7.9.
- 1.5.12 There is the potential for transboundary impacts upon shipping routes which transit to/from other EEA countries including the potential effects of shipping routes to/from the Netherlands, Denmark, Sweden, Iceland and Germany. Transboundary issues could also arise from impacts upon international ports, other international shipping routes and/or routes affected by other international offshore renewable energy developments.
- 1.5.13 The probability of effects on shipping and navigation occurring during operation, particularly as a result of the presence of the offshore infrastructure associated with the Project, is likely to be high although the significance of those effects cannot be determined at this stage. This will be subject to assessment in the EIA. Although such effects would be long term, it is likely that they would be reversible after decommissioning, as it is anticipated that all structures above the seabed will be completely removed. The construction phase is considered less likely to result in significant effects although the effects associated with the interference caused by the presence of infrastructure on shipping and navigation will progressively increase as the development is progressed.
- 1.5.14 Therefore, it is proposed that transboundary impacts upon shipping and navigation are assessed further within the EIA and are not screened out at this time.

### Aviation, Radar, Military and Communication

- 1.5.15 The aviation and radar baseline for the Project's array area and the offshore AoS are outlined in Section 7.10.

- 1.5.16 Potential effects upon aviation during the operation and maintenance phase include potential disturbance to commercial helicopter transiting to oil and gas installations in the Southern North Sea from UK airports. There are some platforms within the vicinity of the Project that are located in the Dutch EEZ, however, these platforms are serviced from the Netherlands (i.e. from the east) and therefore no transboundary effects are predicted in relation to disruption to transit routes to the set platforms and use of available airspace. The Project is entirely within the UK Flight Information Region and therefore no transboundary effects are predicted in relation to aviation airspace.
- 1.5.17 The extent of the potential for transboundary impacts to arise from the presence of the wind turbines occurring during the operation and maintenance phase as a result of the presence of the offshore infrastructure associated with the Project cannot be determined at this stage. This will be determined once all the baseline data has been obtained for the Dutch sector, and once the project description has been further refined. Although any effects would be long term, it is likely that they would be reversible after decommissioning, as it is anticipated that all structures above the seabed will be completely removed. These potential impacts will therefore be subject to assessment in the EIA.
- 1.5.18 Therefore, it is proposed that transboundary impacts upon aviation and radar and military during the operational and maintenance phase are assessed further within the EIA and are not screened out at this time.

### Seascape, Landscape and Visual

- 1.5.19 The seascape, landscape and visual resources baselines for the Project's array area and the offshore ECC corridor is outlined in Section 7.11.
- 1.5.20 The introduction of new/uncharacteristic elements/features and potential effects on the existing Historic Seascape Characteristic (HSC) has been screened into the assessment. The extent of any predicted impacts upon the HSC is therefore likely to be largely focused on the Project's offshore footprint (i.e. the Project's array area and the offshore ECC).
- 1.5.21 If there is a requirement for an offshore reactor station, there is the potential for short-term and long-term, reversible impacts on perceived seascape character, landscape character and qualities of designated landscapes, and views / visual amenity experienced by people arising as a result of visibility of the offshore reactor station of the Project.
- 1.5.22 Therefore, it is proposed that transboundary impacts upon seascape, landscape and visual resources may be assessed further within the EIA and are not screened out at this time.

### Marine Infrastructure and Other Users

- 1.5.23 The baseline for infrastructure and other users for the Project's array area and the offshore ECC is outlined in Section 7.12.
- 1.5.24 Potential impacts upon infrastructure and other users are limited to activities surrounding oil and gas operations, cable and pipelines and carbon capture and storage (CCS). The potential impacts on these marine users and activities are predicted to be localised and limited to entirely within the UK EEZ with no meaningful pathway for effect outside the UK EEZ.



- 1.5.25 Therefore, it is concluded that no potential transboundary impacts upon infrastructure and other marine users are anticipated, which as a result means that transboundary impacts are screened out of the EIA process.

Table A. 3: Offshore Transboundary Screening Matrix for the Project – Human Environment

Screening Criteria	Marine and Intertidal Archaeology	Commercial Fisheries	Shipping and Navigation	Aviation, Radar, Military and Communication		Seascape, Landscape and Visual	Infrastructure and Other Users
Characteristics of development (for a detailed description, see Section 3)		See Table A. 2 for details.					
Location of development and geographical area		See Table A. 2 for details.					
Cumulative impacts		See Section 5					
Carrier	No significant transboundary impacts are predicted.	Transboundary assessment will be undertaken. See commercial fisheries section above.	Transboundary assessment will be undertaken. See shipping and navigation section above.	Transboundary assessment will be undertaken. See aviation, radar, military and communication section above.		No significant transboundary impacts are predicted.	No significant transboundary impacts are predicted.
Environmental importance							
Extent							
Magnitude		The magnitude of the impacts will be subject to the assessment to be undertaken for the EIA and have, therefore, not been determined here.					
Probability	No significant transboundary impacts are predicted.	Transboundary assessment will be undertaken. See commercial	Transboundary assessment will be undertaken. See shipping	Transboundary assessment will be undertaken. See aviation,		No significant transboundary impacts are predicted.	No significant transboundary impacts are predicted.
Duration							
Frequency							
Reversibility							

Screening Criteria	Marine and Intertidal Archaeology	Commercial Fisheries	Shipping and Navigation	Aviation, Radar, Military and Communication		Seascape, Landscape and Visual	Infrastructure and Other Users
		fisheries section above.	and navigation section above.	radar, military and communication section above.			

## 1.6 Onshore Baseline Environment

### Introduction

- 1.6.1 The Project has completed a transboundary screening matrix for onshore transboundary effects, in line with the suggested format set out in Annex 1 of The Inspectorate's Advice Note Twelve. This screening matrix is set out in Table A. 4 below.
- 1.6.2 The conclusion of the transboundary screening for each onshore topic are presented, together with additional justification, in the following sections.

### Onshore Air Quality

- 1.6.3 The baseline for onshore air quality for the Project is outlined in Section 8.1.
- 1.6.4 Potential transboundary impacts to air quality and health arising from the construction, operation and maintenance and decommissioning of the Project are anticipated to be minor and localised in extent and will be confined to the duration of the construction phase only. Any potential impacts to health related to air quality will also be localised and confined to the onshore construction phase. Potential health impacts due to the generation of an Electromagnetic Field (EMF) around the onshore ECC will be confined to the immediate vicinity of the onshore ECC.
- 1.6.5 As described in Section 8.1, it is therefore proposed that transboundary impacts on air quality and health are screened out of the EIA process.

### Onshore Archaeology and Cultural Heritage

- 1.6.6 The baseline for onshore archaeology and cultural heritage for the Project is outlined in Section 8.2.
- 1.6.7 Any impacts on the onshore historic environment arising from the construction, operation and maintenance and decommissioning of the Project will be confined to a localised area. There is no pathway by which the direct or indirect effects arising from the Project could significantly affect the onshore historic environment of another member state.
- 1.6.8 As described in Section 8.2, it is therefore proposed that transboundary impacts on the onshore historic environment are screened out of the EIA process.

### Onshore Ecology and Ornithology

- 1.6.9 The baseline for onshore ecology and ornithology for the Project is outlined in Section 8.3.
- 1.6.10 Any impacts on onshore ecology and nature conservation arising from the construction, operation and maintenance and decommissioning of the Project will be confined to a localised area within the footprint of the Project's onshore transmission infrastructure. There is no pathway by which direct and indirect effects arising from the Project could significantly affect the onshore ecology and nature conservation of another member state including those that are listed as qualifying features of European Sites in other EEA States.
- 1.6.11 As described in Section 8.3, it is therefore proposed that transboundary impacts on onshore ecology and nature conservation are screened out of the EIA process.

## Geology and Ground Conditions

- 1.6.12 The baseline for geology and ground conditions for the Project is outlined in Section 8.4. Any impacts on geology and ground conditions arising from the construction, operation and maintenance and decommissioning of the Project will be confined to a localised area within the footprint of the Project's onshore transmission infrastructure. There is no pathway by which direct or indirect effects arising from the Project could significantly affect the geology or ground conditions of another member state.
- 1.6.13 As described in Section 8.4, it is therefore proposed that transboundary impacts on geology and ground conditions are screened out of the EIA process.

## Hydrology and Flood Risk

- 1.6.14 The baseline for hydrology and flood risk for the Project is outlined in Section 8.5.
- 1.6.15 Any impacts on hydrology and flood risk arising from the construction, operation and maintenance and decommissioning of the Project will be confined to a localised area with the footprint of the Project's onshore transmission infrastructure. There is no pathway by which direct or indirect effects arising from the Project could significantly affect the hydrology and flood risk of another member state.
- 1.6.16 As described in Section 8.5, it is therefore proposed that transboundary impacts on hydrology and flood risk are screened out of the EIA process.

## Land Use

- 1.6.17 The baseline for land use for the Project is outlined in Section 8.6.
- 1.6.18 Any impacts on land use arising from the construction, operation and maintenance and decommissioning of the Project will be confined to a localised area within the footprint of the Project onshore ECC. There is no pathway by which direct or indirect effects arising from the Project could significantly affect the land use, agriculture and recreation of another member state.
- 1.6.19 As described in Section 8.6, it is therefore proposed that transboundary impacts on land use are screened out of the EIA process.

## Noise and Vibration

- 1.6.20 The baseline for noise and vibration for the Project is outlined in Section 8.7.
- 1.6.21 Any noise and vibration impacts arising from the construction, operation and maintenance and decommissioning of the Project will be confined to a localised area in the vicinity of the Project's onshore transmission infrastructure and onshore ECC. There is no pathway by which direct or indirect effects arising from the Project could result in significant noise and vibration effects in another member state.
- 1.6.22 As described in Section 8.7, it is therefore proposed that transboundary impacts on noise and vibration are screened out of the EIA process.

## Traffic and Transport

- 1.6.23 The baseline for traffic and transport for the Project is outlined in Section 8.8.

- 1.6.24 Any impacts on the traffic and transport arising from the construction, operation and maintenance and decommissioning of the Project will be confined to a localised area of the UK road infrastructure. There is no pathway by which direct or indirect effects arising from the Project could significantly affect traffic and transport in another member state.
- 1.6.25 As described in Section 8.8, it is therefore proposed that transboundary impacts on traffic and transport are screened out of the EIA process.

### Landscape and Visual Assessment

- 1.6.26 The baseline for landscape and visual receptors for the Project is outlined in Section 8.9.
- 1.6.27 Any impacts on landscape and visual assessment arising from the construction, operation and maintenance and decommissioning of the Project will be confined to a localised area in the vicinity of the Project's onshore transmission infrastructure and onshore ECC. There is no pathway by which direct or indirect effects arising from the Project could significantly affect the landscape and visual resources of another member state.
- 1.6.28 As described in Section 8.9, it is therefore proposed that transboundary impacts on landscape and visual assessment are screened out of the EIA process.

Table A. 4: Onshore Transboundary Screening Matrix for the Project

Screening Criteria	Onshore Air Quality	Onshore Archaeology and Cultural Heritage	Onshore Ecology and Ornithology	Geology and Ground Conditions	Hydrology and Flood Risk	Land Use	Noise and Vibration	Traffic and Transport	Landscape and Visual Assessment
Characteristics of development (for a detailed description, see Section 3)	The offshore cables will be brought ashore and connected to the onshore cables in Transition Joint Bays (TJBs). From there, the onshore cables will be placed in up to six trenches to transfer the power generated to the onshore substation. The onshore substation will include Electrical Balancing Infrastructure (EBI) and connect to a National Grid substation. The location of the onshore substation is subject to the outcome of the OTNR (see Section 3). The onshore infrastructure is described in full in Section 3.								
Location of development and geographical area	The Project's array area is located approximately 54 km east from the coast of Lincolnshire. <b>Onshore</b> Export cables will connect the offshore cables to the onshore substation. The location of the onshore substation is subject to the outcome of the OTNR (see Section 4). The project is described in full in Section 3.								
Cumulative impacts	See Section 5								
Carrier	No transboundary impacts are predicted.								
Environmental importance									
Extent									
Magnitude									
Probability									
Duration									
Frequency									
Reversibility									

## 1.7 Wider Aspects Baseline Environment

### Introduction

- 1.7.1 The Project has completed a transboundary screening matrix for the wider aspects, including socio-economics, transboundary effects, in line with the suggested format set out in Annex 1 of The Inspectorate's Advice Note 12. This screening matrix is set out in Table A. 5 below.
- 1.7.2 The conclusion of the transboundary screening for each wider topic are presented, together with additional justification, in the following sections.

### Socio-economics

- 1.7.3 The socio-economic baseline for the Project's array area and the ECC are outlined in full in Section 9.3.
- 1.7.4 There is the potential for transboundary impacts arising from interaction with the activities of foreign shipping and navigation and foreign commercial fishing. These have been considered in Sections 7.8 and 7.9.
- 1.7.5 In addition, potential transboundary impacts upon the economies of other EEA States may arise through the purchase of project components, equipment and the sourcing of labour from companies based outside the UK. Under Regulation 32 part 6(a) of the Habitats Regulations, the SoS must enter into consultation with any EEA State concerned regarding the potential significant effects of the development on the environment of that EEA State and the measures envisaged to reduce or eliminate such effects. However, the sourcing of materials and labour from other EEA States is assumed to provide beneficial effects in the economies of such states and so the consideration of "measures envisaged to reduce or eliminate such effects" is not relevant in the context of transboundary impacts.
- 1.7.6 It is therefore proposed that transboundary impacts on socio-economic receptors, other than commercial fisheries and marine transport (which will be considered in the relevant offshore sections), are screened out of the EIA process.

### Human Health

- 1.7.7 The human health baseline for the Project's array area and the ECC are outlined in full in Section 9.1.
- 1.7.8 Any impacts on human health assessment arising from the construction, operation and maintenance and decommissioning of the Project will be confined to a localised area in the vicinity of the Project's onshore transmission infrastructure and onshore ECC. There is no pathway by which direct or indirect effects arising from the Project could affect significantly the human health resources of another member state.
- 1.7.9 It is therefore proposed that transboundary impacts on human health receptors are screened out of the EIA process.

### Climate Change

- 1.7.10 The climate change baseline for the Project's array area and ECC are outlined in full in Section 9.2.



- 1.7.11 Any impacts on climate change arising from the construction, operation and maintenance and decommissioning of the Project will be confined to a localised area in the vicinity of the Project's infrastructure and ECC. There is no pathway by which direct or indirect effects arising from the Project could significantly affect the climate change of another member state.
- 1.7.12 As described in Section 9.2, it is therefore proposed that transboundary impacts on climate change are screened out of the EIA process.

Table A. 5: Wider Aspects Transboundary Screening Matrix for the Project

Screening Criteria	Socio-economics	Human Health	Climate Change
Characteristics of development (for a detailed description, see Section 3)	See Table A. 2, Table A. 3 and Table A. 4 for details.		
Location of development and geographical area	See Table A. 2, Table A. 3 and Table A. 4 for details.		
Cumulative impacts	See Section 5		
Carrier	No transboundary impacts are predicted.		
Environmental importance			
Extent			
Magnitude			
Probability			
Duration			
Frequency			
Reversibility			

## Conclusions

- 1.7.13 This transboundary screening document has been prepared in accordance with The Inspectorate's Advice Note Twelve. The primary purpose of this note is to provide a screening assessment of potential transboundary impacts which have the potential to affect other EEA States.
- 1.7.14 Transboundary impacts have been screened out for all onshore topics and for most offshore topics, except in relation to the following topics where, based on current information available, the Project has the potential to have significant effects on the environment in other EEA States:
- Marine Mammals;
  - Offshore and Intertidal Ornithology;
  - Commercial Fisheries;
  - Shipping and Navigation; and
  - Aviation, Radar, Military and Communication.
- 1.7.15 These topics have been screened into the transboundary assessment and likely significant effects will be reported in the topic specific sections of the Scoping Report as detailed above.

## References

The Inspectorate (2020) Advice Note Twelve: Transboundary Impacts and Process. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-twelve-transboundary-impacts-and-process/> [Accessed: May 2022]

The Inspectorate (2017) Habitats Regulations Assessment relevant to nationally significant infrastructure projects. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-ten/> [Accessed: May 2022]

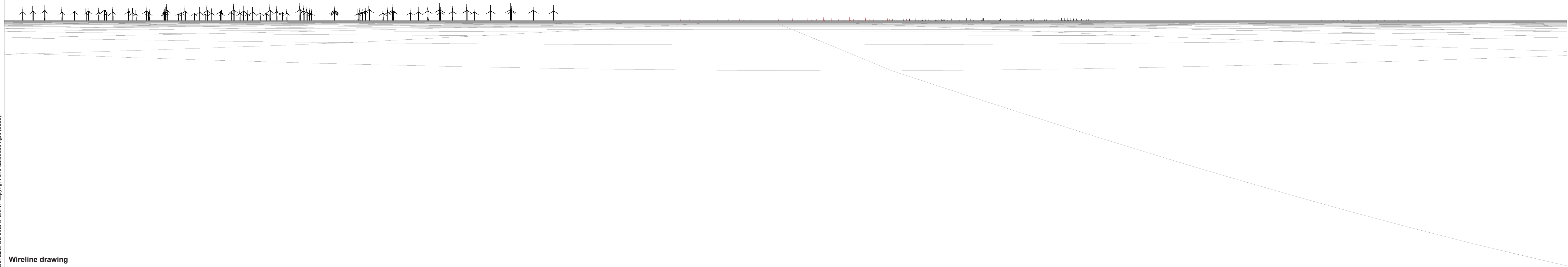
# **Appendix B – Seascape, Landscape and Visual**

# 1 SLVIA Wirelines

Humber Gateway (8.6km)

Proposed Development (56.8km)

Triton Knoll (38.7km)

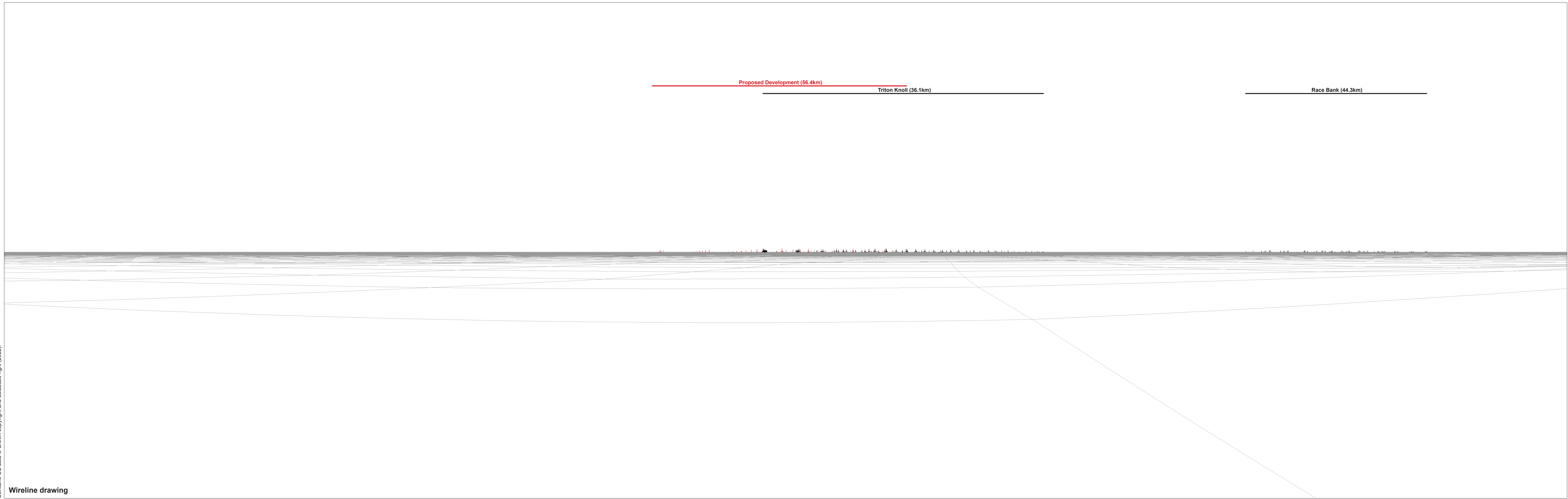


Wireline drawing

**Figure: B.1**  
**Wireline Viewpoint 1: Spurn Head**  
**Outer Dowsing Scoping**

<b>OS reference:</b>	542052 E 413469 N	<b>Horizontal field of view:</b>	90° (cylindrical projection)
<b>Eye level:</b>	2 m AOD	<b>Principal distance:</b>	522 mm
<b>Direction of view:</b>	91°	<b>Paper size:</b>	841 x 297 mm (half A1)
<b>Nearest turbine:</b>	56.78 km	<b>Correct printed image size:</b>	820 x 130 mm

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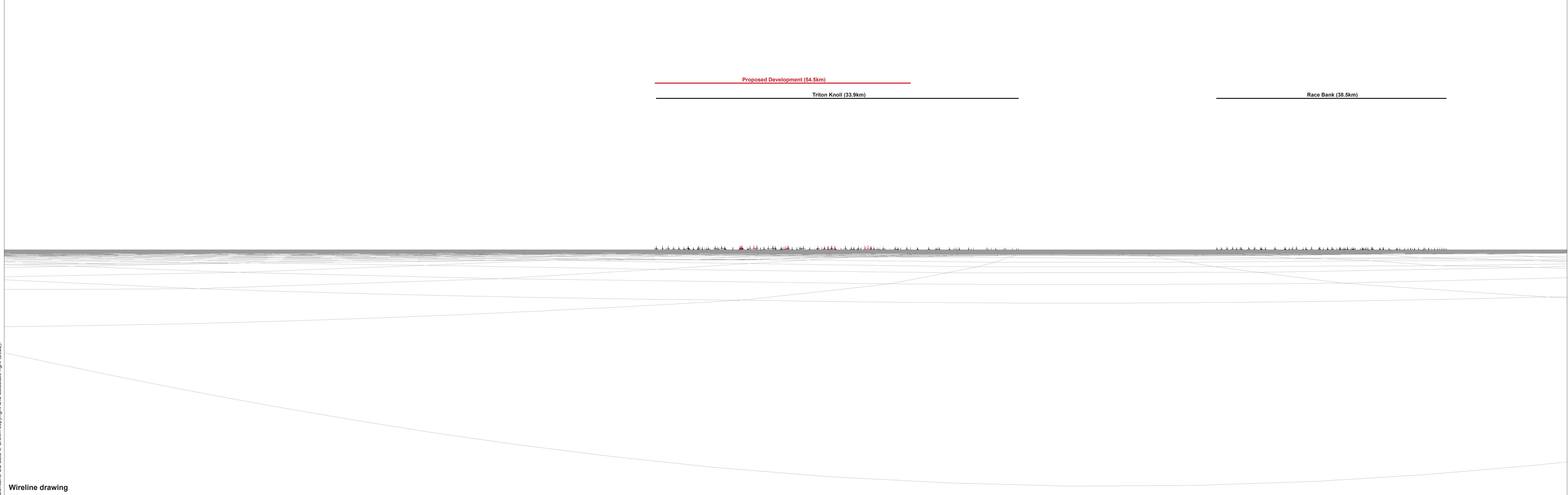
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Wireline drawing

**Figure: B.2**  
**Wireline Viewpoint 2: Donna Nook**  
**Outer Dowsing Scoping**

<b>OS reference:</b>	543017 E 399816 N	<b>Horizontal field of view:</b>	90° (cylindrical projection)
<b>Eye level:</b>	4.9 m AOD	<b>Principal distance:</b>	522 mm
<b>Direction of view:</b>	81°	<b>Paper size:</b>	841 x 297 mm (half A1)
<b>Nearest turbine:</b>	56.36 km	<b>Correct printed image size:</b>	820 x 130 mm





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Wireline drawing

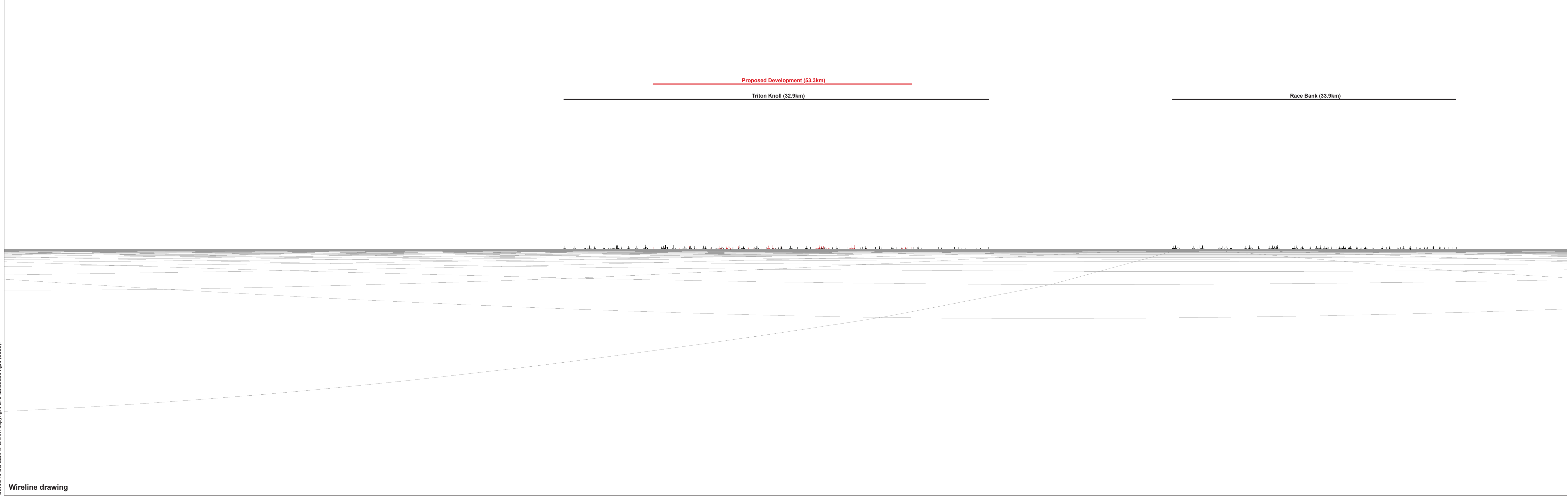
**Figure: B.3**  
**Wireline Viewpoint 3: Saltfleetby-Theddlethorpe Dunes**  
**Outer Dowsing Scoping**

<b>OS reference:</b>	546892 E 391693 N	<b>Horizontal field of view:</b>	90° (cylindrical projection)
<b>Eye level:</b>	9.8 m AOD	<b>Principal distance:</b>	522 mm
<b>Direction of view:</b>	73.5°	<b>Paper size:</b>	841 x 297 mm (half A1)
<b>Nearest turbine:</b>	54.52 km	<b>Correct printed image size:</b>	820 x 130 mm

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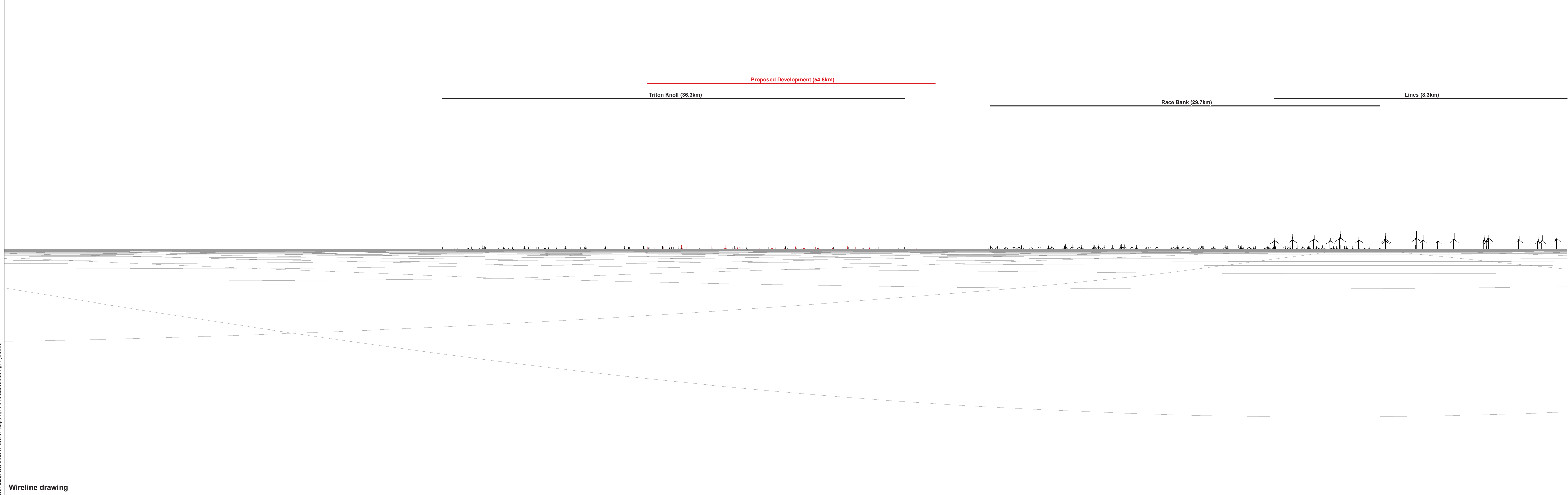
Wireline drawing

**Figure: B.4**  
**Wireline Viewpoint 4: Mablethorpe**  
**Outer Dowsing Scoping**



**OS reference:** 550862 E 385251 N  
**Eye level:** 3.1 m AOD  
**Direction of view:** 67°  
**Nearest turbine:** 53.29 km

**Horizontal field of view:** 90° (cylindrical projection)  
**Principal distance:** 522 mm  
**Paper size:** 841 x 297 mm (half A1)  
**Correct printed image size:** 820 x 130 mm



Wireline drawing

**Figure: B.5**  
**Wireline Viewpoint 5: Chapel Six Marshes**  
**Outer Dowsing Scoping**

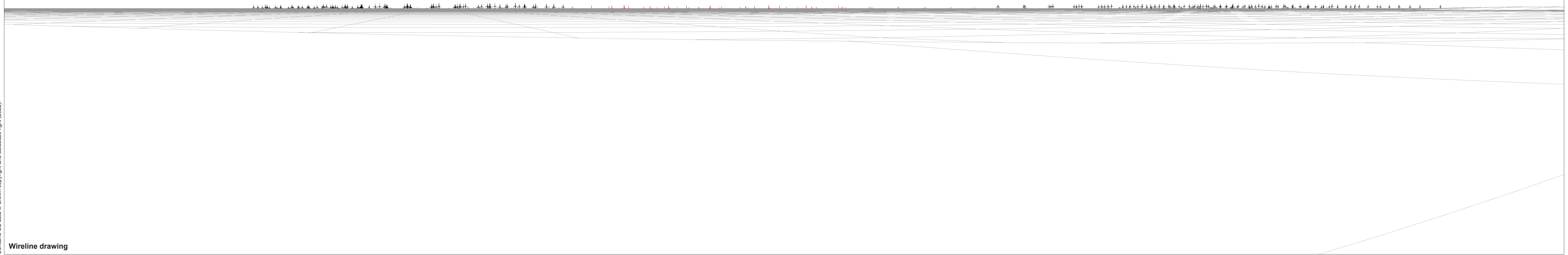
<b>OS reference:</b>	555938 E 374241 N	<b>Horizontal field of view:</b>	90° (cylindrical projection)
<b>Eye level:</b>	2.8 m AOD	<b>Principal distance:</b>	522 mm
<b>Direction of view:</b>	57°	<b>Paper size:</b>	841 x 297 mm (half A1)
<b>Nearest turbine:</b>	54.83 km	<b>Correct printed image size:</b>	820 x 130 mm

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Wireline drawing

**Figure: B.6**  
**Wireline Viewpoint 6: Wells-next-to-the-Sea Beach**  
**Outer Dowsing Scoping**



<b>OS reference:</b>	591476 E 345508 N	<b>Horizontal field of view:</b>	90° (cylindrical projection)
<b>Eye level:</b>	7.2 m AOD	<b>Principal distance:</b>	522 mm
<b>Direction of view:</b>	20°	<b>Paper size:</b>	841 x 297 mm (half A1)
<b>Nearest turbine:</b>	58.79 km	<b>Correct printed image size:</b>	820 x 130 mm



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Wireline drawing

**Figure: B.7**  
**Wireline Viewpoint 7: Cley Beach**  
**Outer Dowsing Scoping**

<b>OS reference:</b>	604771 E 345235 N	<b>Horizontal field of view:</b>	90° (cylindrical projection)
<b>Eye level:</b>	1.8 m AOD	<b>Principal distance:</b>	522 mm
<b>Direction of view:</b>	10°	<b>Paper size:</b>	841 x 297 mm (half A1)
<b>Nearest turbine:</b>	57.35 km	<b>Correct printed image size:</b>	820 x 130 mm



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Wireline drawing

**Figure: B.8**  
**Wireline Viewpoint 8: Sheringham**  
**Outer Dowsing Scoping**

<b>OS reference:</b>	615328 E 343504 N	<b>Horizontal field of view:</b>	90° (cylindrical projection)
<b>Eye level:</b>	3.9 m AOD	<b>Principal distance:</b>	522 mm
<b>Direction of view:</b>	1°	<b>Paper size:</b>	841 x 297 mm (half A1)
<b>Nearest turbine:</b>	58.88 km	<b>Correct printed image size:</b>	820 x 130 mm

# **Appendix C – Archaeology and Cultural Heritage**

# 1 Gazetteer of Archaeological Assets

Table C. 1: ECC – Scheduled Monuments

Asset Number	Asset Name
1003609	Cock Hill, Saxon burial mound
1004930	Medieval Salt Workings
1004931	The Magdalen College School
1004987	Markby Priory
1010676	Churchyard cross, St James's churchyard
1010677	Churchyard cross, St Margaret's churchyard
1010678	Churchyard Cross, All Saints' Churchyard
1011453	Moated Site 300m North east Of All Saints Church
1011454	Hagnaby Abbey: A Premonstratensian Abbey And A Post-Medieval House And Formal Garden
1013530	Wainfleet All Saints market cross
1013531	Churchyard Cross, All Saints Churchyard
1013828	Sibsey Trader Windmill
1014422	Churchyard cross, St Nicholas's churchyard
1014423	Churchyard cross, St Thomas of Canterbury's churchyard
1014424	Churchyard Cross, St Andrew's Churchyard
1014426	Churchyard Cross, St Margaret's Churchyard, Saleby
1015162	Churchyard Cross, St Mary's Churchyard
1016044	Abbey Hills Moated Site
1016045	Manor Farm Moated Site
1016692	Hussey Tower
1016693	Rochford Tower
1017323	Medieval Dylings And Flood Defence Bank At Gold Fen Dike Bank, Immediately South West Of Ash Cottage
1017375	Moated Site 100m South Of Stain Farm
1017392	Bratoft Hall Moated Site, 550m North Of Manor Farm
1018398	King's Hill Motte And Bailey Castle
1018583	Wybert's Castle Medieval Moated Site
1018584	Multon Hall Moated Site
1019098	Decoy Wood Decoy Pond
1019528	Moated site 480m north east of Wyberton West Hospital



Table C. 2: ECC – Conservation Areas

Conservation Areas
Wyberton
Frampton
Kirton Holme
Burgh le Marsh
Wrangle
Boston
Boston, Spilsby Road
Skirbeck, Boston
Kirton
Wainfleet

Table C. 3: ECC – Registered Parks and Gardens (Grade II)

Asset Number	Asset Name
1000935	Boston Cemetary

Table C. 4: ECC – Listed Buildings Grade I

Asset Number	Asset Name
1062022	Church Of St Peter And St Paul
1062072	Church Of St Helen
1062077	Church Of All Saints
1062088	Rochford Tower
1063535	Sibsey Trader Mill
1063615	Church Of St Mary
1147204	Church Of St Andrew
1147452	Church Of St Guthlac
1147754	Church Of St Mary
1147881	Church Of St Leodegar
1204944	Church Of St Thomas Of Canterbury
1222732	Dobson's Windmill
1222765	Church Of St Peter And St Paul
1223215	Church Of All Saints
1223280	Church Of All Saints
1223281	Cross
1223796	Church Of St Peter
1224243	Magdalen College School, Now Library
1308367	Church Of St Mary And St Nicholas
1308415	Church Of St James
1308528	Church Of St Andrew
1359681	Church Of St Nicholas
1360009	Church Of St Margaret
1360476	Church Of St Mary
1388844	Parish Church Of St Botolph
1388995	Fydell House And Wall And Railings And 2 Urns

Asset Number	Asset Name
1389007	Guildhall And Attached Gate
1389071	Maud Foster Windmill And Granary

Table C. 5: ECC – Listed Buildings Grade II\*

Asset Number	Asset Name
1062079	Bay Hall
1062042	Wyberton Park
1062062	Hunwell House
1062988	Church Of St. Oswald
1063009	Church Of St Peter
1146990	Church Of All Saints
1147259	Church Of St Helen
1147586	Frampton Hall
1147704	The Priory
1223593	Church Of All Saints
1223766	Cross
1224403	Church Of St Mary
1267369	Methodist Chapel
1267661	Church Of St Peter And St Paul
1307201	Old Vicarage
1308496	Burton Hall And Attached Wall
1308650	Church Of St Andrew
1360474	Gates, Screen, Piers And Wall To Frampton Hall
1360477	Frampton House
1388845	Boston Sessions House
1388859	Parish Church Of St Nicholas
1388894	116, High Street
1388896	118a, 120 And 122, High Street
1388898	124-136, High Street
1388927	Freemasons' Hall
1388941	Exchange Buildings, 36-39 Market Place
1388955	The Assembly Rooms
1388976	Centenary Methodist Church And Attached Church Hall
1388981	Hussey Tower
1388991	5, South Square
1388998	Shodfriars Hall
1389000	10 South Street, Boston
1389012	Boston Defined Area Survey; 3, 5, 7 And 9 Spain Lane
1389013	Blackfriars Arts Centre

**Table C. 6: ECC – Listed Buildings Grade II**

Asset Number	Asset Name
1062023	The Old King's Head
1062019	The Vicarage
1062020	Suffolk House
1062021	The Mill
1062024	Holme House
1062025	Kirton House
1062026	Gates To Number 96
1062027	Blossom Hall
1062028	K6 Telephone Kiosk Near Harvey House
1062029	Harvey House
1062030	Chestnut Farmhouse
1062031	Old Vicarage
1062032	The Old Windmill
1062034	Lychgate
1062035	Bridge Number 9
1062036	Bridge To Hunston House Farmhouse
1062037	Brick Cottage
1062039	Mile Post, North East Of Jude Gate
1062040	Wrangle Mill
1062041	High Toft Farmhouse
1062045	Milepost, East Of Waste Green Lane
1062046	Trap House At Woodlands Farm
1062053	West End Farmhouse
1062054	Corner Cottage
1062055	Cotton Hall And Garden Wall
1062056	Roads Farmhouse
1062057	Stable And Store At Elms Farm
1062058	Memorial Cottage
1062059	Gatepiers To Frampton Hall
1062060	Walls And Stable Block To Frampton Hall
1062061	Garage At Manor House
1062063	Group Of 5 Table Tombs At Church Of St Mary 10 Metres North East Of Chancel
1062064	Bakers Bridge
1062065	Ings Bridge
1062066	Cross Shaft In Churchyard Of Church Of St James
1062067	Peachy House
1062068	Miramar House
1062069	Plummers Hotel
1062070	Milepost West Of Church End Road
1062071	Hideaway Cottage
1062073	Mile Post In Centre Of Village
1062076	The Old Rectory

Asset Number	Asset Name
1062078	Gravestone 1 Pace South Of South Aisle, 4 Paces From East End In Churchyard Of Church Of All Saints
1062082	37, Brand End Road
1062083	Mill Farmhouse
1062084	Butterwick Mill
1062085	Anton's Gowt Lock
1062086	Fishtoft Manor
1062087	Gates To Skirbeck House (Western Pair)
1062089	Traphouse At Skirbeck Grange
1062090	Stables At Burton Hall
1062092	Mile Stone (Midway Between Frampton Lane And Baker's Bridge)
1062093	The Beeches
1062980	Sarra Cottage
1062981	Church Of St. Clement
1062982	Trusthorpe Hall
1062983	Tennysons Cottage
1062984	Thorpe Farm Cottage
1062985	Manor House
1062986	Dovecote House
1062992	Ashleigh Farm
1062993	Stable Block At The Hall
1063002	Wexham Farm
1063003	Dairy Farm
1063004	The Cottage
1063007	Stain Glebe Farm
1063008	Huttoft Mill
1063010	The Cottage
1063011	Church Of St Margaret
1063012	Manor Farmhouse
1063014	The Cottage
1063015	Brick Kiln At Brick Yard
1063570	Frith Bank Bridge
1063616	Somerleyton Cottage
1063617	28, South End
1063618	Field House
1063651	Addlethorpe House
1063652	Bede Cottages
1064468	Seasend Hall
1064477	Pigeoncote To The South Of Wraggmarsh House
1064503	The Farmhouse (At Rh Scrimwshaw And Sons)
1078199	Wavelands
1078200	Marsoville
1109940	Milepost At Ngr 423508

Asset Number	Asset Name
1146955	The Old Chapel
1147010	Maltby Windmill
1147054	Hill House Farm House
1147093	The Old Vicarage
1147110	Ivy House Farmhouse
1147116	Church Of St Andrew
1147120	The Rectory
1147238	Cross In Churchyard, South Side
1147241	The Hall
1147252	The Priory
1147421	Mile Post, West Of Junction With Mill Lane
1147426	Stable Block To Mill Farm
1147444	The Cottage
1147456	Churchyard Wall, West Side, To Church Of St Guthlac
1147502	Rochford Tower House
1147508	Kelsey House
1147521	Milepost On A52 South Side, 100 Yards East Of Rochford Tower Lane
1147573	Park Cottages
1147603	Wraggmarsh House Farmhouse
1147618	Manor House
1147620	Church View Cottages
1147659	Church Of St Michael
1147673	80 Yards Of Wall To Frampton House
1147681	Freiston Mill
1147715	The Grange
1147720	Freiston Bridge
1147727	Mill Pit Farm
1147752	Heronshaw Hall
1147758	Bridge Number 8 (Hodsons Bridge)
1147777	Green Farmhouse
1147808	Washdyke Cottage
1147859	Methodist Church
1147866	Toft Mill
1147874	Lowtoft Farmhouse
1165111	Barn To Hubbert's Bridge Farm
1165134	Churchyard Cross, In Churchyard Of Church Of St Peter And St Paul
1165195	The Peacock
1165199	1, King Street
1165222	Stable Block At Holme House
1165228	96, London Road
1165248	The Cottage
1165260	Ivy House
1165276	Statue To William Dennis, In Front Of Kirton Town Hall

Asset Number	Asset Name
1165295	Willington House
1165317	Milestone By Struggs Hill
1204885	Churchyard Cross To Church Of St Nicholas
1204890	Cottage Farmhouse
1204901	Church Of St Helen
1222666	Barn At Manor Farmhouse
1222670	The Elms Farmhouse
1222671	West View
1222672	12, High Street
1222674	Lych Gate
1222677	17, High Street
1222681	Holmes' Butcher's Shop And Number 1 The Market Place
1222683	2, The Market Place
1222948	33, High Street
1223015	1-3, Jackson's Lane
1223032	The Fleece Inn
1223034	Hanson's Windmill
1223035	Windmill
1223036	Granary To East Of Tower Mill
1223053	10, The Market Place
1223096	Old Marsh Chapel
1223172	Old Chequer's Inn
1223275	War Memorial 5 Metres South Of The Church Of St Andrew
1223276	Firsby Manor House
1223277	The Old Manor House
1223278	The Vicarage
1223279	Old Sunday Schoolhouse To Rear Of Vicarage Cottage
1223282	Lampstand 3 Metres To The South Of The Church Of All Saints
1223283	The Cottage (To The East Of Avenue Farmhouse)
1223284	Fox House
1223351	Cross Base Half A Metre East Of The South Porch Of The Church Of St Andrew
1223585	Ash Tree Farmhouse
1223745	The Manor House
1223754	Primrose Farmhouse
1223758	14-22, Barkham Street
1223759	Bridge House
1223761	52, High Street
1223765	5, High Street
1223830	Lymm Bank Farmhouse
1223940	Thorpe Farmhouse
1223993	3-12, Barkham Street
1224114	Outbuilding To Rear Of Bridge House
1224142	51, High Street

Asset Number	Asset Name
1224175	No 75 And Bosch Auto Shop
1224213	6 And 7, High Street
1224236	Clock Tower
1224246	Church Of All Saints
1224248	7,9, Station Road
1224273	Crows Bridge Over Steeping River
1224296	29 And 31, St John's Street
1224319	11, Station Road
1224400	5, Station Road
1224401	1,3, Station Road
1224402	Wainfleet Bank
1224450	Toft House Farmhouse
1224487	Cross 9 Metres South Of Nave Of Church Of St Mary
1224505	Pinfold
1224509	Windmill At Mill Garage
1224571	Bland's Farmhouse
1224572	K6 Telephone Kiosk
1232852	The Chestnuts
1232947	Hubbert's Bridge Farmhouse
1233477	Moulton Chantry House
1241268	Lindum
1247773	Wind Pump At Brick Yard
1266764	Stanton House
1266771	Pepperthorne Hall
1266838	Pigeoncote East Of Merrifield's Farmhouse
1266920	Salem Bridge Windmill With Attached Mill Building
1266923	War Memorial Cemetery Gateway
1267129	No 36 And Anglia Building Society
1267163	Holly Tree Cottage
1267317	Outbuilding To Rear Of The Old Manor House
1267350	Church Of St Andrew
1267365	Bridge House
1267367	Hoyle's Windmill
1267368	Bridge Farmhouse
1267406	The Old Vicarage
1267483	11, The Market Place
1267487	The Hollies Farmhouse
1267571	The Little House
1267650	10, The Churchyard
1267654	Whitegate Cottage
1267659	Manor Farmhouse
1267660	Stable Block At Manor Farmhouse
1267666	The Old Vicarage

Asset Number	Asset Name
1267668	Burgh House
1272386	The Old Vicarage
1280979	Addlethorpe Charities Almshouses
1307179	Milestone Beside Wortley's Lane
1308374	Bridge Number 10 (Station Bridge)
1308385	Bridge Over Lade Bank Drain Number 2
1308389	Church End Cottage
1308398	Marine Hotel
1308400	Whiteloaf Hall
1308403	Heronshaw Cottage
1308426	Coupledyeke Hall
1308431	Mounting Block And Churchyard Wall At Church Of St. Mary
1308460	Barn, Conservatory, Walls And Gateway At Frampton Hall
1308465	Thatched Cottage
1308472	Coach House And Stable Block At The Beeches
1308500	Mastin's Bridge
1308503	Mile Stone East Of Baker's Bridge
1308512	Hobhole Sluice
1308518	Skirbeck House
1308519	Gates To Skirbeck House (Eastern Pair)
1308534	Old School
1308586	Warehouse At Huttoft Mill
1308594	Saleby Grange
1308598	Cross In Churchyard On South Side Of Church
1317352	Milestone Near Junction With Fenhouses Drove
1317387	9 And 11, Willington Road
1317400	Milestone In Centre Of Village
1317419	Garvestone 7 Paces From South Porch In Churchyard, Church Of St Peter And St Paul
1317488	Mile Post (North Of Graves Farm)
1317493	Middlecott's Hospital
1359272	The Farmhouse (170 Metres South-West Of Landell House)
1359708	Saracen's Head
1359710	Cross In Churchyard Of Church Of St Thomas Of Canterbury
1359724	Overton Cottage And Stoke's Cottage
1359744	Ivy Cottage
1359993	Church Of St Peter
1359994	Church Of St. Mary
1359996	Pump At Tennyson's Cottage
1359997	Crown Inn
1359998	Dovecote At Dovecote House
1360006	Cross Shaft In Churchyard On South Side Of Church
1360446	The Old Brewhouse



Asset Number	Asset Name
1360447	Pinchbeck House
1360448	2 Gravestones 9 Paces South Of Porch Of Church Of St Guthlac
1360449	Rawson's Bridge
1360450	Skirbeck Grange
1360451	Frith Bank Bridge
1360465	Sundial In South Side Of Churchyard Of Church Of St Mary And St Nicholas
1360466	Mile Post, North Of Gypsy Lane
1360467	Milestone
1360468	Crawford's Farmhouse
1360470	The Woodlands Farmhouse
1360471	Stables To Cotton Hall
1360472	Barn At Elms Farm
1360473	Milestone North Of West End Road Junction
1360475	Garden Wall, Archways And Garden House
1360478	House Next South Of Freiston Hall
1360479	Stables At The Priory
1360480	The Limes
1360481	Purri'l's Almshouses
1360482	Pigeoncote At Dovecote Farm
1360494	Church Of All Saints
1360495	Kitchen Garden Wall To Hubberts Bridge Farmhouse
1360496	Churchyard Wall And Mounting Steps, On South And West Sides, Church Of St Peter And St Paul
1360498	30, London Road
1388837	Bargate Bridge
1388838	7-15, Bridge Street
1388839	19, Bridge Street
1388840	21 And 23, Bridge Street
1388841	3, Church Close
1388842	5, Church Close
1388843	7, Church Close
1388846	Wall To The Forecourt Of Magistrates Court
1388847	3, Church Street
1388848	The Britannia Public House
1388849	7, Church Street
1388850	9 And 11, Church Street
1388851	10 And 12, Church Street
1388852	14, Church Street
1388853	23, Church Street
1388854	30, 30a And 30b Church Street
1388855	Ship Tavern
1388856	9, Dolphin Lane
1388857	4-10 Fishtoft Road And Attached Garden Wall.

Asset Number	Asset Name
1388858	80-86, Fishtoft
1388860	Skirbeck Hall
1388861	112, Freiston Road
1388862	Bonded Warehouse
1388863	2, 4 And 6, Grove Street West
1388864	13, High Street
1388865	15, High Street
1388866	16a, 18 And 20, High Street
1388868	21, High Street
1388869	23 And 25, High Street
1388870	26, 28 And 30, High Street
1388871	27, High Street
1388872	32, High Street
1388873	33, High Street
1388874	35, High Street
1388875	36 And 38, High Street
1388876	42, High Street
1388877	The Golden Lion Public House
1388878	47, High Street
1388879	49, High Street
1388880	50, High Street
1388881	51 And 51a, High Street
1388882	61, High Street
1388883	76, High Street
1388884	83, 85 And 87, High Street
1388885	84, High Street
1388886	88 And 90, High Street
1388887	89 And 91, High Street
1388888	93, High Street
1388889	The Robin Hood Public House
1388890	107, High Street
1388891	109, High Street
1388892	110, High Street
1388893	114, High Street
1388895	117a, High Street
1388897	119-125, High Street
1388899	Baptist Chapel And Schoolroom
1388900	Memorial In Baptist Chapel Forecourt
1388901	Drinking Fountain
1388902	The Midland Bank
1388903	The White Hart Hotel
1388904	Town Bridge
1388905	14, 15 And 16, Horncastle Road

Asset Number	Asset Name
1388906	24, Horncastle Road
1388907	68, Horncastle Road
1388908	The King's Arms
1388909	Irby House
1388910	Lamp Standard
1388911	2 And 3, London Road
1388912	4, London Road
1388913	Siltside Warehouse
1388914	The Ship Inn
1388915	10, London Road
1388916	12, London Road
1388917	Plaque Attached To Number 21 (21 Not Included)
1388918	126, London Road
1388919	Number 179 And Gateway
1388920	Church Of St Thomas
1388921	Swing Bridge
1388922	London Road Gatehouse And Signals Cabin
1388923	West Skirbeck House
1388924	2 And 4, Main Ridge
1388925	6, Main Ridge
1388926	12 And 14, Main Ridge
1388928	15, Market Place
1388929	16, Market Place
1388930	18, Market Street
1388931	19, Market Place
1388932	20, Market Place
1388933	22, Market Place
1388934	The Still Public House
1388935	24, Market Place
1388936	27 And 28, Market Place
1388937	29 Market Place, Boston
1388938	32 And 33, Market Place
1388939	Number 34 And Warehouse
1388940	35, Market Place
1388942	3 Telephone Boxes Outside The Exchange Buildings
1388943	41, 41a And 41b, Market Place
1388944	42-42a Market Place
1388945	43-44 Market Place, Boston
1388946	45-50 Market Place, Boston
1388947	Lloyds Bank
1388948	Barclays Bank
1388949	53 And 54, Market Place
1388950	57 And 58, Market Place

Asset Number	Asset Name
1388951	60, Market Place
1388952	Martha's Vineyard
1388953	Statue Of Herbert Ingram
1388954	3 Stone Piers Adjacent To Statue Of Herbert Ingram
1388956	Old Pescod Hall
1388957	6, Pen Street
1388958	13, Pen Street
1388959	15 And 17, Pen Street
1388960	16, Pen Street
1388961	23 And 25, Pen Street
1388962	31 And 33, Pen Street
1388963	35, Pen Street (See Details For Further Address Information)
1388964	37, Pen Street (See Details For Further Address Information)
1388965	42, Pen Street
1388966	44, Pen Street
1388967	51 And 53, Pen Street
1388968	3, 4 And 4a, Petticoat Lane
1388969	1 And 2, Pump Square
1388970	3 And 4, Pump Square
1388971	5 And 6, Pump Square
1388972	7-10, Pump Square
1388973	7, Red Lion Street
1388974	36, Red Lion Street
1388975	Numbers 47 And 49 And Attached Wall
1388977	6 And 8, Sibsey Lane
1388978	2 And 4, Skirbeck Road
1388979	St John's Place
1388980	86 And 88, Skirbeck Road
1388982	St Johns Buildings
1388983	Wall And Gateway To St John's Buildings
1388984	5, Sleaford Road
1388985	29, 31 And 33, Sleaford Road
1388986	West Street Junction Box
1388987	Old School House
1388988	Quayside
1388989	Boston Grammar School
1388990	4, South Square
1388992	Greyfriars
1388993	7, South Square
1388994	Magnet Tavern
1388996	Haven House Warehouse Occupied By Hurst And Sons
1388997	Johnson's Warehouse Occupied By Agricultural Supply Company
1388999	6 And 8 South Street, Pilgrim House

Asset Number	Asset Name
1389001	The Customs House
1389002	14 And 16, South Street
1389003	18, South Street
1389004	1, Spain Lane (See Details For Further Address Information)
1389005	24,26 And 28 South Street, Boston
1389006	Pilgrim Mansions Warehouse Occupied By Hurst Adjacent To Number 18
1389008	The Sam Newson Music Centre Warehouse Occupied By Th Lincoln And Son
1389010	1-9, South Terrace
1389011	1-12, Spain Court
1389014	Unitarian Church
1389015	68 And 70, Spilsby Road
1389016	72 And 74, Boston
1389017	76-82, Spilsby Road
1389018	Trinity House
1389019	132, Spilsby Road
1389020	134 And 136, Spilsby Road
1389021	138, Spilsby Road
1389022	150, Spilsby Road
1389023	Church Of The Holy Trinity
1389024	Warehouse
1389025	23, Strait Bargate
1389026	The Barge Inn
1389028	17, Tower Road
1389029	1, Tower Street
1389030	Fogarty Feathers
1389031	2, Union Place
1389032	4, Union Place
1389033	18, 20 And 22, West Street
1389034	24, 26 And 28, West Street
1389035	30, West Street
1389036	1, Wide Bargate
1389037	4, Wide Bargate
1389038	5 And 7, Wide Bargate
1389039	9, Wide Bargate
1389040	11, Wide Bargate
1389041	14, Wide Bargate
1389042	Central Post Office
1389043	3 Telephone Kiosks Outside Number 18
1389044	19 And 21, Wide Bargate
1389045	Trustee Savings Bank
1389046	22, Wide Bargate
1389047	23 And 25, Wide Bargate
1389048	24 And 26, Wide Bargate

Asset Number	Asset Name
1389049	27 And 29, Wide Bargate
1389050	31, Wide Bargate
1389051	33, Wide Bargate
1389052	40 And 42, Wide Bargate
1389053	44 And 46, Wide Bargate
1389054	The Red Cow And Gate Piers
1389055	The Georgians
1389056	53 And 55, Wide Bargate
1389057	63, Wide Bargate
1389058	65 And 67, Wide Bargate
1389059	Holland House
1389060	71, Wide Bargate
1389061	Bargate Lodge House
1389062	84, 86 And 88, Wide Bargate
1389063	90 And 90a, Wide Bargate
1389064	War Memorial
1389065	Warehouse
1389066	3, Willoughby Road
1389067	4-9, Willoughby Road
1389068	St Leonard's Bedehouses
1389069	Hospital Footbridge
1389070	Maud Foster Drain And Walls And Steps And Railings
1389072	Maud Foster Sluice
1389073	Number 11 And Screen And Gate And Piers
1389074	13, Witham Bank
1389075	Grand Sluice Railway Bridge
1389076	Grand Sluice And Bridge And Lights
1389077	Witham Tavern Public House
1389078	Number 38 And Railings
1389079	Number 48 And Railings
1389080	50, Witham Bank West
1389081	1, 2 And 3, Witham Place
1389082	6-10, Witham Place
1389083	11, 11a And 12, Witham Place
1389084	13, Witham Place
1389085	14, Witham Place
1389086	14, Witham Street
1389087	Carpenters Arms Public House
1389088	Church House, 1 Wormgate
1389089	Goodbarns Yard Public House
1389090	10, Wormgate
1389091	12-18, Wormgate
1389092	15 And 17, Wormgate

Asset Number	Asset Name
1389093	19 And 19a, Wormgate
1389094	20 And 20a, Wormgate
1389095	23, 25 And 27, Wormgate
1389096	29, Wormgate
1389097	31, Wormgate
1389098	33, Wormgate
1391801	Boston Cemetery Chapel
1392661	Boston Cemetery Lodge
1392662	Former Mortuary
1403763	36-38 And 38a Dolphin Lane
1414000	Wainfleet Signal Box
1432892	Skirbeck War Memorial
1433499	Fishtoft War Memorial
1433501	Freiston War Memorial And Railings
1434737	Skirbeck Quarter War Memorial
1439370	Kirton War Memorial
1448490	Butterwick War Memorial Obelisk
1450434	Old Leake War Memorial
1450497	Burgh Le Marsh War Memorial
1450509	Wrangle War Memorial
1472526	Sutton On Sea War Memorial And Surrounding Garden Walls
1476037	The Starlight Room And Entrance Block

Table C. 7: ECC - Non-Designated Archaeological Assets (selected)

Asset Number	Asset Name
MLI115845	Medieval Ridge And Furrow, Sutton On Sea
MLI10031	Dominican Friary, Boston
MLI115828	Possible Roman Whetstone, Hall Lane, Burgh Le Marsh
MLI115841	Medieval Ridge And Furrow, Mablethorpe
MLI115843	Medieval Ridge And Furrow, Trusthorpe
MLI115844	Medieval Ridge And Furrow, Sutton On Sea
MLI115845	Medieval Ridge And Furrow, Sutton On Sea
MLI115846	Medieval Ridge And Furrow, Sea Bank Farm, Huttoft
MLI115860	Roman Pottery, Trusthorpe Nursing Home, Sutton On Sea
MLI115880	Medieval Earthworks And Platforms By Hall Farm, Sutton On Sea
MLI115880	Medieval Earthworks And Platforms By Hall Farm, Sutton On Sea
MLI115881	Site Of Searchlight Battery North Of Alford Road, Sutton On Sea
MLI115882	Site Of Searchlight Battery West Of Brickyard Lane, Sutton On Sea
MLI115883	A Medieval Earthwork Enclosure West Of Brickyard Lane, Sutton On Sea
MLI115884	Ridge And Furrow, Mablethorpe
MLI115894	The Settlement Of Beesby In The Marsh
MLI115895	Ridge And Furrow Field System To The East Of Fen Lane, Beesby In The Marsh
MLI115896	Ridge And Furrow Field System Off Beesby Walk, Beesby In The Marsh
MLI115897	Ridge And Furrow Field System North Of Washdyke Farm, Beesby In The Marsh
MLI115899	Ridge And Furrow Field System To The West Of The A1104 South Of Maltby Le Marsh
MLI115900	Medieval Enclosures In Maltby Le Marsh Adjacent To The Boundary With Beesby
MLI115901	Medieval Field Boundaries To The West Of Beesby In The Marsh
MLI115947	Undated Features, The Giles School, Old Leake
MLI116135	Undated Gullies, Jacksons Lane, Burgh Le Marsh
MLI116156	Possible Saltern, Golf Road, Mablethorpe
MLI116204	Ridge And Furrow, Theddlethorpe St Helen
MLI116248	Undated Linear Features, Wainfleet Road, Fishtoft
MLI116304	Pillbox, Mumby
MLI116329	Pillbox, Church Of St James, Freiston
MLI118892	Moat Grange (Moat Farm), Cumberworth
MLI124924	Bristol Beaufighter Crash Site, Mablethorpe
MLI124981	Roman Pottery, Broadfield Lane, Boston
MLI125109	Pillbox, Grift Bank, Mablethorpe
MLI125170	Royal Observer Corps Post, Mablethorpe
MLI125170	Royal Observer Corps Post, Mablethorpe
MLI125449	Ridge And Furrow, Hagnaby
MLI125528	Ridge And Furrow, Carmel Green, Boston
MLI12555	Possible Mill Stones, Willoughton Road, Kirton
MLI125562	Ridge And Furrow, Frampton
MLI125949	Anti-Aircraft Pillbox, Church Of St Helen, Theddlethorpe St Helen



Asset Number	Asset Name
MLI125949	Anti-Aircraft Pillbox, Church Of St Helen, Theddlethorpe St Helen
MLI125950	Pillbox, Church Of St Helen, Theddlethorpe St Helen
MLI125950	Pillbox, Church Of St Helen, Theddlethorpe St Helen
MLI125960	Roman Burials, Cock Hill House, Burgh Le Marsh
MLI125962	Roman Buried Ploughsoil Horizon, Cock Hill House, Burgh Le Marsh
MLI125970	Roman Pit, Church Road, Old Leake
MLI125971	Undated Pit, Church Road, Old Leake
MLI125992	Anti-Aircraft Pillbox, London Road, Boston
MLI12628	Alleged Roman Milestone/Mounting Block, Pincushion Inn, Wyberton
MLI12629	Romano-British Occupation Debris, Wyberton
MLI12630	Iron Age Pottery Sherds, Wyberton
MLI12641	Romano-British Coins, Allington Gardens, Boston
MLI12644	Barditch And Bargate, Boston
MLI12648	Roman Activity, Boston
MLI12653	Coin Hoard, Boston
MLI12658	Brick Structure, Boston
MLI12666	Roman Coins Found, Hussey Tower, Boston
MLI12667	A Bronze Age Looped Palstave Found In Boston
MLI12672	Roman Pottery Found, Willoughby Lane, Boston
MLI12674	Greenstone Axe, High Street, Boston
MLI12677	Clay Pipe Kiln, Boston
MLI12680	Rb Pottery And Shale Pendant Found, Boston
MLI12695	The Augustinian Friary At Boston
MLI12724	Rb And Medieval Pottery Found, Fishtoft
MLI12727	Lost Hamlet Of Tytton, Wyberton
MLI12730	Romano-British Remains, South Of The Manor, Fishtoft
MLI12731	Axe Fragment, Fishtoft
MLI12732	Prehistoric Artefacts Found, Fishtoft
MLI12734	Artefacts Found During Fieldwalking, Fishtoft
MLI12740	Whetstone, Fishtoft
MLI12757	Possible Look Out Mound, Toot Hill, Fishtoft
MLI12764	The Site Of St James' Priory, Freiston
MLI12766	Monks Fishpond, Freiston
MLI12768	Roman Pottery Scatter, Near Roos Hall, Freiston
MLI12783	Probable Medieval Sea Bank, Butterwick
MLI12784	Romano-British Pottery Found, Benington
MLI12785	Coin Hoard, Benington
MLI12795	Moat House On Site Of St Lawrence's Chantry, Old Leake
MLI12805	Saltern Sites, Wrangle
MLI12806	Romano British Saltern/Settlement Material Found, Wrangle
MLI12807	Romano British Saltern And Settlement Site W Of King's Hill Wrangle
MLI12808	Romano-British Pottery, Wrangle

Asset Number	Asset Name
MLI12809	Romano-British Pottery And A Pottery Kiln At 'King's Hill', Wrangle
MLI12811	Iron Age Salterns, Wrangle
MLI12812	Romano-British Coin, Wrangle
MLI12813	Stone Hammer, Wrangle
MLI12814	Stone Hammer, Wrangle
MLI12816	Stone Hammer, Wrangle
MLI12817	Romano-British Pottery, Wrangle
MLI12823	Site Of St Peter's Chapel, Wrangle
MLI12829	Rb Saltern Material Found, Wrangle
MLI12963	Briquetage Found, Wrangle
MLI12964	Romano-British Material, Sutterton Drove, Amber Hill
MLI12966	Early Medieval Pottery Found, Benington
MLI12971	Iron Age Artefacts Found, Wrangle
MLI12972	Romano British Saltern Site, Wrangle
MLI12975	Rb Pottery Found, Boston
MLI12998	Fishtoft Grange, Fishtoft
MLI13002	Romano-British Pottery, Danby Field, Wrangle
MLI13008	Possible Moat, Roads Farm, Frampton
MLI13031	Roman Pottery Scatter, Kirton
MLI13032	Rb Pottery And Briquetage Found, Wrangle
MLI13033	Romano British Pottery, Kirton Fen, Holland Fen With Brothertoft
MLI13038	Roman Tile , Orme Hall, Kirton
MLI13044	Earthwork, Leverton Grange, Leverton
MLI13051	Saltern Material Found, Old Leake
MLI13078	Romano-British Tile, Hardwick Grange, Swineshead
MLI13101	Saltern Site Of Possible Romano British Date, Wrangle Low Ground
MLI13102	Saltern Site Of Possible Iron Age Date, Wrangle
MLI13103	Saltern Site Of Possible Romano-British Date, Wrangle
MLI13104	Possible Romano British Saltern Site, Wrangle
MLI13105	Possible Iron Age Saltern Site, Wrangle Low Ground
MLI13106	Possible Romano British Saltern Site, Wrangle Low Ground
MLI13107	Briquetage Spread, Wrangle Lowgate
MLI13109	Medieval Artefact Scatter, Wrangle
MLI13110	Scatter Of Romano British Briquetage Debris, Wrangle
MLI13111	Small Saltern Site, Wrangle
MLI13112	Romano British Saltern Site, Wrangle
MLI13113	Scatter Of Briquetage Debris, Wrangle
MLI13115	Roman(?) Saltern/Briquetage Site, Wrangle Common
MLI13116	Saltern Site, Wrangle
MLI13117	Medieval Saltern Site, Lowtoft Farm, Wrangle
MLI13118	Medieval Saltern Site, Lowtoft Farm, Wrangle
MLI13119	Medieval Saltern Site, Wrangle

Asset Number	Asset Name
MLI13120	Medieval Saltern Site, Wrangle Marsh
MLI13121	Saltern Site, Lowtoft Farm, Wrangle
MLI13122	Saltern Site, Marsh Farm, Wrangle
MLI13123	Wolmersty Deserted Medieval Settlement
MLI13124	Romano British Saltern Site, Wrangle
MLI13125	Romano British Saltern, Wrangle
MLI13126	Bronze Age Potsherd, Wrangle
MLI13127	Romano British Saltern Site, Wrangle
MLI13128	Romano British Settlement Site, Wrangle
MLI13129	Iron Age Finds From A Romano British Settlement Site, Wrangle
MLI13130	Romano-British Saltern Site, Wrangle
MLI13131	Romano British Saltern Site, Wrangle
MLI13132	Romano British Saltern Site, Wrangle
MLI13133	Romano British Saltern Site, Wrangle
MLI13134	Romano British Saltern Site, Wrangle
MLI13135	Romano British Saltern Site, Wrangle
MLI13136	Medieval Settlement Site, Wrangle
MLI13137	Medieval Settlement Site, Wrangle
MLI13138	Medieval Settlement Site, Wrangle
MLI13139	Possible Medieval Settlement Site, Wrangle
MLI13140	Possible Romano-British Farmstead, Wrangle
MLI13141	Medieval Settlement/Saltern Site, Wrangle
MLI13142	Medieval Settlement/Saltern Site, Wrangle
MLI13143	Medieval Saltern Site, Wrangle Tofts
MLI13144	Medieval Settlement Site, Wrangle
MLI13145	Saxon Material From Late Saxon/Medieval Settlement Site, Wrangle
MLI13146	Late Saxon/Medieval Settlement Site, Wrangle
MLI13147	Romano British Saltern Site, Old Leake
MLI13148	Romano British Settlement Site, Wrangle
MLI13149	Possible Iron Age Saltern Site, Wrangle
MLI13150	Iron Age Finds From Multiperiod Settlement/Saltern Site, Wrangle
MLI13153	Romano British Saltern Site, Wrangle
MLI13154	Romano British Material From A Multiperiod Settlement Site, Wrangle
MLI13155	Iron Age Saltern/Settlement Site, Wrangle
MLI13156	Romano British Site, Wrangle
MLI13157	Possible Romano British Saltern Site, Wrangle
MLI13158	Possible Iron Age Saltern Site, Wrangle
MLI13159	Late Saxon To Medieval Settlement Evidence, Wrangle
MLI13160	Iron Age/Roman Saltern Site, Wrangle
MLI13161	Romano British Saltern Site, Wrangle
MLI13162	Saltern Of Possible Romano British Date, Wrangle
MLI13163	Iron Age Pottery From A Romano British Settlement Site

Asset Number	Asset Name
MLI13165	Prehistoric Material From A Possible Romano British Settlement Site, Wrangle
MLI13166	Settlement Of Wrangle
MLI13166	Settlement Of Wrangle
MLI13167	Early Medieval Pottery From A Medieval Settlement Site, Wrangle
MLI13168	Romano British Artefact Scatter, Wrangle
MLI13169	Prehistoric Flints From A Romano-British Settlement/Salern Site, Wrangle
MLI13169	Prehistoric Flints From A Romano-British Settlement/Salern Site, Wrangle
MLI13170	Saxon Pottery From A Romano British Site, Wrangle
MLI13171	Late Saxon And Early Medieval Artefacts, Wrangle
MLI13173	Late Medieval To Post-Medieval Artefacts, Hall End, Wrangle
MLI13174	Medieval Saltern Site, Roman Bank Cottage, Wrangle
MLI13175	Saltern Site, Roman Bank Cottage, Wrangle
MLI13178	Medieval Artefact Scatter, Wrangle
MLI13179	Medieval Artefact Scatter, Wrangle
MLI13180	Possible Iron Age Saltern Site, Wrangle
MLI13181	Romano British Saltern Site, Wrangle
MLI13182	One Of Two Romano British Settlement/Salern Sites
MLI13183	Possible Iron Age Saltern Site, Wrangle
MLI13184	An Iron Age And/Or Romano British Saltern Site, Wrangle
MLI13185	Medieval Artefact Scatter, Wrangle
MLI13187	Saltern Site, Wrangle
MLI13190	Medieval Saltern Site, Wrangle Hall
MLI13191	Medieval Saltern Site, Old Leake
MLI13192	Mid Bronze Age Pot, Wrangle
MLI13193	Scatter Of Toynton Ware Pottery, Wrangle
MLI13195	Late Saxon Pottery From W Of Hightoft Farm, Wrangle
MLI13196	Bronze Age Potsherd, Wrangle
MLI13197	Flint Scatter, Wrangle
MLI13198	Flint Scatter, Wrangle
MLI13200	Romano-British Pottery, Joy Hill, Wrangle
MLI13201	Scatter Of Romano British Pottery, Wrangle
MLI13204	Saltern Site In Wrangle
MLI13205	A Possible Saltern Site, Wrangle
MLI13206	Roman Saltern Site, Wrangle
MLI13207	A Late Saxon Enclosure(?), Wrangle
MLI13208	Medieval Saltern Site, Toft Farm, Wrangle
MLI13209	Late Saxon To Medieval Settlement Site, Wrangle
MLI13210	Romano British Saltern Sites, Wrangle
MLI13212	Iron Age Pottery From Romano British Settlement/Saltern Site, Wrangle
MLI13214	Possible Romano British Saltern Site, Wrangle
MLI13215	Medieval Material From Late Saxon/Medieval Settlement Site, Wrangle
MLI13216	Medieval Material From Late Saxon/Medieval Settlement Site, Wrangle

Asset Number	Asset Name
MLI13219	Early Medieval Finds From A Medieval Settlement Site, Wrangle
MLI13220	Romano British Settlement Site, Wrangle
MLI13222	Romano British Saltern Site, Wrangle
MLI13223	One Of Two Romano British Settlement/Saltern Sites
MLI13225	Flint Flake, Wrangle
MLI13226	Late Medieval To Early Post Medieval Artefact Scatter, Wrangle
MLI13227	Iron Age And/Or Roman Saltern Site, Wrangle
MLI13230	Possible Saxon To Medieval Saltern Site, Hall End, Wrangle
MLI13232	Romano-British Artefact Scatter, Wrangle
MLI13233	Romano British Settlement/Saltern Site, Wrangle
MLI13233	Romano British Settlement/Saltern Site, Wrangle
MLI13234	Late Saxon Artefact Scatter, Wrangle
MLI13237	Medieval - Post Medieval Artefact Scatter, Wrangle
MLI13239	Possible Romano British Settlement Site, Wrangle
MLI13240	Late Saxon And Early Medieval Artefacts, Wrangle
MLI13245	Romano British Evidence From A Possible Iron Age Saltern, Wrangle
MLI13247	Medieval Material From A Romano British Site, Wrangle
MLI13248	Romano British Saltern/Settlement Site, Wrangle
MLI13250	Medieval Settlement On A Multi-Period Site, Wrangle
MLI13252	Prehistoric Flints Found On A Romano British Saltern Site, Wrangle
MLI13255	Late Saxon/Medieval Settlement Site, Wrangle
MLI13257	Iron Age And Roman Site At Gold Fen Bank, Wrangle
MLI13259	Late Saxon Potsherd, Wrangle
MLI13273	Settlement Of Leverton
MLI13280	Possible Medieval Road From Boston To Wainfleet
MLI13280	Possible Medieval Road From Boston To Wainfleet
MLI13294	Possible Romano-British Site, Brothertoft
MLI13317	Medieval Settlement At Butterwick
MLI13318	Undated Remains From Top Farm, Hubbert's Bridge, Holland Fen With Brothertoft
MLI13322	Brick-Vaulted Cellar, 3 New Street, Boston
MLI13329	Sherd Of Samian, Corporation Yard/Old Poultry Market, Boston
MLI13338	Medieval Earthworks In Orchard Field, Frampton
MLI13349	Roman Pottery Sherds, Holland Fen With Brothertoft
MLI13351	A Middle Saxon Settlement At Church Road, Boston
MLI13356	Saxon Site Off Whitehouse Lane, Fishtoft
MLI13362	Mid-Late Saxon Remains, Gaysfield Road, Fishtoft
MLI13369	Pillbox, Glebe Farm, Benington Sea End
MLI13370	Pillbox, Glebe Farm, Benington Sea End
MLI13371	Pillbox, Butterwick
MLI13372	Pillboxes And Anti-Tank Block, Butterwick
MLI13372	Pillboxes And Anti-Tank Block, Butterwick
MLI13373	Pillbox, Dawn View, Butterwick

Asset Number	Asset Name
MLI13375	Pillbox, Freiston Shore
MLI13382	Pillbox, Pilgrim's Memorial, Fishtoft
MLI13383	Infantry Blockhouse, The Haven, Fishtoft
MLI13384	Pillbox, Hobhole Drain, Fishtoft
MLI13385	Anti-Aircraft Pillbox, Crawford's Farm, Wyberton Marsh
MLI13386	Gun Emplacement, The Haven, Fishtoft
MLI13387	Anti-Aircraft Pillbox, Marsh Farm, Wyberton Marsh
MLI13388	Anti-Aircraft Pillbox, Wyberton Marsh
MLI13389	Pillbox, Frampton Marsh
MLI13391	Pillbox, Fosdyke Bridge
MLI13392	Possible Quarry Pit, St Nicholas Close, Boston
MLI13395	Undated Features, Kirton
MLI13398	Roman Pottery Sherds, Butterwick Road, Freiston
MLI13399	Medieval Settlement And Features, Off Butterwick Road, Freiston
MLI13415	Pillbox, Freiston Bridge
MLI13416	Pillbox, Freiston
MLI13417	Pillbox, Haltoft End Bridge, Freiston
MLI13418	Pillbox, Baker's Bridge, Freiston
MLI13419	Pillbox, Clamp Gate Bridge, Freiston
MLI13420	Pillbox, Nunn's Bridge, Fishtoft
MLI13422	Undated Ditches And Gullies, Church Road, Skirbeck
MLI13424	Pillbox, Boston Docks
MLI13425	Pillbox, Boston Docks
MLI13426	Pillbox, Boston Docks
MLI13427	Early Medieval Remains, Butterwick Road, Freiston
MLI13453	Roman Pottery Found, Boston Grammar School
MLI13456	Roman Ditches At St Nicholas Ce Primary School, Boston
MLI13459	Possible Medieval Boundary Ditch, Kirton
MLI13473	Medieval Agricultural Remains, Low Road, Wyberton
MLI13492	Cropmarks Off Fishmere End Road
MLI13493	Cropmarks East Of Struggs Hill
MLI13503	Undated Pit, Tattershall Road, Boston
MLI13513	Tithe Barn And Parsonage House, Orchard Field, Frampton
MLI20329	Moated Site
MLI20378	Medieval Salterns
MLI40582	Medieval Site, South Of A158, Burgh Le Marsh
MLI40583	Iron Age/Roman Site, Hall Lane/Barnack Lodge
MLI40666	Roman Pottery From Langrville Parish
MLI40667	Roman Pottery And Bone Found In The Banks Of R.Witham
MLI40712	Homestead Moat And Enclosure, Bratoft
MLI40713	Probable Medieval Mill Mound, Mill Hill Farm, Bratoft
MLI40714	Scremthorpe Dmv (Possible Site Of)

Asset Number	Asset Name
MLI40719	Linear Earthworks In Frithville
MLI40720	Field Systems Near Pauls Bridge
MLI40721	Romano British Field System, Near Paul's Bridge
MLI41121	Romano British Site, Sibsey
MLI41122	Field Systems, Sibsey
MLI41123	Romano British Pottery Found E Of Cowbridge
MLI41126	Iron Age And Roman Finds, Sibsey
MLI41132	Saxon Finds From W Of Mablethorpe
MLI41132	Saxon Finds From W Of Mablethorpe
MLI41133	Roman Coins Reported From This Site
MLI41133	Roman Coins Reported From This Site
MLI41134	Prehistoric Finds From Stain Hill, Withern With Stain
MLI41134	Prehistoric Finds From Stain Hill, Withern With Stain
MLI41135	Romano British Pottery Found North east Of Alford
MLI41135	Romano British Pottery Found North east Of Alford
MLI41172	Romano British Saltern Site, Friskney
MLI41173	Romano British Saltern Site, Friskney
MLI41174	Romano British Saltern Site, Friskney
MLI41175	A Possible Romano British Saltern Site, Friskney
MLI41412	Supposed Moat, Theddlethorpe All Saints
MLI41427	Flint Axe, Mablethorpe
MLI41427	Flint Axe, Mablethorpe
MLI41431	Moated Site, Mablethorpe
MLI41431	Moated Site, Mablethorpe
MLI41433	St Peter's Church Past Existence Of
MLI41441	Romano British Pottery Found In Sutton On Sea
MLI41441	Romano British Pottery Found In Sutton On Sea
MLI41446	Medieval Village Remains, Sutton On Sea
MLI41448	Moated Site, Trusthorpe
MLI41449	Flint Axe, Trusthorpe
MLI41449	Flint Axe, Trusthorpe
MLI41450	Saxo-Norman Pottery, Trusthorpe
MLI41451	Roman Tiles Found In Trusthorpe
MLI41451	Roman Tiles Found In Trusthorpe
MLI41453	Deserted Medieval Village Of Fulsthorpe
MLI41453	Deserted Medieval Village Of Fulsthorpe
MLI41456	Possible Medieval Manor, Sutton On Sea
MLI41456	Possible Medieval Manor, Sutton On Sea
MLI41457	Possible Hall, Sutton On Sea
MLI41464	Possible Mill Mound, Mill Hill, Hannah Cum Hagnaby
MLI41467	Medieval Settlement Site, Hannah Cum Hagnaby
MLI41467	Medieval Settlement Site, Hannah Cum Hagnaby

Asset Number	Asset Name
MLI41469	Site Of Tumulus, Markby
MLI41470	Polished Stone Axe, Found In Markby
MLI41472	Romano-British Pottery, Toad Hole, Bilsby
MLI41472	Romano-British Pottery, Toad Hole, Bilsby
MLI41476	Moated Site At Thurlby In Bigby Parish.
MLI41476	Moated Site At Thurlby In Bigby Parish.
MLI41479	Asserby Settlement
MLI41479	Asserby Settlement
MLI41486	Thurlby Deserted Medieval Village
MLI41489	Bilsby Deserted Medieval Village
MLI41493	Romano-British Beaker, Huttoft
MLI41493	Romano-British Beaker, Huttoft
MLI41495	Roman Urn, Huttoft
MLI41495	Roman Urn, Huttoft
MLI41501	Medieval Settlement Remains To The East Of Burgh Le Marsh
MLI41502	Romano-British Artefacts, Burgh Le Marsh
MLI41503	Romano British Finds From St Mary's Churchyard, Burgh Le Marsh
MLI41505	Medieval And Later Pottery Found Near Mill Hill, Burgh Le Marsh
MLI41507	Romano-British Pottery, Burgh Le Marsh
MLI41508	Romano-British Pottery, Burgh Le Marsh
MLI41510	Roman Pottery Found In Burgh Le Marsh
MLI41511	Roman Coin Found In Burgh Le Marsh
MLI41512	Roman Coin Found In Orby Lane, Burgh Le Marsh
MLI41513	Three Roman Coins Found In Burgh Le Marsh
MLI41515	Roman Coin Found In Burgh Le Marsh
MLI41516	Roman Coin From Burgh Le Marsh
MLI41518	Roman Coin Found In Burgh Le Marsh
MLI41519	Two Medieval Coins Found In Burgh Le Marsh
MLI41520	Roman Coin Found In Burgh Le Marsh
MLI41521	Roman Coin Found On The Barnack Estate, Burgh Le Marsh
MLI41522	Two Roman Coins Found On Barnack Estate, Burgh Le Marsh
MLI41524	Roman Pottery Found S Of Burgh Le Marsh
MLI41527	Assorted Roman Finds From Foundation Trenches, S Of Burgh Le Marsh
MLI41528	Assorted Medieval Finds From Foundation Trenches, S Of Burgh Le Marsh
MLI41529	Roman Pottery Found In Old Chapel Lane And On The Site Of The New Vicarage, Burgh Le Marsh
MLI41530	Roman Coin Found On Barnack Estate, Burgh Le Mash
MLI41531	Romano British Pottery Found In Burgh Le Marsh
MLI41534	Romano British Pottery Found On Barnack Hill, Burgh Le Marsh
MLI41536	Roman Pottery, Burgh Le Marsh
MLI41537	Roman Coins From Burgh Le Marsh
MLI41540	Medieval And Post Medieval Pottery Found Near Burgh Le Marsh



Asset Number	Asset Name
MLI41542	Medieval Ditches, Hall Lane/Chapman Avenue, Burgh Le Marsh
MLI41544	An Anglo Saxon Coin Found In Burgh Le Marsh
MLI41545	Roman Coins Found Sw Of Church In Burgh Le Marsh
MLI41546	Roman Coin Found In The Vicinity Of Church In Burgh Le Marsh
MLI41547	Anglo Saxon Coin Found In The Vicinity Of Church, Burgh Le Marsh
MLI41549	Roman Coins Found Near The Church At Burgh Le Marsh
MLI41550	Roman Coins Found Near Parish Church, Burgh Le Marsh
MLI41552	A Roman Coin Found Sw Of The Church In Burgh Le Marsh
MLI41556	Roman Coins Found To The Sw Of Church, Burgh Le Marsh
MLI41557	Roman Artefacts Found To Sw Of Church, Burgh Le Marsh
MLI41562	Stone Battle Axe Found Near Cock Hill, Burgh Le Marsh
MLI41563	Romano British Pottery Found N Of Burgh Le Marsh
MLI41564	Roman Coin Found In Orby Lane , Burgh Le Marsh
MLI41565	Burials Discovered In Burgh Le Marsh
MLI41567	Romano British Pottery Found Nw Of Burgh Le Marsh
MLI41568	Two Flint Blades And A Flint Flake Found West Of Cock Hill, Burgh Le Marsh
MLI41569	Two Roman Coins Found To W Of Cock Hill, Burgh Le Marsh
MLI41570	Romano British Pottery Found To The W Of Cock Hill, Burgh Le Marsh
MLI41573	Roman Coin Found In Burgh Le Marsh
MLI41574	Romano British Burial Found In Burgh Le Marsh
MLI41577	Medieval And Post Medieval Pottery Found Sw Of Burgh Le Marsh
MLI41578	Romano-British Pottery, Jockhedges, Burgh Le Marsh
MLI41579	Probable Medieval Bronze Escutcheon, Burgh Le Marsh
MLI41581	Medieval Bronze Bowl Fragment, Burgh Le Marsh
MLI41584	Polished Stone Axe Found Sw Of Burgh Le Marsh
MLI41619	Shurnken Medieval Village, Mumby Chapel
MLI41627	House Sites In Chapel St Leonards
MLI41627	House Sites In Chapel St Leonards
MLI41693	Saltern Site In Burgh Le Marsh Parish
MLI41694	Saltern Site, Burgh Le Marsh Parish
MLI41695	A Linear Earthwork Seen In Skegness
MLI41712	Site Of A Moated Manor House At Northolme Hall, Wainfleet All Saints
MLI41713	Green Hill Mound In The Grounds Of Northolme Hall, Croft
MLI41716	Romano British Finds From Croft
MLI41721	Polished Stone Axe Found In Croft
MLI41722	Romano British Greyware Pottery Found In Croft
MLI41725	Flint Scraper, Croft
MLI41731	Medieval Saltern Sites, Wainfleet St Mary
MLI41733	Possible Medieval Hall, Hall Farm, Wainfleet St Mary
MLI41734	Salter's Gate
MLI41734	Salter's Gate
MLI41735	Cropmark Linear Features, Wainfleet St Mary

Asset Number	Asset Name
MLI41736	Possible Mill Mound, Wainfleet St Mary
MLI41738	Romano British Pottery Found In Wainfleet St Mary
MLI41751	Medieval Lane And Pottery, Wainfleet St Mary
MLI41761	Wainfleet All Saints Medieval Settlement
MLI41765	Ring Dial Or Portable Sundial, Found In Friskney
MLI41779	Pottery And Bones Found In Friskney
MLI41780	Site Of Roman Aqueduct, Friskney
MLI41782	Axes Found In Friskney
MLI41788	Anglo Saxon Burial, Friskney
MLI41791	Moated Manor Site, Friskney
MLI41793	A Moated Site In Addlethorpe
MLI41794	Medieval Occupation Remains, South Of Addlethorpe
MLI41795	A Possible Medieval House Site, S Of Addlethorpe
MLI41798	Romano British Pottery Found In Addlethorpe Village
MLI41799	An Iron Age Saltern Site S Of Addlethorpe
MLI41800	An Iron Age Saltern Site S Of Addlethorpe
MLI41801	Iron Age Or Romano-British Saltern Site, Brogdens Farm, Addlethorpe
MLI41802	Iron Age Or Roman Saltern Site
MLI41803	Iron Age Or Roman Saltern Site
MLI41804	A 'Palaeolith' Found South Of Addlethorpe
MLI41806	Two Medieval Coins Found S Of Addlethorpe
MLI41807	A Medieval Saltern Site To The S Of Addlethorpe
MLI41817	Iron Age Saltern Site To North east Of Addlethorpe
MLI41822	Anglo Saxon Pottery Found In Burgh Le Marsh
MLI41905	Possible Medieval Bone Needle Found In Wainfleet All Saints
MLI41909	Roman Pitcher Found In Wainfleet All Saints
MLI41912	Supposed Site Of Roman Vainona
MLI41913	Possible Medieval Midden Site Or Kitchen Midden
MLI41916	The Deserted Medieval Village Of Wainfleet St Thomas Or Northolme
MLI41919	Hoard Of Silver Coins Found In Northolme
MLI41929	Shell Gritted Rim Found In Wainfleet All Saints
MLI41948	Possible Iron Age Saltern Site
MLI41949	Saltern Site, Orby
MLI41950	Saltern Sites In Orby
MLI41951	Roman Saltern Site, Orby
MLI41952	Possible Prehistoric Or Roman Saltern Site
MLI41953	Iron Age Saltern, Hogsthorpe
MLI41954	Roman Saltern Site, Hogsthorpe
MLI41954	Roman Saltern Site, Hogsthorpe
MLI41955	High Ferry Farm, Sibsey
MLI41956	Saltern Site, Hogsthorpe
MLI41957	Possible Iron Age Saltern Site

Asset Number	Asset Name
MLI41962	Two House Sites, Hogsthorpe
MLI41964	Stone Axe Fragment Found In Hogsthorpe
MLI41966	Medieval And Later Finds From Hogsthorpe
MLI41976	Medieval And Later Pottery From Mumby
MLI41977	Moated Site, Mumby
MLI41979	Roman Pottery From Mumby
MLI41979	Roman Pottery From Mumby
MLI41982	Mumby Grange
MLI41984	Mumby Post Windmill
MLI41985	Remains Of An Alleged Moat
MLI42007	Site Of Tatham's Camp
MLI42008	Possible Medieval House Sites
MLI42192	Shrunken Medieval Village Of Firsby
MLI42251	Bronze Axes, Thorpe Culvert
MLI42252	Thorpe Hall Moated Site, Thorpe St Peter
MLI42256	Polished Stone Axe Found N Of Thorpe St Peter
MLI42519	Medieval Buckle Found In Beesby In The Marsh
MLI42519	Medieval Buckle Found In Beesby In The Marsh
MLI42523	Tumulus To The Nw Of Saleby
MLI42524	Shrunken Medieval Village Of Saleby
MLI42524	Shrunken Medieval Village Of Saleby
MLI42525	Moated Site In Saleby Medieval Shrunken Villlage
MLI42525	Moated Site In Saleby Medieval Shrunken Villlage
MLI42526	Romano British Cremations Found S Of Thoresthorpe
MLI42526	Romano British Cremations Found S Of Thoresthorpe
MLI42527	Thoresthorpe Shrunken Medieval Village
MLI42527	Thoresthorpe Shrunken Medieval Village
MLI42662	Polished Stone Axe Found Near Strubby
MLI42662	Polished Stone Axe Found Near Strubby
MLI42664	Romano British Pottery Found In Irby In The Marsh
MLI42669	Settlement (Site Of) At Stain
MLI42669	Settlement (Site Of) At Stain
MLI42843	Iron Age Or Roman Saltern Site, Burgh Le Marsh
MLI42845	Saltern Site In Burgh Le Marsh
MLI42853	Possible Remains Of A Moat At Moat Farm, Mumby
MLI42853	Possible Remains Of A Moat At Moat Farm, Mumby
MLI42931	Mesolithic Flints, Cock Hill, Burgh Le Marsh
MLI42943	Possible Medieval Road From Boston To Wainfleet
MLI42943	Possible Medieval Road From Boston To Wainfleet
MLI42944	Roman Road
MLI43089	Romano-British Pottery
MLI43089	Romano-British Pottery

Asset Number	Asset Name
MLI43090	Medieval Settlement Evidence On Land North Of Alford Road, Sutton On Sea
MLI43090	Medieval Settlement Evidence On Land North Of Alford Road, Sutton On Sea
MLI43090	Medieval Settlement Evidence On Land North Of Alford Road, Sutton On Sea
MLI43101	Prehistoric Salterns, East Of Burgh Le Marsh
MLI43102	Saltmaking Site, West Of Ashington End
MLI43103	Roman Saltmaking Remains
MLI43104	Saltmaking Remains, West Of Ashington End
MLI43106	Romano-British Saltmaking Remains, Ashington End
MLI43107	Romano-British Saltmaking Remains, North East Of Ashington End
MLI43108	Romano-British Saltmaking Site, Corner Farm, Addlethorpe
MLI43115	Ridge And Furrow Earthworks
MLI43119	Undated Earthworks, Friskney
MLI43120	Earthwork Enclosures, Friskney
MLI43154	Possible Iron Age Saltern Site
MLI43160	Medieval Ridge And Furrow, Cade's Field, Sutton On Sea
MLI43272	Pillbox And Gun Emplacements, Crook Bank, Theddlethorpe St Helen
MLI43274	Pillbox, Ingle Nook, Mumby
MLI43274	Pillbox, Ingle Nook, Mumby
MLI43275	Pillbox, Hogsthorpe
MLI43276	Pillbox, Drain Farm, Hogsthorpe
MLI43277	Pillbox, Sloothby
MLI43278	Pillbox, Quaker's Hill, Chapel St Leonards
MLI43278	Pillbox, Quaker's Hill, Chapel St Leonards
MLI43282	Pillbox, Theddlethorpe St Helen
MLI43282	Pillbox, Theddlethorpe St Helen
MLI43291	Pillbox, Holland Lane House Farm, Friskney Tofts
MLI43292	Pillbox, Holland Lane House Farm, Friskney Tofts
MLI43293	Pillbox, Whitehouse Farm, Friskney Tofts
MLI43299	Settlement Of Huttoft
MLI43299	Settlement Of Huttoft
MLI43299	Settlement Of Huttoft
MLI43371	Pillbox And Gun Emplacement, Sibsey
MLI43372	Pillbox And Gun Emplacement, Station Farm, Sibsey
MLI43378	Former Pillbox, Bennington Bridge
MLI43384	Pillbox, Cowbridge
MLI43492	Prehistoric Flint, Moat House, Thurlby In Bigby Parish
MLI43492	Prehistoric Flint, Moat House, Thurlby In Bigby Parish
MLI43513	Sibsey Railway Station
MLI43552	Orby Moated Site And Possible Medieval Manorial Complex
MLI43584	Medieval - Post Medieval Salt Workings, North Of St Michaels Lane
MLI43593	Hagnaby Abbey
MLI43658	Medieval Field System, High Gate, Trusthorpe

Asset Number	Asset Name
MLI43658	Medieval Field System, High Gate, Trusthorpe
MLI43658	Medieval Field System, High Gate, Trusthorpe
MLI43659	Late Saxon Pottery
MLI43659	Late Saxon Pottery
MLI43662	Romano-British Tile Fragment, South Of Ingoldmells Road
MLI43663	Early Medieval Pottery, South Of Ingoldmells Road
MLI43668	Prehistoric/Roman Briquetage Scatter
MLI43672	Early Medieval Pottery, North Of Ingoldmells Road
MLI43674	Prehistoric Flint, North Of Mill Road
MLI43685	Romano-British Material, Seaholme Road, Mablethorpe
MLI43685	Romano-British Material, Seaholme Road, Mablethorpe
MLI43701	Settlement Of Orby
MLI43705	Medieval Ridge And Furrow
MLI43705	Medieval Ridge And Furrow
MLI43730	Undated Features, South Of Willoughby Road, Cumberworth
MLI43730	Undated Features, South Of Willoughby Road, Cumberworth
MLI80306	Ridge And Furrow, Main Road
MLI80318	Undated Finds From The Great Field
MLI80349	Possible Saltern Mounds, Old House Farm, Benington
MLI80350	Possible Medieval Saltern Mounds, East Of David's Lane
MLI80549	Settlement Of Sibsey
MLI80549	Settlement Of Sibsey
MLI80562	Medieval Remains At 61 High Street
MLI80563	The Settlement Of Burgh Le Marsh
MLI80563	The Settlement Of Burgh Le Marsh
MLI80565	Neolithic And Ba Material From Ditch At B-L-M Primary School
MLI80566	Iron Age And Roman Pottery Was From A Ditch At Burgh-Le-Marsh Primary School
MLI80625	Ridge And Furrow, Ancroft Fen, Bilsby
MLI80625	Ridge And Furrow, Ancroft Fen, Bilsby
MLI80712	Traces Of A Medieval Field System, New Hammond Beck Road
MLI80713	Sherd Of Samian, New Hammond Beck Road
MLI80718	Modern Remains Including A Possible Second World War Air Raid Shelter
MLI80728	Saltern Remains, Caleb Hill Lane, Which May Be Medieval In Date
MLI80733	Medieval Earthworks At Leverton Grange
MLI80734	Medieval And Post Medieval Activity At Holly Tree Cottage
MLI80774	Undated Remains, St. Johns Street
MLI80939	Medieval Or Later Field Ditch
MLI80940	Undated Ditch Or Furrow
MLI80941	Possible Late Saxon/Medieval Occupation Site
MLI80942	Undated Ditches
MLI80943	Ridge And Furrow
MLI80944	Undated Pit Features

Asset Number	Asset Name
MLI80945	Scatter Of Fired Clay Fragments And Medieval Potsherds, Theddlethorpe St Helens
MLI80946	Undated Ridge And Furrow
MLI80963	Late Saxon/Medieval Possible Farmstead
MLI80978	Worked Flint Flake, Boardsides
MLI81006	Undated Ditch/Channel, Off Skirbeck Road.
MLI81135	Undated, Possibly Romano-British, Ditches Off Great Fen Road
MLI81136	Romano-British Pottery Scatter, Off Great Fen Road
MLI81190	Possible Site Of An Assembly Place In Wolmersty, Wrangle/Friskney
MLI81215	Undated Ditch, Church End, Wrangle
MLI81217	Bronze Age Flint Flake, Church End, Wrangle
MLI81219	A Medieval Stone Corbel, The Granary, Tytton Court
MLI81285	Medieval Activity, South-East Of Bridge Farm, Orby Road
MLI81286	Probable Ia/Roman Saltmaking Site, South Of Bridge Farm, Orby Road
MLI81287	Site Of Post-Medieval Dwelling, Orby Road
MLI81409	Prehistoric Worked Flints, Hall Lane
MLI81410	Mesolithic Temporary Hunting Encampment, Burgh Le Marsh
MLI81523	Possible Medieval Saltmaking Activity, Longview, Wrangle
MLI81524	An Early Medieval Pit, Longview, Wrangle
MLI81656	The Settlement Of Kirton
MLI81656	The Settlement Of Kirton
MLI81697	Undated Features, Huttoft Primary School
MLI81732	Sheepwash Along The Northern Side Of Washdike Lane
MLI81825	Medieval Features, Main Road
MLI81825	Medieval Features, Main Road
MLI81920	Undated Possible Saltmaking Activity, 9 High Street
MLI81929	Scatter Of Roman Pottery, St Helen's Church
MLI81929	Scatter Of Roman Pottery, St Helen's Church
MLI81930	Probable Early To Mid-Saxon Settlement, St Helen's Church
MLI81930	Probable Early To Mid-Saxon Settlement, St Helen's Church
MLI81931	A Mid- To Late Saxon Cemetery Beneath St Helen's Church, Cumberworth
MLI81931	A Mid- To Late Saxon Cemetery Beneath St Helen's Church, Cumberworth
MLI81932	Flint Scatter, St Helen's Church
MLI81932	Flint Scatter, St Helen's Church
MLI82079	Settlement Of Hogsthorpe
MLI82079	Settlement Of Hogsthorpe
MLI82080	Settlement Of Mumby
MLI82080	Settlement Of Mumby
MLI82080	Settlement Of Mumby
MLI82081	Settlement Of Helsey
MLI82081	Settlement Of Helsey
MLI82425	Roman Pottery, Willoughby House, Fishtoft.
MLI82496	Possible Romano-British Settlement At Land Off Hogsthorpe Road

Asset Number	Asset Name
MLI82497	Iron Age Ditch At Land Of Hogsthorpe Road, Mumby
MLI82566	Undated Posthole And Pit, On Pilley Lane, Fishtoft.
MLI82611	Undated, Possibly Romano-British, Ditches Off Great Fen Road
MLI82641	Roman Pottery Sherds Of Skirbeck Road
MLI82682	Undated Ditches And Pits, Boston
MLI82744	Medieval Salterns Near Friskney And Wainfleet Tofts
MLI82755	Undated Ditch And Pit Off Wyberton West Road
MLI82760	Undated Ditch, Marsh Farm, Sea Lane, Wrangle
MLI82848	Roman Pottery Sherd Found At West Street
MLI82993	Ridge And Furrow And Possible House Platforms On Main Road
MLI82993	Ridge And Furrow And Possible House Platforms On Main Road
MLI82999	Roman Ceramic Material At South End
MLI83121	Undated Ditch Off Boston Road, Kirton
MLI83144	Medieval Ditch, Off Main Road
MLI83144	Medieval Ditch, Off Main Road
MLI83166	Undated Ditch , Wrangle Bank
MLI83297	Medieval Settlement, Sloothby
MLI83409	Two Undated Pits, Off White House Lane, Fishtoft
MLI83411	Roman Pit Containing Pottery, Off White House Lane, Fishtoft
MLI83569	Scatter Of Romano-British Pottery, South Of Tytton Lane East
MLI83882	Boundary Ditches, Burton Corner, Boston/Fishtoft
MLI83883	Prehistoric Flint Flake, West End, Burgh Le Marsh
MLI83886	Undated Features, The Paddock, Burgh Le Marsh
MLI84098	Undated Pit North Of Goose Lane, Wainfleet St Mary
MLI84137	Medieval Settlement Remains At Habertoft, Willoughby With Sloothby
MLI84138	Undated Cropmark Enclosure, South Of Habertoft, Willoughby With Sloothby
MLI84139	Possible Post Medieval Earthwork Enclosure, North West Of Habertoft, Willoughby With Sloothby
MLI84230	Settlement Activity, Church Lane, Mablethorpe
MLI84230	Settlement Activity, Church Lane, Mablethorpe
MLI84230	Settlement Activity, Church Lane, Mablethorpe
MLI84622	Middle To Late Bronze Age Remains At Clampgate Road, Fishtoft
MLI84623	Middle Saxon Remains At Clampgate Road, Fishtoft
MLI84641	Undated Pits, Postholes And Ditches At Clampgate Road, Fishtoft
MLI84699	Medieval Ditches And Finds, Thorpe St Peter
MLI84702	Late Medieval To Early Post Medieval Ditch, Church End, Friskney
MLI84713	Late Neolithic To Early Bronze Age Flint Artefact, Withern With Stain
MLI84713	Late Neolithic To Early Bronze Age Flint Artefact, Withern With Stain
MLI84722	Romano-British Tegula Fragment Found On Land Near Maltby Le Marsh
MLI84722	Romano-British Tegula Fragment Found On Land Near Maltby Le Marsh
MLI85101	Undated Features And Deposits, Boston
MLI85256	Undated Trackway On Land At Hall Gate, Weston

Asset Number	Asset Name
MLI85311	Medieval Ditch, Elm Tree Cottage, Burgh-Le-Marsh
MLI85657	Ridge And Furrow South Of Blackhouse Farm
MLI85832	Undated Ditch, King Street, Kirton
MLI85907	Royal Observer Corps Post, Frithville
MLI85911	Undated Ditches On Land At King Street, Kirton, Boston
MLI85971	Undated Features, Kirton House, Kirton
MLI86180	Former Smithy, Brothertoft
MLI86230	Late Saxon Features, Station Road, Kirton
MLI86263	Middlecott House, Kirton
MLI86290	Settlement Of Frampton
MLI86326	Medieval Ditch On Land At Plot 10, Station Road, Thorpe St Peter
MLI86394	Undated Features On Land At Plos 5 And 6, Caleb Hill Lane, Old Leake Commonside, Boston
MLI86395	Medieval Features On Land At Plots 5 And 6, Caleb Hill Lane, Old Leake Commonside, Boston
MLI86433	Late Medieval To Post-Medieval Pottery Scatter South Of Ingoldmells Road, Burgh Le Marsh
MLI87274	Undated Ditch And Gully On Burgh Le Marsh Bypass
MLI87788	Medieval Enclosure, The Hollies, Croft
MLI87790	Modern Aircraft Obstruction, East Of Burgh Le Marsh
MLI87791	Modern Aircraft Obstruction, East Of Burgh Le Marsh
MLI87792	Modern Aircraft Obstruction, East Of Burgh Le Marsh
MLI87793	Modern Aircraft Obstruction, East Of Burgh Le Marsh
MLI87794	Possible Post Medieval Earthwork Enclosure, East Of Burgh Le Marsh
MLI87795	Possible Post Medieval Earthwork Enclosure, East Of Burgh Le Marsh
MLI88101	Enclosure Earthwork, Saleby With Thoresthorpe Parish.
MLI88101	Enclosure Earthwork, Saleby With Thoresthorpe Parish.
MLI88171	Ridge And Furrow, Sutton On Sea
MLI88171	Ridge And Furrow, Sutton On Sea
MLI88171	Ridge And Furrow, Sutton On Sea
MLI88172	Ridge And Furrow Earthworks On Land West Of Sutton On Sea
MLI88172	Ridge And Furrow Earthworks On Land West Of Sutton On Sea
MLI88172	Ridge And Furrow Earthworks On Land West Of Sutton On Sea
MLI88173	Medieval Ridge And Furrow, Sutton On Sea
MLI88173	Medieval Ridge And Furrow, Sutton On Sea
MLI88173	Medieval Ridge And Furrow, Sutton On Sea
MLI88177	Ridge And Furrow Earthworks On Land West Of Bridge Farm, Sutton On Sea
MLI88177	Ridge And Furrow Earthworks On Land West Of Bridge Farm, Sutton On Sea
MLI88178	Ridge And Furrow, Huttoft Road, Sutton On Sea
MLI88178	Ridge And Furrow, Huttoft Road, Sutton On Sea
MLI88178	Ridge And Furrow, Huttoft Road, Sutton On Sea
MLI88182	Prehistoric Flint Flake On Land At Wainfleet Road, Fishtoft



Asset Number	Asset Name
MLI88183	Prehistoric Pottery Sherd On Land At Wainfleet Road, Fishtoft
MLI88184	Medieval Artefact Scatter On Land At Wainfleet Road, Fishtoft
MLI88185	Artefact Scatter, Wainfleet Road, Fishtoft
MLI88185	Artefact Scatter, Wainfleet Road, Fishtoft
MLI88213	Aircraft Obstructions At Theddlethorpe All Saints
MLI88215	Ridge And Furrow Earthworks At Theddlethorpe All Saints
MLI88216	Medieval Ridge And Furrow Earthworks At Theddlethorpe All Saints
MLI88224	Ridge And Furrow, Theddlethorpe All Saints
MLI88255	Settlement Of Theddlethorpe All Saints
MLI88258	Earthworks In Theddlethorpe All Saints
MLI88261	Aircraft Obstruction At Theddlethorpe St Helen
MLI88262	Aircraft Obstructions At Theddlethorpe St Helen
MLI88262	Aircraft Obstructions At Theddlethorpe St Helen
MLI88263	Ridge And Furrow Earthworks At Theddlethorpe St Helen
MLI88263	Ridge And Furrow Earthworks At Theddlethorpe St Helen
MLI88263	Ridge And Furrow Earthworks At Theddlethorpe St Helen
MLI88264	Ridge And Furrow Earthworks At Theddlethorpe St Helen
MLI88265	Undated Enclosure, Theddlethorpe St Helen
MLI88266	Ridge And Furrow Earthworks At Theddlethorpe St Helen
MLI88267	Aircraft Obstructions, Theddlethorpe St Helen
MLI88305	Searchlight Battery At Withern With Stain
MLI88305	Searchlight Battery At Withern With Stain
MLI88306	Earthwork Field Boundaries At Stain
MLI88306	Earthwork Field Boundaries At Stain
MLI88306	Earthwork Field Boundaries At Stain
MLI88386	Possible Unknown Date Cropmark Enclosure, Firsby
MLI88432	Possible Unknown Date Cropmark Enclosure, Irby In The Marsh
MLI88433	Possible Unknown Date Cropmark Enclosure And Pits, Firsby
MLI88511	Possible Unknown Date Cropmark Mounds, Beesby In The Marsh
MLI88511	Possible Unknown Date Cropmark Mounds, Beesby In The Marsh
MLI88704	Site Of Raf Spilsby, Great Steeping
MLI88710	Raf Strubby
MLI88741	Old Leake Settlement
MLI88741	Old Leake Settlement
MLI88746	Probable Medieval Earthwork Ridge And Furrow, Huttoft
MLI88746	Probable Medieval Earthwork Ridge And Furrow, Huttoft
MLI88746	Probable Medieval Earthwork Ridge And Furrow, Huttoft
MLI88746	Probable Medieval Earthwork Ridge And Furrow, Huttoft
MLI88747	Probable Medieval Earthwork Enclosure, Huttoft
MLI88747	Probable Medieval Earthwork Enclosure, Huttoft
MLI88748	Probable Medieval Earthwork Enclosure, Anderby
MLI88748	Probable Medieval Earthwork Enclosure, Anderby

Asset Number	Asset Name
MLI88749	Probable Medieval Earthwork Field System, Anderby
MLI88749	Probable Medieval Earthwork Field System, Anderby
MLI88751	Probable Medieval Earthwork Enclosures And Ridge And Furrow, Anderby
MLI88751	Probable Medieval Earthwork Enclosures And Ridge And Furrow, Anderby
MLI88752	Probable Medieval Enclosures, Field Boundary And Boundary Ditch, Anderby
MLI88752	Probable Medieval Enclosures, Field Boundary And Boundary Ditch, Anderby
MLI88753	Aircraft Obstructions, Anderby
MLI88753	Aircraft Obstructions, Anderby
MLI88756	Probable Medieval Enclosure, Huttoft
MLI88757	Probable Medieval Enclosure, Anderby
MLI88757	Probable Medieval Enclosure, Anderby
MLI88758	Probable Medieval Linear Feature, Anderby
MLI88758	Probable Medieval Linear Feature, Anderby
MLI88760	Medieval Ridge And Furrow, Chapel St Leonards
MLI88760	Medieval Ridge And Furrow, Chapel St Leonards
MLI88761	Probable Medieval Enclosure And Pond, Chapel St Leonards
MLI88761	Probable Medieval Enclosure And Pond, Chapel St Leonards
MLI88762	Former Pillboxes And Slit Trench, Chapel St Leonards
MLI88762	Former Pillboxes And Slit Trench, Chapel St Leonards
MLI88763	Medieval Ridge And Furrow And Pond, Chapel St Leonards
MLI88763	Medieval Ridge And Furrow And Pond, Chapel St Leonards
MLI88764	Aircraft Obstructions, Chapel St Leonards
MLI88764	Aircraft Obstructions, Chapel St Leonards
MLI88766	Medieval Ridge And Furrow, Addlethorpe
MLI88767	Aircraft Obstructions, Addlethorpe
MLI88769	Probable Medieval Earthwork Ridge And Furrow, Hogsthorpe
MLI88769	Probable Medieval Earthwork Ridge And Furrow, Hogsthorpe
MLI88770	Probable Medieval Earthwork Field Boundary, Hogsthorpe
MLI88770	Probable Medieval Earthwork Field Boundary, Hogsthorpe
MLI88771	Possible Medieval Earthwork Trackway, Mumby
MLI88771	Possible Medieval Earthwork Trackway, Mumby
MLI88772	Probable Medieval Earthwork Ridge And Furrow, Mumby
MLI88772	Probable Medieval Earthwork Ridge And Furrow, Mumby
MLI88773	Possible Medieval Earthwork Enclosure, Cumberworth
MLI88773	Possible Medieval Earthwork Enclosure, Cumberworth
MLI88775	Possible Medieval Earthwork Enclosure, Chapel St Leonards
MLI88775	Possible Medieval Earthwork Enclosure, Chapel St Leonards
MLI88776	Probable Medieval Earthwork Ridge And Furrow And Field Boundary, Hogsthorpe
MLI88776	Probable Medieval Earthwork Ridge And Furrow And Field Boundary, Hogsthorpe
MLI88780	Probable Medieval Earthwork Ridge And Furrow, Anderby
MLI88780	Probable Medieval Earthwork Ridge And Furrow, Anderby
MLI88780	Probable Medieval Earthwork Ridge And Furrow, Anderby

Asset Number	Asset Name
MLI88781	Sea Bank In Chapel St Leonards
MLI88781	Sea Bank In Chapel St Leonards
MLI88782	Sea Bank In Anderby
MLI88782	Sea Bank In Anderby
MLI88784	Sea Bank In Huttoft
MLI88784	Sea Bank In Huttoft
MLI88784	Sea Bank In Huttoft
MLI88785	Iron Age Saltern Site, Wyche Drain
MLI88786	Iron Age Saltern Site, Hildyke Drain
MLI88788	Medieval Settlement Of Ashington In Hogsthorpe Parish
MLI88789	Medieval Settlement Of Wyche
MLI88796	Former Windmill, Croppers Lane, Freiston
MLI88847	Romano-British Occupation, St Thomas Drive, Boston
MLI88848	Medieval Earthwork Ridge And Furrow, Irby In The Marsh
MLI88848	Medieval Earthwork Ridge And Furrow, Irby In The Marsh
MLI88849	Possible Late Medieval Cropmark And Earthwork Enclosures, Irby In The Marsh
MLI88851	Medieval Village Of Bratoft
MLI88852	Medieval Ridge And Furrow, Enclosures And Trackways, Burgh Le Marsh
MLI88852	Medieval Ridge And Furrow, Enclosures And Trackways, Burgh Le Marsh
MLI88854	Addlethorpe Settlement
MLI88854	Addlethorpe Settlement
MLI88895	Probable Medieval Settlement
MLI89027	Probable Ridge And Furrow, Mablethorpe
MLI89058	Potential Medieval Platforms, Sutton On Sea
MLI89060	Ridge And Furrow, Trusthorpe
MLI89064	Probable Medieval Ridge And Furrow, Mablethorpe
MLI89064	Probable Medieval Ridge And Furrow, Mablethorpe
MLI89064	Probable Medieval Ridge And Furrow, Mablethorpe
MLI89073	Saxon And Early Medieval Occupation, Fishtoft Manor
MLI89108	Medieval And Later Pottery Scatter Off Magdalen Road, Wainfleet All Saints
MLI89121	Probable Shrunken Medieval Village, Cumberworth
MLI89121	Probable Shrunken Medieval Village, Cumberworth
MLI89183	Shrunken Medieval Village Of Strubby, Strubby With Woodthorpe
MLI89183	Shrunken Medieval Village Of Strubby, Strubby With Woodthorpe
MLI89184	Ridge And Furrow At Mile Lane, Mablethorpe
MLI89184	Ridge And Furrow At Mile Lane, Mablethorpe
MLI89185	Second World War Pillbox At Mile Lane, Mablethorpe
MLI89185	Second World War Pillbox At Mile Lane, Mablethorpe
MLI89199	Late Saxon - Medieval Occupation South Of Wash Road, Kirton
MLI89559	Late Roman Features At 2 High Street, Burgh Le Marsh
MLI89560	Neolithic Pottery At 2 High Street, Burgh Le Marsh
MLI90284	Dumped Iron Age Briquetage Deposit To The West Of Addlethorpe

Asset Number	Asset Name
MLI90286	Dumped Briquetage Deposit To The West Of Addlethorpe
MLI90289	Possible Romano-British Occupation To The West Of Addlethorpe
MLI90292	Romano-British Ditch To The North West Of Addlethorpe
MLI90346	Romano-British Pottery Found In Excavations At Old Leake
MLI90348	Medieval Features, Low Road, Wyberton
MLI90364	Sherd Of Roman Pottery Found Near Frith Bank Bridge
MLI90647	Possible Medieval Drove Road, Wainfleet St Mary
MLI90648	Medieval Settlement Remains, Wainfleet St Mary
MLI90671	Flint Flake Found On Land At Fishtoft Manor
MLI90821	Cropmark Prehistoric Or Romano-British Rectangular Enclosure And Ring Ditch, Fishtoft
MLI90822	Cropmark Undated (Possibly Roman Or Medieval) Settlement Features, Frithville
MLI90823	Cropmark Undated Enclosures, Fishtoft
MLI90824	Cropmark Romano-British Ditches And Possible Building, Holland Fen With Brothertoft
MLI90825	Cropmark Undated Field System, Amber Hill
MLI90833	Former Manor House, Croft
MLI90835	Earthwork Mounds, Huttoft
MLI90836	Cropmark Prehistoric Or Romano-British Enclosures And Ditches, Willoughby With Sloothby
MLI90843	Possible Medieval Enclosure, Thorpe St Peter
MLI90844	Possible Medieval Earthwork Enclosure, Thorpe St Peter
MLI90845	Possible Medieval Earthwork Stack Stands, Thorpe St Peter
MLI90847	Probable Medieval Earthwork Enclosure, Thorpe St Peter
MLI90848	Possible Medieval Earthwork Platform, Thorpe St Peter
MLI90849	Possible Medieval Earthwork Boundary, Thorpe St Peter
MLI90850	Probable Medieval Earthwork Ridge And Furrow And Field System, Thorpe St Peter
MLI90851	Medieval Earthwork Enclosure, Thorpe St Peter
MLI90852	Medieval Earthwork Fishponds, Thorpe St Peter
MLI90853	Undated Earthwork Bank, Thorpe St Peter
MLI90854	Medieval Settlement Earthworks, Thorpe St Peter
MLI90855	Medieval Settlement And Field System, Thorpe St Peter
MLI90856	Probable Medieval Earthwork Ridge And Furrow And Enclosures, Thorpe St Peter
MLI90857	Probable Medieval Earthwork Ridge And Furrow And Enclosures, Thorpe St Peter
MLI90858	Probable Medieval Earthwork Enclosure, Thorpe St Peter
MLI90859	Probable Medieval Field System, Thorpe St Peter
MLI90878	Possible Roman Cropmark Boundary And Enclosures, Bilsby
MLI90878	Possible Roman Cropmark Boundary And Enclosures, Bilsby
MLI90885	Late Medieval Earthwork Field System, Bilsby
MLI90885	Late Medieval Earthwork Field System, Bilsby
MLI90886	Deserted Medieval Village Of Markby
MLI90886	Deserted Medieval Village Of Markby

Asset Number	Asset Name
MLI90887	Probable Medieval Earthwork Fishponds, Markby
MLI90887	Probable Medieval Earthwork Fishponds, Markby
MLI90888	Medieval Cropmark And Earthwork Enclosure And Field Boundaries, Markby
MLI90888	Medieval Cropmark And Earthwork Enclosure And Field Boundaries, Markby
MLI91509	Roman Ring Found Near The Beeches, Frampton
MLI91510	Unidentified, Undated Earthworks In A Field Off West End Road, Frampton
MLI91510	Unidentified, Undated Earthworks In A Field Off West End Road, Frampton
MLI91513	Possible Romano-British Cropmark Settlement Near Kelsey Bridge
MLI91515	Possible Romano-British Cropmarks To The East Of Walnut Tree Farm
MLI91516	Possible Romano-British Cropmark Field System At Hilldyke
MLI91534	Former Primitive Methodist Chapel, Spicer's Lane, Benington Sea End
MLI91535	Site Of Possible Medieval Saltern Mounds To The West Of Sea End Road
MLI91544	Undated Pit On Land Off Low Road, Wyberton
MLI91754	Late Saxon Ditches On Land At The Old Station Yard, Kirton
MLI91795	Undated Ditches On Land At Spencer Farm, Croft End
MLI91796	Possible Medieval Pond On Land At Spencer Farm, Croft End
MLI91966	Romano British Activity, Old Leake
MLI91967	Post Medieval Activity, Old Leake
MLI92558	Bridge 8, Hodsons Bridge, Old Leake
MLI92768	Three Stone Piers, Boston
MLI97350	Possible Pottery Kiln Site
MLI97422	Roman Site On The Route Of The Burgh Le Marsh Bypass
MLI97591	13th And 14th Century Silver Coin Cache, Land At St John's Cemetery, Boston
MLI97622	Worked Flint Found To The North Of Fishtoft
MLI97623	Possible Medieval Occupation To The North Of Fishtoft
MLI97624	Worked Flint Found To The North Of Fishtoft
MLI97626	Roman Tile Found At St Guthlac's Way, Fishtoft
MLI97628	Roman Tile Found At Clampgate Road, Fishtoft
MLI97632	Saxon Pottery Found At Manor Lodge, Fishtoft
MLI97710	The 'Roman Bank' Medieval Sea Bank, Boston And Wyberton
MLI97710	The 'Roman Bank' Medieval Sea Bank, Boston And Wyberton
MLI97714	Possible Medieval Earthwork Enclosure, Grove House Farm, Bratoft
MLI97715	Probable Medieval Earthwork Enclosures, Irby In The Marsh
MLI97716	Medieval Ridge And Furrow And Other Earthworks Surrounding Croft Village
MLI97718	Possible Ring Ditch, Hogsthorpe
MLI97719	Possible Undated Earthwork Enclosure, Hogsthorpe
MLI97733	Possible Medieval Field System, Little Steeping
MLI97735	Ridge And Furrow, Little Steeping
MLI97844	Ridge And Furrow Around The Grange, Firsby
MLI97844	Ridge And Furrow Around The Grange, Firsby
MLI97846	Cropmark Enclosures By Kelsey Hall, Great Steeping
MLI97848	Ridge And Furrow To The North Of Wainfleet Road, Firsby

Asset Number	Asset Name
MLI97848	Ridge And Furrow To The North Of Wainfleet Road, Firsby
MLI97957	Possible Later Prehistoric Cropmarks, Cumberworth
MLI98000	An Undated Flake, Cumberworth
MLI98001	An Undated Flake, Cumberworth
MLI98002	Five Undated Flakes, Cumberworth
MLI98096	Medieval Ridge And Furrow Earthworks Near Vine Farm, Burgh Le Marsh
MLI98097	Medieval Ridge And Furrow Earthworks Adjacent To Middlemarsh Road, Croft
MLI98098	Possible Medieval Earthwork Enclosures, The Hollies, Croft
MLI98099	Possible Medieval Earthwork Extractive Pit To The North Of Low Lane , Croft
MLI98100	Medieval Ridge And Furrow To The North Of Low Lane , Croft
MLI98101	Medieval Ridge And Furrow To South Of Burgh Le Marsh
MLI98102	Possible Medieval Trackway And Linear Feature Near Beechwood House, Burgh Le Marsh
MLI98103	Medieval Ridge And Furrow Near Mill Hill Farm, Bratoft
MLI98104	Possible Medieval Enclosure To The South Of Klondyke Farm, Bratoft
MLI98105	Possible Medieval Enclosure, Croft House, Croft
MLI98106	Possible Medieval Enclosure Near Cowcroft Drain, Bratoft
MLI98107	Medieval Ridge And Furrow Near Lymn Bank, Thorpe St Peter
MLI98120	Probable Late Medieval Activity, Mablethorpe
MLI98164	Searchlight Battery Remains In Croft
MLI98165	Medieval Ridge And Furrow In Croft Parish
MLI98166	Medieval Ridge And Furrow In Croft Parish
MLI98311	Prehistoric Peat Deposits, Boston
MLI98445	Medieval Sea Bank In Weston
MLI98446	Medieval Sea Bank In Moulton
MLI98447	Medieval Settlement Remains Around Mablethorpe Hall
MLI98447	Medieval Settlement Remains Around Mablethorpe Hall
MLI98489	Medieval Enclosures And Tofts, Mablethorpe
MLI98489	Medieval Enclosures And Tofts, Mablethorpe
MLI98552	Probable Medieval Settlement Activity, Skegness
MLI98595	Ridge And Furrow West Of Willow Farm, Hogsthorpe
MLI98596	Ridge And Furrow In Hogsthorpe
MLI98601	Hagnaby Medieval Village, Hannah Cum Hagnaby
MLI98601	Hagnaby Medieval Village, Hannah Cum Hagnaby
MLI98610	Ridge And Furrow, Lincoln Farm, Bratoft
MLI98611	Medieval Enclosure, Bratoft
MLI98612	Medieval Ridge And Furrow And Enclosures, The Rookery, Bratoft
MLI98614	Ridge And Furrow At Mill Hill, Burgh Le Marsh
MLI98617	Ridge And Furrow To The South Of Burgh Le Marsh Parish
MLI98618	Ridge And Furrow By Petersfield Farm, Croft
MLI98619	Anti-Glider Ditches, Skegness
MLI98629	Anti Glider Ditch In Orby

Asset Number	Asset Name
MLI98632	Medieval Enclosures South Of Marsh Lane, Orby
MLI98634	Ridge And Furrow In Orby Parish
MLI98636	Medieval Enclosures In Addlethorpe Parish
MLI98638	Medieval Enclosures And A Pond In Hogsthorpe
MLI98639	Medieval Enclosures And A Field System In Hogsthorpe Parish
MLI98640	Anti Glider Ditches From The Second World War In Hogsthorpe
MLI98641	A Group Of Medieval Enclosures By Red Gout In Addlethorpe
MLI98642	Ridge And Furrow, Addlethorpe
MLI98642	Ridge And Furrow, Addlethorpe
MLI98644	Medieval Field Boundaries By Hope Farm, Addlethorpe
MLI98645	Medieval Ridge And Furrow, Addlethorpe
MLI98660	Pillbox, Whitehouse Farm, Friskney Tofts
MLI98699	Ridge And Furrow Earthworks East Of Harrison's Lane, Thorpe St. Peter
MLI98704	Ridge And Furrow Earthworks, Mill Hill, Addlethorpe
MLI98708	Ridge And Furrow Earthworks, Dryby Farm, Bilsby
MLI98708	Ridge And Furrow Earthworks, Dryby Farm, Bilsby
MLI98709	Possible Earthwork House Platforms South Of Brasenose Farm, Sutton Le Marsh
MLI98709	Possible Earthwork House Platforms South Of Brasenose Farm, Sutton Le Marsh
MLI98709	Possible Earthwork House Platforms South Of Brasenose Farm, Sutton Le Marsh
MLI98710	Ridge And Furrow Earthworks South Of Brasenose Farm, Sutton Le Marsh
MLI98710	Ridge And Furrow Earthworks South Of Brasenose Farm, Sutton Le Marsh
MLI98710	Ridge And Furrow Earthworks South Of Brasenose Farm, Sutton Le Marsh
MLI98711	Ridge And Furrow Earthworks West Of Brasenose Farm, Sutton Le Marsh
MLI98711	Ridge And Furrow Earthworks West Of Brasenose Farm, Sutton Le Marsh
MLI98714	Ridge And Furrow Earthworks South-West Of Brasenose Farm, Sutton Le Marsh
MLI98714	Ridge And Furrow Earthworks South-West Of Brasenose Farm, Sutton Le Marsh
MLI98714	Ridge And Furrow Earthworks South-West Of Brasenose Farm, Sutton Le Marsh
MLI98715	Ridge And Furrow Earthworks, Crossing Farm, Trusthorpe
MLI98715	Ridge And Furrow Earthworks, Crossing Farm, Trusthorpe
MLI98715	Ridge And Furrow Earthworks, Crossing Farm, Trusthorpe
MLI98717	Possible Medieval Earthwork Moat, Crossing Farm, Trusthorpe
MLI98717	Possible Medieval Earthwork Moat, Crossing Farm, Trusthorpe
MLI98718	Ridge And Furrow Earthworks East Of Crossing Farm, Trusthorpe
MLI98718	Ridge And Furrow Earthworks East Of Crossing Farm, Trusthorpe
MLI98718	Ridge And Furrow Earthworks East Of Crossing Farm, Trusthorpe
MLI98719	Possible Earthwork Ridge And Furrow North Of Trusthorpe Pumping Drain, Mablethorpe
MLI98719	Possible Earthwork Ridge And Furrow North Of Trusthorpe Pumping Drain, Mablethorpe
MLI98719	Possible Earthwork Ridge And Furrow North Of Trusthorpe Pumping Drain, Mablethorpe
MLI98720	Ridge And Furrow Earthworks, Rutland Road, Mablethorpe

Asset Number	Asset Name
MLI98721	Late Medieval Earthwork Tofts, Golf Road, Mablethorpe
MLI98721	Late Medieval Earthwork Tofts, Golf Road, Mablethorpe
MLI98722	Ridge And Furrow Earthworks North Of Harps Bridge, Theddlethorpe St Helen
MLI98724	Ridge And Furrow Earthworks, Ashleigh Farm, Theddlethorpe St Helen
MLI98786	Early Medieval Boundary Ditch, Hall Lane, Burgh Le Marsh
MLI98787	Prehistoric Flints, Hall Lane, Burgh Le Marsh
MLI98788	Undated Ditch And Pits, Hall Lane, Burgh Le Marsh
MLI98788	Undated Ditch And Pits, Hall Lane, Burgh Le Marsh
MLI98810	A Cropmark Enclosure In Theddlethorpe St Helen
MLI98813	Ridge And Furrow In Firsby
MLI98814	Possible Medieval Extractive Pits In Irby In The Marsh
MLI98815	Cropmark Crofts And Tofts In Irby In The Marsh
MLI98954	Shrunken Medieval Settlement, Theddlethorpe St Helen
MLI99129	Late Iron Age/Roman Settlement Activity, Croft
MLI99383	Flints Found During Evaluation At Croft
MLI99394	Modern Dumped Material, Golf Road, Mablethorpe
MLI99404	Pillbox, Church Of St James, Freiston
MLI99405	Pillbox, Church Of St James, Freiston
MLI99420	Pillbox, Freiston Bridge
MLI99447	Linear Features, Mill Road, Addlethorpe
MLI99448	Probable Salterns, Mill Road, Addlethorpe
MLI99460	Ridge And Furrow, Sibsey
MLI99460	Ridge And Furrow, Sibsey
MLI99482	Roman Pottery, Sibsey
MLI99484	Roman Pottery Sherd, Willoughby Hills

Table C. 8: Lincs Node OnSS – Scheduled Monuments

Asset Number	Asset Name
1004987	Markby Priory
1014423	Churchyard Cross, St Thomas Of Canterbury's Churchyard
1014424	Churchyard Cross, St Andrew's Churchyard
1011454	Hagnaby Abbey: A Premonstratensian Abbey And A Post-Medieval House And Formal Garden
1014426	Churchyard Cross, St Margaret's Churchyard, Saleby
1017375	Moated Site 100m South Of Stain Farm



Table C. 9: Lincs Node OnSS - Listed Buildings (Grade I)

Asset Number	Asset Name
1147204	Church Of St Andrew
1204944	Church Of St Thomas Of Canterbury
1360009	Church Of St Margaret

Table C. 10: Lincs Node OnSS - Listed Buildings (Grade II\*)

Asset Number	Asset Name
1062988	Church Of St. Oswald
1063009	Church Of St Peter
1146990	Church Of All Saints
1147259	Church Of St Helen
1308650	Church Of St Andrew

Table C. 11: Lincs Node OnSS - Listed Buildings (Grade II)

Asset Number	Asset Name
1062980	Sarra Cottage
1062981	Church Of St. Clement
1062982	Trusthorpe Hall
1062983	Tennysons Cottage
1062984	Thorpe Farm Cottage
1062985	Manor House
1062986	Dovecote House
1062992	Ashleigh Farm
1062993	Stable Block At The Hall
1063002	Wexham Farm
1063003	Dairy Farm
1063004	The Cottage
1063007	Stain Glebe Farm
1063008	Huttoft Mill
1063010	The Cottage
1063011	Church Of St Margaret
1063012	Manor Farmhouse
1063014	The Cottage
1063015	Brick Kiln At Brick Yard
1063618	Field House
1078199	Wavelands
1078200	Marsoville
1146955	The Old Chapel
1147010	Maltby Windmill
1147054	Hill House Farm House
1147093	The Old Vicarage
1147110	Ivy House Farmhouse
1147116	Church Of St Andrew

Asset Number	Asset Name
1147120	The Rectory
1147238	Cross In Churchyard, South Side
1147241	The Hall
1147252	The Priory
1204901	Church Of St Helen
1241268	Lindum
1247773	Wind Pump At Brick Yard
1308586	Warehouse At Huttoft Mill
1308594	Saleby Grange
1308598	Cross In Churchyard On South Side Of Church
1359710	Cross In Churchyard Of Church Of St Thomas Of Canterbury
1359993	Church Of St Peter
1359994	Church Of St. Mary
1359996	Pump At Tennyson's Cottage
1359997	Crown Inn
1359998	Dovecote At Dovecote House
1360006	Cross Shaft in Churchyard On South Side Of Church
1472526	Sutton On Sea War Memorial And Surrounding Garden Walls

Table C. 12: Lincs Node OnSS - Non-Designated Archaeological HER Entries (selected)

Asset Number	Asset Name
MLI115845	Medieval Ridge And Furrow, Sutton On Sea
MLI115880	Medieval Earthworks And Platforms By Hall Farm, Sutton On Sea
MLI115881	Site Of Searchlight Battery North Of Alford Road, Sutton On Sea
MLI115882	Site Of Searchlight Battery West Of Brickyard Lane, Sutton On Sea
MLI115883	A Medieval Earthwork Enclosure West Of Brickyard Lane, Sutton On Sea
MLI115894	The Settlement Of Beesby In The Marsh
MLI115895	Ridge And Furrow Field System To The East Of Fen Lane, Beesby In The Marsh
MLI115896	Ridge And Furrow Field System Off Beesby Walk, Beesby In The Marsh
MLI115897	Ridge And Furrow Field System North Of Washdyke Farm, Beesby In The Marsh
MLI115898	An Undated Cropmark Enclosure South Of Manor Farm, Beesby In The Marsh
MLI115899	Ridge And Furrow Field System To The West Of The A1104 South Of Maltby Le Marsh
MLI115900	Medieval Enclosures In Maltby Le Marsh Adjacent To The Boundary With Beesby
MLI115901	Medieval Field Boundaries To The West Of Beesby In The Marsh
MLI116304	Pillbox, Mumby
MLI118892	Moat Grange (Moat Farm), Cumberworth
MLI124924	Bristol Beaufighter Crash Site, Mablethorpe
MLI125170	Royal Observer Corps Post, Mablethorpe
MLI125449	Ridge And Furrow, Hagnaby
MLI125949	Anti-Aircraft Pillbox, Church Of St Helen, Theddlethorpe St Helen
MLI125950	Pillbox, Church Of St Helen, Theddlethorpe St Helen
MLI41132	Saxon Finds From W Of Mablethorpe

Asset Number	Asset Name
MLI41133	Roman Coins Reported From This Site
MLI41134	Prehistoric Finds From Stain Hill, Withern With Stain
MLI41135	Romano British Pottery Found North east Of Alford
MLI41427	Flint Axe, Mablethorpe
MLI41431	Moated Site, Mablethorpe
MLI41441	Romano British Pottery Found In Sutton On Sea
MLI41449	Flint Axe, Trusthorpe
MLI41451	Roman Tiles Found In Trusthorpe
MLI41453	Deserted Medieval Village Of Fulsthorpe
MLI41456	Possible Medieval Manor, Sutton On Sea
MLI41467	Medieval Settlement Site, Hannah Cum Hagnaby
MLI41469	Site Of Tumulus, Markby
MLI41470	Polished Stone Axe, Found In Markby
MLI41472	Romano-British Pottery, Toad Hole, Bilsby
MLI41476	Moated Site At Thurlby In Bigby Parish.
MLI41479	Asserby Settlement
MLI41486	Thurlby Deserted Medieval Village
MLI41489	Bilsby Deserted Medieval Village
MLI41490	The Site Of Thurlby Grange, Bilsby
MLI41493	Romano-British Beaker, Huttoft
MLI41495	Roman Urn, Huttoft
MLI41627	House Sites In Chapel St Leonards
MLI41954	Roman Saltern Site, Hogsthorpe
MLI41977	Moated Site, Mumby
MLI41979	Roman Pottery From Mumby
MLI41985	Remains Of An Alleged Moat
MLI42523	Tumulus To The Nw Of Saleby
MLI42524	Shrunken Medieval Village Of Saleby
MLI42525	Moated Site In Saleby Medieval Shrunken Village
MLI42526	Romano British Cremations Found S Of Thoresthorpe
MLI42527	Thoresthorpe Shrunken Medieval Village
MLI42662	Polished Stone Axe Found Near Strubby
MLI42669	Settlement (Site Of) At Stain
MLI42853	Possible Remains Of A Moat At Moat Farm, Mumby
MLI43089	Romano-British Pottery
MLI43090	Medieval Settlement Evidence On Land North Of Alford Road, Sutton On Sea
MLI43274	Pillbox, Ingle Nook, Mumby
MLI43278	Pillbox, Quaker's Hill, Chapel St Leonards
MLI43282	Pillbox, Theddlethorpe St Helen
MLI43299	Settlement Of Huttoft
MLI43492	Prehistoric Flint, Moat House, Thurlby In Bigby Parish
MLI43593	Hagnaby Abbey
MLI43658	Medieval Field System, High Gate, Trusthorpe

Asset Number	Asset Name
MLI43659	Late Saxon Pottery
MLI43685	Romano-British Material, Seaholme Road, Mablethorpe
MLI43705	Medieval Ridge And Furrow
MLI43730	Undated Features, South Of Willoughby Road, Cumberworth
MLI80625	Ridge And Furrow, Ancroft Fen, Bilby
MLI81825	Medieval Features, Main Road
MLI81929	Scatter Of Roman Pottery, St Helen's Church
MLI81930	Probable Early To Mid-Saxon Settlement, St Helen's Church
MLI81931	A Mid- To Late Saxon Cemetery Beneath St Helen's Church, Cumberworth
MLI81932	Flint Scatter, St Helen's Church
MLI82080	Settlement Of Mumby
MLI82081	Settlement Of Helsey
MLI82993	Ridge And Furrow And Possible House Platforms On Main Road
MLI83144	Medieval Ditch, Off Main Road
MLI84230	Settlement Activity, Church Lane, Mablethorpe
MLI84713	Late Neolithic To Early Bronze Age Flint Artefact, Withern With Stain
MLI84722	Romano-British Tegula Fragment Found On Land Near Maltby Le Marsh
MLI87954	Boundary Cropmark, North Of Bilby.
MLI88101	Enclosure Earthwork, Saleby With Thoresthorpe Parish.
MLI88171	Ridge And Furrow, Sutton On Sea
MLI88172	Ridge And Furrow Earthworks On Land West Of Sutton On Sea
MLI88173	Medieval Ridge And Furrow, Sutton On Sea
MLI88177	Ridge And Furrow Earthworks On Land West Of Bridge Farm, Sutton On Sea
MLI88178	Ridge And Furrow, Huttoft Road, Sutton On Sea
MLI88262	Aircraft Obstructions At Theddlethorpe St Helen
MLI88263	Ridge And Furrow Earthworks At Theddlethorpe St Helen
MLI88305	Searchlight Battery At Withern With Stain
MLI88306	Earthwork Field Boundaries At Stain
MLI88511	Possible Unknown Date Cropmark Mounds, Beesby In The Marsh
MLI88710	Raf Strubby
MLI88746	Probable Medieval Earthwork Ridge And Furrow, Huttoft
MLI88747	Probable Medieval Earthwork Enclosure, Huttoft
MLI88748	Probable Medieval Earthwork Enclosure, Anderby
MLI88749	Probable Medieval Earthwork Field System, Anderby
MLI88750	Probable Late Medieval Earthwork Enclosure And Field Boundary, Huttoft
MLI88751	Probable Medieval Earthwork Enclosures And Ridge And Furrow, Anderby
MLI88752	Probable Medieval Enclosures, Field Boundary And Boundary Ditch, Anderby
MLI88753	Aircraft Obstructions, Anderby
MLI88754	Probable Late Medieval Earthwork Enclosure And Linear Feature, Anderby
MLI88755	Probable Late Medieval Activity, Huttoft
MLI88757	Probable Medieval Enclosure, Anderby
MLI88758	Probable Medieval Linear Feature, Anderby
MLI88760	Medieval Ridge And Furrow, Chapel St Leonards

Asset Number	Asset Name
MLI88761	Probable Medieval Enclosure And Pond, Chapel St Leonards
MLI88762	Former Pillboxes And Slit Trench, Chapel St Leonards
MLI88763	Medieval Ridge And Furrow And Pond, Chapel St Leonards
MLI88764	Aircraft Obstructions, Chapel St Leonards
MLI88769	Probable Medieval Earthwork Ridge And Furrow, Hogsthorpe
MLI88770	Probable Medieval Earthwork Field Boundary, Hogsthorpe
MLI88771	Possible Medieval Earthwork Trackway, Mumby
MLI88772	Probable Medieval Earthwork Ridge And Furrow, Mumby
MLI88773	Possible Medieval Earthwork Enclosure, Cumberworth
MLI88775	Possible Medieval Earthwork Enclosure, Chapel St Leonards
MLI88776	Probable Medieval Earthwork Ridge And Furrow And Field Boundary, Hogsthorpe
MLI88777	Potential Medieval Earthwork Enclosure, Hogsthorpe
MLI88780	Probable Medieval Earthwork Ridge And Furrow, Anderby
MLI88781	Sea Bank In Chapel St Leonards
MLI88782	Sea Bank In Anderby
MLI88784	Sea Bank In Huttoft
MLI89064	Probable Medieval Ridge And Furrow, Mablethorpe
MLI89121	Probable Shrunken Medieval Village, Cumberworth
MLI89183	Shrunken Medieval Village Of Strubby, Strubby With Woodthorpe
MLI89184	Ridge And Furrow At Mile Lane, Mablethorpe
MLI89185	Second World War Pillbox At Mile Lane, Mablethorpe
MLI90878	Possible Roman Cropmark Boundary And Enclosures, Bilsby
MLI90885	Late Medieval Earthwork Field System, Bilsby
MLI90886	Deserted Medieval Village Of Markby
MLI90887	Probable Medieval Earthwork Fishponds, Markby
MLI90888	Medieval Cropmark And Earthwork Enclosure And Field Boundaries, Markby
MLI98447	Medieval Settlement Remains Around Mablethorpe Hall
MLI98489	Medieval Enclosures And Tofts, Mablethorpe
MLI98601	Hagnaby Medieval Village, Hannah Cum Hagnaby
MLI98708	Ridge And Furrow Earthworks, Dryby Farm, Bilsby
MLI98709	Possible Earthwork House Platforms South Of Brasenose Farm, Sutton Le Marsh
MLI98710	Ridge And Furrow Earthworks South Of Brasenose Farm, Sutton Le Marsh
MLI98711	Ridge And Furrow Earthworks West Of Brasenose Farm, Sutton Le Marsh
MLI98714	Ridge And Furrow Earthworks South-West Of Brasenose Farm, Sutton Le Marsh
MLI98715	Ridge And Furrow Earthworks, Crossing Farm, Trusthorpe
MLI98717	Possible Medieval Earthwork Moat, Crossing Farm, Trusthorpe
MLI98718	Ridge And Furrow Earthworks East Of Crossing Farm, Trusthorpe
MLI98719	Possible Earthwork Ridge And Furrow North Of Trusthorpe Pumping Drain, Mablethorpe
MLI98721	Late Medieval Earthwork Tofts, Golf Road, Mablethorpe

Table C. 13: Weston Marsh OnSS – Scheduled Monuments

Asset Number	Asset Name
1010678	Churchyard Cross, All Saints' Churchyard

Table C. 14: Weston Marsh OnSS – Listed Buildings (Grade II)

Asset Number	Asset Name
1062019	The Vicarage
1062020	Suffolk House
1062045	Milepost, East Of Waste Green Lane
1062046	Trap House At Woodlands Farm
1064468	Seasend Hall
1064477	Pigeoncote To The South Of Wraggmarsh House
1064503	The Farmhouse (At Rh Scrimwshaw And Sons)
1147603	Wraggmarsh House Farmhouse
1317488	Mile Post (North Of Graves Farm)
1317493	Middlecott's Hospital
1359272	The Farmhouse (170 Metres South-West Of Landell House)
1360470	The Woodlands Farmhouse
1360494	Church Of All Saints

Table C. 15: Weston March OnSS - Non-Designated Archaeological HER Entries (selected)

Asset Number	Asset Name
MLI98445	Medieval Sea Bank In Weston
MLI98446	Medieval Sea Bank In Moulton
MLI20378	Medieval Salterns
MLI20329	Moated Site
MLI13391	Pillbox, Fosdyke Bridge
MLI125205	Pillbox, St Lambert's Hall, Weston

# Appendix D – Onshore Ecology

# 1 Designated Sites

Table D. 1: Designated Sites

Designated Site	Location	Feature or description
International (within 15 km of AoS)		
Gibraltar Point SPA (UK9008022)	1.5km E of the AoS	<ul style="list-style-type: none"> <li>• Grey plover <i>Pluvialis squatarola</i> (Non-breeding);</li> <li>• Sanderling <i>Calidris alba</i> (Non-breeding);</li> <li>• Bar-tailed godwit <i>Limosa lapponica</i> (Non-breeding); and</li> </ul> Little tern <i>Sterna albifrons</i> (Breeding)
Gibraltar Point Ramsar (UK11027)	1.5km E of the AoS	Onshore Ramsar Features: <ul style="list-style-type: none"> <li>• Coastal habitats – estuarine mudflats, sandbanks, and saltmarsh.</li> </ul> Red Data book invertebrates - <i>Gymnacyla canella</i> <i>Rhymosia Connexa</i> , <i>Athetis pallustris</i> and <i>Eupithecia extensaria</i>
Greater Wash SPA (UK9020329)	0km E of the AoS, adjacent	Qualifying features: non-breeding species - red-throated diver <i>Gavia stellata</i> , common scoter <i>Melanitta nigra</i> , and little gull <i>Hydrocoloeus minutus</i> , breeding species - sandwich tern <i>Sterna sandvicensis</i> , common tern <i>Sterna hirundo</i> , and little tern <i>Sternula albifrons</i> .  Greater Wash consists of varying marine habitats including intertidal mudflats and sandflats, subtidal sandbanks and biogenic reef, reefs, and mussel beds. During breeding season, the site supports Annex I populations of little tern, common tern and sandwich tern and during the winter, support Annex I little gull and red-throated diver. The site also supports common scoter as a migratory species.
Humber Estuary Ramsar (UK11031)	0km, overlaps with AoS	Onshore Ramsar Features:  Criterion 1- Dune systems and humid dune slacks  Criterion 5 – Assemblages of international importance (waterfowl, non-breeding season)  Criterion 6 – Species/populations occurring at levels of international importance:



Designated Site	Location	Feature or description
		<ul style="list-style-type: none"> <li>• common shelduck <i>Tadorna tadorna</i></li> <li>• Eurasian golden plover <i>Pluvialis apricaria</i></li> <li>• red knot <i>Calidris canutus islandica</i> subspecies</li> <li>• Dunlin <i>Calidris alpina</i></li> <li>• Black-tailed godwit <i>Limosa limosa islandica</i> subspecies</li> <li>• Bar-tailed godwit <i>Limosa lapponica lapponica</i> subspecies</li> </ul> <p>Common redshank <i>Tringa tetanus brittanica</i> subspecies</p>
Humber Estuary SAC (UK0030170)	2.3km NNW of AoS	<ul style="list-style-type: none"> <li>• H1110. Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks</li> <li>• H1130. Estuaries</li> <li>• H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats</li> <li>• H1150. Coastal lagoons*</li> <li>• H1310. Salicornia and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand</li> <li>• H1330. Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)</li> <li>• H2110. Embryonic shifting dunes H2120. Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes"); Shifting dunes with marram</li> <li>• H2130. Fixed dunes with herbaceous vegetation ("grey dunes"); Dune grassland*</li> </ul> <p>H2160. Dunes with <i>Hippophae rhamnoides</i>; Dunes with sea-buckthorn</p>
Humber Estuary SPA (UK9006111)	0km, overlaps with AoS	<ul style="list-style-type: none"> <li>• Great bittern <i>Botaurus stellaris</i> (Non-breeding and breeding);</li> <li>• Common shelduck <i>Tadorna tadorna</i> (Non-breeding);</li> <li>• Eurasian marsh harrier <i>Circus aeruginosus</i> (Breeding);</li> <li>• Hen harrier <i>Circus cyaneus</i> (Non-breeding);</li> <li>• Pied avocet <i>Recurvirostra avosetta</i> (Non-breeding and breeding);</li> <li>• European golden plover <i>Pluvialis apricaria</i> (Non-breeding);</li> <li>• Red knot <i>Calidris canutus</i> (Non-breeding);</li> <li>• Dunlin <i>Calidris alpina alpina</i> (Non-breeding);</li> </ul>

Designated Site	Location	Feature or description
		<ul style="list-style-type: none"> <li>• Ruff <i>Philomachus pugnax</i> (Non-breeding);</li> <li>• Black-tailed godwit <i>Limosa limosa islandica</i> (Non-breeding);</li> <li>• Bar-tailed godwit <i>Limosa lapponica</i> (Non-breeding);</li> <li>• Common redshank <i>Tringa totanus</i> (Non-breeding); and</li> <li>• Little tern <i>Sterna albifrons</i> (Breeding)</li> </ul> <ul style="list-style-type: none"> <li>• Waterbird assemblage</li> </ul>
Inner Dowsing, Race Bank and North Ridge SAC (UK0030370)	2.85km E of the AoS	Qualifying features: sandbanks which are slightly covered by seawater at all time; consisting of the subfeatures: low diversity dynamic sand communities, and moderate diversity gravelly muddy sand communities and reef habitat <i>Sabellaria spinulosa</i> reefs. Inner Dowsing, Race Bank and North Ridge contains two Annex I habitats: reefs, and sandbanks which are slightly covered by sea water all the time. The site is one of the best areas in the UK for these habitats.
Saltleetby-Theddlethorpe Dunes & Gibraltar Point SAC (UK0030270)	0km, overlaps with AoS	Qualifying features: embryonic shifting dunes, shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes"); Shifting dunes with marram, fixed dunes with herbaceous vegetation ("grey dunes"); dune grassland, dunes with <i>Hippophae rhamnoides</i> ; dunes with sea-buckthorn; and humid dune slacks. Saltleetby-Theddlethorpe Dunes & Gibraltar Point contain numerous Annex I habitats including shifting dunes, fixed coastal dunes with herbaceous vegetation, dunes with <i>Hippophae rhamnoides</i> , and humid dune slacks.
The Wash & North Norfolk Coast SAC (UK0017075)	0km, overlaps with AoS	<ul style="list-style-type: none"> <li>• Qualifying features: sandbanks which are slightly covered by sea water all the time; subtidal sandbanks, mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats, coastal lagoons, large shallow inlets and bays, reefs, salicornia and other annuals colonising mud and sand; glasswort and other annuals colonising mud and sand, atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>), mediterranean and thermo-Atlantic halophilous scrubs <i>Sarcocornetea fruticosi</i>; mediterranean saltmarsh scrub, otter <i>lutra lutra</i>, and common seal. The Wash &amp; North Norfolk Coast also contain harbour seal <i>Phoca vitulina</i> which are common on the site and known to breed and haul-out whilst the site also provides the largest colony of common seal within the UK. Otter are an Annex II species present as a qualifying feature.</li> </ul>

Designated Site	Location	Feature or description
The Wash Ramsar (UK11072)	0km, overlaps with AoS	<p>Onshore Ramsar Features:</p> <ul style="list-style-type: none"> <li>• Possible loss of habitat for foraging, breeding/non-breeding, and wintering bird species, resulting in possible bird disturbance. Potential loss of important habitats, resulting in possible disturbance to bird assemblages and species/populations of international importance.</li> <li>• Criterion 1 – Saltmarshes, major intertidal banks of sand and mud, shallow water, and deep channels.</li> <li>• Criterion 3 – inter-relationship between saltmarshes, intertidal sand, mudflats, and estuarine waters.</li> <li>• Criterion 5 – Bird assemblages of international importance</li> <li>• Criterion 6 – Bird species/ populations occurring at levels of international importance:</li> </ul> <p><u>Species with peak counts in spring/autumn:</u></p> <ul style="list-style-type: none"> <li>• Common redshank <i>Tringa totanus totanus</i></li> <li>• Eurasian curlew <i>Numenius arquata arquata</i> (breeding)</li> <li>• Eurasian oystercatcher <i>Haematopus ostralegus ostralegus</i> (wintering)</li> <li>• Grey plover <i>Pluvialis squatarola</i> (wintering)</li> <li>• Red knot <i>Calidris canutus islandica</i> (wintering)</li> <li>• Sanderling <i>Calidris alba</i></li> </ul> <p><u>Species with peak counts in winter:</u></p> <ul style="list-style-type: none"> <li>• Black-headed gull <i>Larus ridibundus</i></li> <li>• Common eider <i>Somateria mollissima mollissima</i></li> <li>• Bar-tailed godwit <i>Limosa lapponica lapponica</i></li> <li>• Common shelduck <i>Tadorna tadorna</i></li> <li>• Dark-bellied brent goose <i>Branta bernicla bernicla</i></li> <li>• Dunlin <i>Calidris alpina alpina</i></li> <li>• Pink-footed goose <i>Anser brachyrhynchus</i></li> <li>• European golden plover <i>Pluvialis apricaria altifrons</i></li> <li>• Northern lapwing <i>Vanellus vanellus</i></li> </ul>

Designated Site	Location	Feature or description
		<p><u>Species with peak counts in spring/autumn:</u></p> <ul style="list-style-type: none"> <li>Black-tailed godwit <i>Limosa limosa islandica</i></li> </ul> <p>Ringed plover <i>Charadrius hiaticula</i></p>
<p>The Wash SPA (UK9008021), SSSI (TF537402)</p>	<p>0km, overlaps with AoS</p>	<p>Qualifying features:</p> <p>Non-breeding species – Bewick’s swan <i>Cygnus columbianus bewickii</i>, pink-footed goose <i>Anser brachyrhynchus</i>, dark-bellied brent goose <i>Branta bernicla bernicla</i>, common shelduck <i>Tadorna tadorna</i>, Eurasian wigeon <i>Anas penelope</i>, gadwall <i>Anas strepera</i>, northern pintail <i>Anas acuta</i>, black scoter <i>Melanitta nigra</i>, common goldeneye <i>Bucephala clangula</i>, Eurasian oystercatcher <i>Haematopus ostralegus</i>, grey plover <i>Pluvialis squatarola</i>, red knot <i>Calidris canutus</i>, sanderling <i>Calidris alba</i>, dunlin <i>Calidris alpina alpina</i>, black-tailed godwit <i>Limosa limosa islandica</i>, bar-tailed godwit <i>Limosa lapponica</i>, Eurasian curlew <i>Numenius arquata</i>, common redshank <i>Tringa tetanus</i>, and ruddy turnstone <i>Arenaria interpres</i>;</p> <p>Breeding species – common tern <i>Sterna hirundo</i>, and little tern <i>Sterna albifrons</i>. Also qualifying for waterbird assemblages.</p> <p>The Wash is of biological interest with intertidal mudflats and saltmarshes which form one of Britain’s most important winter feeding areas for waders and wildfowl outside of breeding season. There are large numbers of migrant birds of international significance. The saltmarsh and shingle communities are of botanical interest and the saltmarsh forms a valuable breeding bird zone. The Wash is also an important breeding area for common seal <i>Phoca vitulina</i>.</p>
<p>National (within 2 km of AoS)</p>		
<p>Bratoft Meadows SSSI (TF484639)</p>	<p>0km, wholly within AoS</p>	<p>Bratoft Meadows forms the best example of species rich neutral grassland in North Lincolnshire. The site attracts large numbers of butterflies and 18 species of terrestrial mollusc have been recorded. The site is one of the remaining areas of permanent grassland not dominated by plants associated with chalk and limestone.</p>
<p>Chapel Point to Wolla Bank SSSI (TF560741)</p>	<p>0km E of the AoS, adjacent</p>	<p>Chapel Point to Wolla Bank is a geological site, see Section 8.4.</p>

Designated Site	Location	Feature or description
Gibraltar Point NNR (TF564586), SSSI (TF565592)	1.5km E of the AoS	Gibraltar Point is of national importance due to its sand dunes and coastal habitats present with associated fauna, notably invertebrates and passage and breeding birds. The site supports important invertebrate communities, notably <i>Lepidoptera</i> , <i>Diptera</i> and <i>Coleoptera</i> with 12 nationally rare species. Coastal habitats support breeding birds such as mallard, shelduck <i>Tadorna tadorna</i> and ringed plover <i>Charadrius hiaticula</i> and wintering and passage waders. Numbers of oystercatcher <i>Haematopus ostralegus</i> , grey plover, knot <i>Calidris canutus</i> , sanderling and bar-tailed godwit are of international significance and the area is of national importance for ringed plover. The site is also of great importance for coastal geomorphology.
Humber Estuary Ramsar (UK11031)	0km, overlaps with AoS	<p>Onshore Ramsar Features:</p> <p>Criterion 1- Dune systems and humid dune slacks</p> <p>Criterion 5 – Assemblages of international importance (waterfowl, non-breeding season)</p> <p>Criterion 6 – Species/populations occurring at levels of international importance:</p> <ul style="list-style-type: none"> <li>• common shelduck <i>Tadorna tadorna</i></li> <li>• Eurasian golden plover <i>Pluvialis apricaria</i></li> <li>• red knot <i>Calidris canutus islandica</i> subspecies</li> <li>• Dunlin <i>Calidris alpina</i></li> <li>• Black-tailed godwit <i>Limosa limosa islandica</i> subspecies</li> <li>• Bar-tailed godwit <i>Limosa lapponica lapponica</i> subspecies</li> </ul> <p>Common redshank <i>Tringa tetanus brittanica</i> subspecies</p>
Humber Estuary SPA (UK9006111)	0km, overlaps with AoS	<ul style="list-style-type: none"> <li>• Great bittern <i>Botaurus stellaris</i> (Non-breeding and breeding);</li> <li>• Common shelduck <i>Tadorna tadorna</i> (Non-breeding);</li> <li>• Eurasian marsh harrier <i>Circus aeruginosus</i> (Breeding);</li> <li>• Hen harrier <i>Circus cyaneus</i> (Non-breeding);</li> <li>• Pied avocet <i>Recurvirostra avosetta</i> (Non-breeding and breeding);</li> <li>• European golden plover <i>Pluvialis apricaria</i> (Non-breeding);</li> <li>• Red knot <i>Calidris canutus</i> (Non-breeding);</li> </ul>

Designated Site	Location	Feature or description
		<ul style="list-style-type: none"> <li>• Dunlin <i>Calidris alpina alpina</i> (Non-breeding);</li> <li>• Ruff <i>Philomachus pugnax</i> (Non-breeding);</li> <li>• Black-tailed godwit <i>Limosa limosa islandica</i> (Non-breeding);</li> <li>• Bar-tailed godwit <i>Limosa lapponica</i> (Non-breeding);</li> <li>• Common redshank <i>Tringa totanus</i> (Non-breeding); and</li> <li>• Little tern <i>Sterna albifrons</i> (Breeding)</li> </ul> <p>Waterbird assemblage</p>
Saltfleetby - Theddlethorpe Dunes NNR (TF491891), SSSI (TF481908)	0km, overlaps with AoS	Saltfleetby - Theddlethorpe Dunes contains numerous habitats including dunes, marshland, saltmarsh, and foreshore and embryonic dunes. Due to such habitats, the site attracts a large variety of birds, insects and flora species including sea buckthorn <i>Hippophae rhamnoides</i> , pyramidal orchid, bird's foot trefoil <i>Lotus corniculatus</i> , and viper's bugloss <i>Echium vulgare</i> . Insect species predominately include butterflies, bees, and dragonflies. There are outstanding assemblages of vascular plants, invertebrates and breeding birds and it is the most north-easterly breeding site in Britain for the natterjack toad <i>Epidalea calamita</i> . The intertidal sands and muds provide extensive feeding and roosting grounds for wildfowl and waders and there are outstanding breeding densities of birds in the dune scrub.
Sea Bank Clay Pits SSSI (TF532792)	0km, overlaps with AoS	Sea Bank Clay Pits comprise a series of isolated flooded clay workings of varying size, depth and topography which now support uncommon aquatic plant communities. The pits are also important for breeding, wintering and passage birds and are known to support a rich aquatic invertebrate fauna, notably beetles, including several nationally scarce species and others new to the County.
The Wash NNR (TF555298)	190m SE of AoS	Lea Marsh forms an important area of unimproved floodplain meadow and wet pasture. There are two nationally scarce plant species present on site, with restricted distribution in the East Midlands and breeding wader species are also recorded to be present. Snipe and curlew occasionally breed on site and water vole <i>Arvicola amphibius</i> has also been recorded from the lining ditches. The site is the only known area in Lincolnshire to have both narrow-leaved water-dropwort <i>Oenanthe silaifolia</i> , and mousetail <i>Myosurus minimus</i> , both nationally scarce species present on site.

Designated Site		Location	Feature or description
The Wash (TF537402)	SSSI	0km, overlaps with AoS	<ul style="list-style-type: none"> <li>The Wash is of biological interest with intertidal mudflats and saltmarshes which form one of Britain's most important winter feeding areas for waders and wildfowl outside of breeding season. There are large numbers of migrant birds of international significance. The saltmarsh and shingle communities are of botanical interest and the saltmarsh forms a valuable breeding bird zone. The Wash is also an important breeding area for common seal <i>Phoca vitulina</i>.</li> </ul>
Local nature reserves (within 2 km of AoS)			
Havenside (TF356408)	LNR	0km, wholly within AoS	Havenside consists of varying habitats including cattle grazed meadows, seasonal ponds, brambles, estuary and mud flat.
Willoughby Branch Line (TF472734)	LNR	0.37km W of the AoS	Willoughby Branch Line forms part of a disused railway line which attracts butterflies such as common blue, and several species of browns and skippers. Barn owls <i>Tyto alba</i> are known to use the track for hunting, and numerous other species such as nightingale, redpoll <i>Acanthis flammea</i> , and blackcap <i>Sylvia atricapilla</i> are known to nest at the reserve.

# **Appendix E – Socio-Economics**



# 1 Regional Tourism Attractions

## 1.1 Tourism Attractions in the Tourism and Recreation Baseline

1.1.1 The top paid and free attractions in both the three local authorities of South Holland, East Lindsey and Boston are provided in Table E. 1.

Table E. 1: Greater Lincolnshire and the Humber Tourist Attractions Key Attractions in Tourism Study Area

Attraction	Description
Gunby Hall	Listed historical house and clocktower
Skegness	Seaside town in the East Lindsey District of Lincolnshire which includes a wider variety of tourism attractions and assets, including the Fantasy Island Theme Park and Butlins
Skegness Natureland Seal Sanctuary	Centre which rescues and rehabilitates orphaned and injured seal pups
The Lincolnshire Wolds	Area of countryside designated as an Area of Outstanding Natural Beauty in 1973, with woodland, grassland and abandoned chalk pit
The Parrot Zoo	Animal park which displays parrots across 15 acres of gardens
Lincolnshire Wolds Railway	A railway attraction, which received an average of 14,000 visitors annual between 2017 and 2019.
Louth Museum	A local museum in the town of Louth, which received an average of 2,000 visitors annual between 2017 and 2019.
Tattershall Castle	A moated 15 <sup>th</sup> Century castle run by the National Trust, which received an average of 39,000 visitors annual between 2017 and 2019.

Source: Visit Lincoln (2021), Visit Lincoln Expands into Greater Lincolnshire, Planetware (2021), 12 Top-Rate Tourist Attractions in Hull, TripAdvisor (2021), Things to Do in East Riding of Yorkshire. Visit England (2021) Annual Survey of Visits to Visitor Attractions Full Listing



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# **SCOPING OPINION:**

## Proposed Outer Dowsing Offshore Wind

**Case Reference: EN010130**

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Adopted by the Planning Inspectorate (on behalf of the Secretary of State) pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

**09 September 2022**



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### **APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED**

### **APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES**

# 1. INTRODUCTION

- 1.0.1 On 01 August 2022, the Planning Inspectorate (the Inspectorate) received an application for a Scoping Opinion from GTR4 Limited (trading as Outer Dowsing Offshore Wind) (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed Outer Dowsing Offshore Wind (the Proposed Development). The Applicant notified the Secretary of State (SoS) under Regulation 8(1)(b) of those regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development and by virtue of Regulation 6(2)(a), the Proposed Development is 'EIA development'.
- 1.0.2 The Applicant provided the necessary information to inform a request under EIA Regulation 10(3) in the form of a Scoping Report, available from:  
  
<http://infrastructure.planninginspectorate.gov.uk/document/EN010130-000037>
- 1.0.3 This document is the Scoping Opinion (the Opinion) adopted by the Inspectorate on behalf of the SoS. This Opinion is made on the basis of the information provided in the Scoping Report, reflecting the Proposed Development as currently described by the Applicant. This Opinion should be read in conjunction with the Applicant's Scoping Report.
- 1.0.4 The Inspectorate has set out in the following sections of this Opinion where it has/has not agreed to scope out certain aspects/matters on the basis of the information provided as part of the Scoping Report. The Inspectorate is content that the receipt of this Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultation bodies to scope such aspects/matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects/matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.
- 1.0.5 Before adopting this Opinion, the Inspectorate has consulted the 'consultation bodies' listed in Appendix 1 in accordance with EIA Regulation 10(6). A list of those consultation bodies who replied within the statutory timeframe (along with copies of their comments) is provided in Appendix 2. These comments have been taken into account in the preparation of this Opinion.
- 1.0.6 The Inspectorate has published a series of advice notes on the National Infrastructure Planning website, including [Advice Note 7: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping \(AN7\)](#). AN7 and its annexes provide guidance on EIA processes during the pre-application stages and advice to support applicants in the preparation of their ES.
- 1.0.7 Applicants should have particular regard to the standing advice in AN7, alongside other advice notes on the Planning Act 2008 (PA2008) process, available from:

<https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

- 1.0.8 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (eg on formal submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or Associated Development (AD) or development that does not require development consent.

## 2. OVERARCHING COMMENTS

### 2.1 Description of the Proposed Development

(Scoping Report Section 3 and 4)

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
2.1.1	Paragraph 3.4.7 and Table 7.4.4	Foundations – dredging and drill arising disposal	The Scoping Report identifies that depending on the type of foundation chosen, there may be a requirement for seabed preparation, including dredging, and consequently the generation of drill arisings. The ES should identify the likely site for the disposal of both drill arisings and dredging (as applicable) and include an assessment of likely significant effects from these activities.
2.1.2	Table 3.4.1	Wind Turbine Generator (WTG) draught height	The Scoping Report does not contain information on the proposed draught height for the WTGs. Draught height should be specified in the ES and taken into account in the assessment of potential effects (for all relevant aspect chapters, particularly Offshore and Intertidal Ornithology).
2.1.3	Paragraphs 3.4.16 and 3.4.24 to 3.4.25	Inter-array cables and offshore export cables	The Scoping Report states that cables will be surfaced laid where burial is not possible. The ES should include a description of the surface laid cable option, including any anticipated cable protection measures required, together with an assessment of likely significant effects from such a scenario. Where cable protection is required, the ES should detail the maximum volume of material required for cable protection and explain how this has been quantified.
2.1.4	Paragraph 3.4.26	Unexploded Ordnance (UXO) removal	The Inspectorate notes the intention to seek consent for UXO removal through a future Marine Licence application but that the effects of removal of UXO will be considered as part of the EIA process for the Development Consent Order (DCO) application. The ES should

ID	Ref	Description	Inspectorate's comments
			address any cumulative effects from the construction of the Proposed Development with the likely effects from the UXO clearance.
2.1.5	Paragraphs 3.4.27 and 3.8.2	Vessel movements	The ES should detail the type, number and frequency of vessel movements required to construct and operate the Proposed Development. If these are unknown, then the ES should explain the assumptions that have been made about vessel movements to inform the assessment.
2.1.6	Paragraph 3.5.4 and 3.6.6	Onshore cable installation – crossings	<p>As the grid connection and thus onshore cable route are not yet confirmed, it is not yet clear whether any (or how many) temporary or permanent crossings of watercourses, major roads and/or railways would be required. The ES should identify the locations and types of all such crossings and assess the likely significant effects from accidental release of drilling fluids, where Horizontal Directional Drilling (HDD) methods are proposed to be used. The ES should include reference to the measures that will be taken to prevent impacts from occurring. Where reliance is placed on the use of a specific method to mitigate significant effects, the Applicant should ensure that such commitments are appropriately defined and secured.</p> <p>The Applicant should seek to agree the depths of trenchless crossings (such as HDD) below watercourses with the relevant consultation bodies, including the Environment Agency (EA) and Internal Drainage Boards (IDBs), as appropriate.</p>
2.1.7	Paragraphs 3.5.9 and 3.7.1	Onshore works – coordination and additional Associated Development (AD)	An evaluation of options to incorporate additional AD in the DCO application (such as battery storage or green hydrogen production facilities) is ongoing, this may also include underground cables and/or substations to assist with National Grid Electricity Transmission (NGET) requirements and help facilitate coordinated grid solutions. The additional AD could, subject to its composition, form significant

ID	Ref	Description	Inspectorate's comments
			<p>infrastructure in its own right. The Applicant should ensure that the scope of the impact assessment includes an assessment of the likely significant effects from all AD. If the Proposed Development changes substantially from that used to inform this Opinion the Applicant should consider whether a further Scoping Opinion from the SoS should be sought and/or whether further discussions with consultation bodies should be undertaken to inform the impact assessment. The DCO/red line boundary must be inclusive of all of the Proposed Development, including AD.</p>
2.1.8	Paragraph 3.6.2 and 7.1.14	Cable landfall	<p>The Inspectorate notes the potential for the cable landfall to be installed through the intertidal area either through the use of trenchless techniques, such as HDD, or through open cut trenching. The ES should assess the potential environmental effects of the cable landfall during construction, operation and decommissioning. This should also demonstrate how design decisions have considered the environmental effects of potential alternatives. The ES should assess significant effects associated with the anticipated changes at the coastal landfall site throughout the lifetime of the Proposed Development. The assessment should address, both vertical change in beach profile and the effects from coastal retreat. The ES should describe how cable burial and siting of associated infrastructure will be managed throughout the lifespan of the Proposed Development.</p>
2.1.9	Section 3.9	Lifespan of the Proposed Development	<p>The Scoping Report does not state the likely lifespan of the Proposed Development, although lifespan/lifetime is referenced within several aspect chapters. The ES should describe the likely lifespan of the Proposed Development and any assumptions made in this regard for the purposes of the impact assessment.</p>
2.1.10	Section 3.9	Decommissioning	<p>The Scoping Report contains limited information with regards to likely decommissioning activities and does not specify the likely duration of the decommissioning phase, although this is relied upon to scope out</p>



<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
			a number of aspect-specific matters. The Inspectorate expects the ES to describe the likely decommissioning activities and timescales and include an assessment of effects arising from decommissioning, where likely significant effects could occur. The ES should clearly set out the assumptions made in respect of any assessments of decommissioning activities.
2.1.11	n/a	Construction port location and operation and maintenance (O&M) base	The Applicant should make effort to identify the location of the port and O&M base, where possible, and assess any likely significant effects associated. In the event that the locations have not been confirmed, the ES should make effort to assess the likely significant effects associated with relevant assumptions and a worst-case scenario.
2.1.12	n/a	Figures – cumulative offshore wind farms (OWFs)	The ES should include a plan to show the location of other OWFs, built, consented and proposed, in relation to the Proposed Development.

## 2.2 EIA Methodology and Scope of Assessment

(Scoping Report Section 5)

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
2.2.1	Paragraph 5.7.5 to 5.7.6	Maximum Design Scenario (MDS) and Realistic Worst Case (RWC)	The Scoping Report identifies that for each receptor and potential impact, the MDS will be identified, described and justified and subsequently used as the basis for the RWC assessment. With regards to the RWC, the Applicant is reminded that the ES should assess the full range of potential impacts which could occur as a result of the works which would be permitted by the DCO.

ID	Ref	Description	Inspectorate's comments
2.2.2	Section 5.10	Transboundary	The Inspectorate has provided commentary on transboundary effects within the relevant aspect tables of this Opinion below, where the Applicant has requested to scope out transboundary effects on aspects/matters in the ES. The Inspectorate notes that it has an ongoing duty in relation to consideration of transboundary effects and will undertake a separate transboundary screening exercise on behalf of the SoS under Regulation 32 of the EIA Regulations following adoption of the Scoping Opinion.
2.2.3	Chapter 7 to Chapter 9	Methodologies, including proposed surveys, modelling and assessment	The Scoping Report in many places provides only an outline of the proposed surveys, modelling and analysis methods that are proposed to be undertaken and presented in the ES, as such it has not been possible for the Inspectorate to comment on such matters at this stage. The Inspectorate welcomes the intention to discuss such matters in more detail with consultation bodies as part of the Evidence Plan Process (EPP) and ongoing and future consultations. The ES should detail the specific methodologies and modelling, this information could be included within appendices to the relevant ES aspect chapters.
2.2.4	Chapter 7 to Chapter 9	Management plans – including Project Environmental Management Plan (PEMP) and Project Environmental Management and Monitoring Plan (PEMMP)	The Inspectorate notes reference to a PEMP in the majority of the aspect chapters as the means for controlling accidental spills, but also a PEMMP. The latter is referenced in Chapters 7.4 Fish and Shellfish Ecology and 9.1 Human Health only. The ES should clearly describe the purpose of the various management plans, their relationship to one another (as applicable), and the mitigation they intend to deliver. The ES should provide details of the proposed mitigation measures to be included in the management plans. The ES should also explain how such measures will be secured.
2.2.5	Table 7.12	Project Design Statement (PDS)	This table includes first reference to the PDS; however, it is not explained what this statement comprises or its purpose. The ES

ID	Ref	Description	Inspectorate's comments
			should ensure acronyms are explained for understanding. Where statements or documents are relied upon for the purposes of securing elements of the project design or mitigation, they should be adequately secured through the DCO or other means.
2.2.6	n/a	Figures	Where figures are presented within the ES, these should be of an appropriate scale and shading to allow each element on the figure to be clearly distinguishable.

### 3. ENVIRONMENTAL ASPECT COMMENTS

#### 3.1 Offshore Environment: Marine Physical Processes

(Scoping Report Section 7.1)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.1.1	Table 7.1.3	Seabed scouring - O&M	<p>The Inspectorate notes that scour protection would be installed, thus reducing the risk of scour; however, the Inspectorate has considered the responses of the EA, the Marine Management Organisation (MMO) and Natural England (NE) (see Appendix 2 of this Opinion) on this matter and concludes that secondary scour impacts should be scoped into the assessment.</p> <p>The ES should provide details of the anticipated quantities and volumes of scour protection, together with their expected locations. If the ES cannot specify the precise locations, the worst-case parameters used for the impact assessment must be presented, together with any assumptions made.</p> <p>No information has been provided regarding the timeframes for installing scour protection. The ES should also provide details regarding timeframes for installing scour protection and either provide assurances that the timeframes for installing scour protection would be sufficient to ensure there would be no likely significant effects or provide an assessment of effects prior to the installation of scour protection, where significant effects are likely to occur.</p>
3.1.2	Table 7.1.3	Cumulative modifications to the wave and tidal regime and associated potential impacts to the sediment transport regime - O&M	<p>The Scoping Report proposes to scope out cumulative modifications to the wave and tidal regime and associated potential impacts to the sediment transport regime on the basis of available assessments that</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>suggest modifications to the wave and tidal regime remain within small distances from the foundations.</p> <p>The Scoping Report contains limited evidence at this stage to currently support the scoping out of cumulative modifications to the wave and tidal and associated potential impacts to the sediment transport regime. Therefore, the Inspectorate cannot agree to scope these effects out. The ES should include an assessment of such cumulative effects, where likely significant effects could arise.</p>
3.1.3	Paragraph 7.1.48	Transboundary effects – marine physical process pathways	<p>The Scoping Report states that no transboundary impacts on marine physical process pathways are anticipated to occur as a result of the Proposed Development activities during construction, O&amp;M, or decommissioning, as any predicted impacts on these pathways will largely be localised to within the study area and will therefore not give rise to effects on the marine environment beyond UK waters. The Inspectorate agrees that significant effects on an European Economic Area (EEA) State are unlikely to arise as a result of changes to physical process pathways and therefore agrees this matter can be scoped out of further assessment.</p>

ID	Ref	Description	Inspectorate's comments
3.1.4	Paragraphs 7.1.5 to 7.1.6	Study area	<p>The Scoping Report states that the study area includes both a near-field and far-field consideration, the latter being informed through further analysis of the marine physical process pathways.</p> <p>The figures accompanying Chapter 7.1 include a 'study area' boundary around the DCO boundary of a set distance; however, this distance is not specified in the key. The ES should clearly define the</p>

ID	Ref	Description	Inspectorate's comments
			study area, based on the Zone of Influence (ZoI) from the Proposed Development, together with a justification for its selection.
3.1.5	Paragraph 7.1.35	Inner Silver Pit Highly Protected Marine Area (HPMA)	The ES should assess the potential significant effects of the Proposed Development on this candidate HPMA. Further details can be found at: <a href="https://consult.defra.gov.uk/hpma/consultation-on-highly-protected-marine-areas/">https://consult.defra.gov.uk/hpma/consultation-on-highly-protected-marine-areas/</a>
3.1.6	Paragraph 7.1.41	Mitigation measures	The ES should explain the approach to mitigation and address approaches including micro-siting, minimising the number of cables, selection of cable protection materials to match the receiving environment, and avoiding sand wave clearance/levelling where possible in a Marine Protected Area (MPA) (as applicable).
3.1.7	Table 7.12	Figures	The ES should include, where possible, figures to show the spatial extent of sediment plumes, suspended sediment concentration (SSC), and deposition thickness in/near the array, and at representative locations along the offshore export cable corridor.
3.1.8	Table 7.12 and Paragraph 7.1.51	Numerical modelling	The Scoping Report confirms that specific numerical modelling will be undertaken, such as hydrodynamic (wave and tidal) and sediment plume modelling. The Applicant is advised to agree the detailed assessment methodologies, including modelling, with relevant stakeholders represented on the Marine Ecology and Coastal Processes Expert Topic Group (ETG) as part of the EPP. The modelling should explain any assumptions made including, the parameters, data sources, and any calibration/validation against previous models. It should also clearly state whether cumulative impacts from other projects have been included.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.1.9	Table 7.1.2	Beach profile and cliff stability - Construction	The ES should assess the potential effects during construction of the Proposed Development on beach profile and cliff stability, where significant effects are likely to occur.
3.1.10	Table 7.1.2	Sediment mobility - Construction	The ES should assess the spatial variation in seabed mobility across the study area, specifically in relation to its effect on cable burial and the likely levels of introduced rock or hard substrate that will be required for scour protection, where likely significant effects could occur.
3.1.11	Table 7.1.2	Effects on hydrodynamic regime - Construction	The ES should assess effects on the hydrodynamic regime due to the presence of engineering and installation equipment such as jack-up rigs, cable-laying vessels, and cofferdams etc, where likely significant effects could occur.

### 3.2 Offshore Environment: Marine Water and Sediment Quality

(Scoping Report Section 7.2)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.2.1	Table 7.2.6	Accidental releases or spills of materials or chemicals – construction, operation and decommissioning	The Scoping Report proposes to scope out accidental pollution resulting from construction, operation and decommissioning of the Proposed Development. The Inspectorate acknowledges that for all project phases the risk of significant effects from accidental pollution can generally be controlled by the use of mitigation plans and measures, and therefore accepts that significant effects are unlikely. Nevertheless, the ES must detail the potential sources and types of accidental pollution for all project phases and set out the proposed mitigation measures, including those to be included in the PEMP and its constituent Marine Pollution Contingency Plan (MPCP). The ES should also explain how such measures will be secured.
3.2.2	Table 7.2.6	Deterioration in water quality due to re-suspension of sediments and contaminants resulting from scour – O&M	The Scoping Report proposes to scope out deterioration of water quality due to re-suspension of sediments and contaminants as a result of scour around project infrastructure (including WTGs and cable protection). This is on the basis that the volume of suspended sediment released during operation via scour will be much lower than during construction, and that the effect would be highly localised and associated volumes of mobilised sediment (and associated contaminants) are considered to be within the range of natural variability.  On the basis of the above, the Inspectorate is content that this effect can be scoped out.
3.2.3	Table 7.2.6	Release of sediment-bound contaminants from disturbed sediments in water quality due to	The Scoping Report proposes to scope out release of sediment-bound contaminants from disturbed sediments on water quality as a result



<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
		cumulative effects with other projects and plans	<p>of cumulative effects with other projects and plans. This is on the basis that effects will be highly localised and small scale.</p> <p>The Scoping Report has not identified other projects or plans that could act cumulatively with respect to sediment-bound contaminant release.</p> <p>On the basis that there are no projects or plans that would act cumulatively to release sediment-bound contaminants, the Inspectorate agrees that this effect can be scoped out of the assessment.</p>
3.2.4	Paragraphs 7.2.44 to 7.2.45	Transboundary effects – marine water and sediment quality effects	<p>The Scoping Report states that due to the localised nature of any potential impacts (eg suspended sediment plumes), transboundary impacts will not occur.</p> <p>The Inspectorate agrees that significant effects on EEA States are unlikely to arise as a result of changes to marine water and sediment quality and therefore agrees this matter can be scoped out of further assessment.</p>

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.2.5	Paragraphs 7.2.3 to 7.2.4	Study area	<p>The Scoping Report states that the study area includes both a near-field and far-field consideration, the latter stated as being informed through further analysis of the marine physical process pathways.</p> <p>As noted at point 3.1.4 above, the ES should clearly define the study area for the marine water and sediment quality aspect, based on the ZoI from the Proposed Development, together with a justification for its selection.</p>

ID	Ref	Description	Inspectorate's comments
3.2.6	Table 7.2.1	Baseline data	The Applicant should seek to agree the baseline datasets with relevant consultation bodies, including NE, as part of the EPP. The ES should provide clear justification to demonstrate that the datasets used to inform the assessment are fit for purpose and representative.
3.2.7	Table 7.2.1	Sediment sampling	The Applicant's attention is directed to the response of the MMO at Appendix 2 of this Opinion with regards to the sediment sampling included in the project-specific benthic surveys. The Applicant should seek to agree the scope of the sampling and testing for contaminants with relevant consultation bodies, including the MMO, as part of the EPP. The ES should include clear justification for the chosen analysis, with reference to any agreements reached.

### 3.3 Offshore Environment: Benthic Subtidal and Intertidal Ecology

(Scoping Report Section 7.3)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.3.1	Table 7.3.4	Accidental pollution event - construction, O&M, and decommissioning	<p>The Scoping Report proposes to scope out this effect on the basis of the strict environmental controls set out within a PEMP and associated MPCP and the small quantities of hydrocarbons and chemicals likely to be present within the vessels used for the Proposed Development.</p> <p>The Inspectorate agrees that such effects are capable of being mitigated through standard management practices and can be scoped out of the assessment. The ES should provide details of the proposed mitigation measures to be included in the PEMP and MCMP and identify how these plans are to be secured.</p>
3.3.2	Table 7.3.4	Increased risk of introduction or spread of marine invasive non-native species (INNS) – O&M	<p>The Scoping Report proposes to scope out this effect on the basis of best practice standards and control procedures, which will be incorporated into the PEMP and are embedded in the project design.</p> <p>The Inspectorate considers there is the potential risk of INNS introduction and spread during the operational phase as a result of vessels used for maintenance activities. The ES should include an assessment of the increased risk of introduction and spread of INNS during operation on benthic ecology receptors, where likely significant effects could occur. This should include consideration of the potential for cumulative effects.</p>
3.3.3	Table 7.3.4	Changes in physical processes resulting from the presence of the OWF subsea infrastructure eg scour effects, changes in wave/ tidal current regimes and resulting	<p>This effect is proposed to be scoped out on the basis of embedded mitigation measures and the likely minimal spatial and temporal extent of changes in physical processes arising from the presence of the OWF subsea infrastructure, the latter referencing the findings of the modelling from adjacent OWFs.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		effects on sediment transport – O&M	The Inspectorate does not agree that changes in physical processes resulting from the presence of the OWF subsea infrastructure on benthic species during operation can be scoped out, as insufficient evidence in the form of the physical processes modelling is available at this time. The ES should include an assessment of changes in physical processes, where likely significant effects could occur.
3.3.4	Table 7.3.4	Electromagnetic field (EMF) effects generated by inter-array and export cables – O&M	<p>The Scoping Report proposes to scope out indirect effects on benthic ecology receptors due to EMF effects generated by the array and export cables on the basis that previous OWF project monitoring of invertebrate species associated with the study area revealed no behavioural changes as a result of EMF. Additionally, embedded mitigation measures (ie the intention to use cable burial) would also increase the distance between sensitive species and the source of EMF, thus reducing the likelihood of effects.</p> <p>The Inspectorate does not agree that impacts of EMF on benthic species can be scoped out, as insufficient evidence has been provided at this time to support this approach. No detail has been provided with regards to the specific OWF project monitoring referenced in the Scoping Report. Furthermore, the Scoping Report does not provide detail regarding likely burial depths at this stage and references flexibility/uncertainty associated with burial, allowing for cable protection should burial not be achievable. The ES should assess effects on sensitive benthic ecology receptors from EMF, where significant effects are likely to occur. The Applicant should make effort to agree the approach to the assessment with relevant consultation bodies, including NE.</p>
3.3.5	Table 7.3.4	Cumulative effects	The Scoping Report states that, with the exception of those effects scoped in as per Table 7.3.3, all other impacts with limited spatial

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
			<p>extent, where not having an effect on a designated species, site or feature, will be scoped out of further assessment within the ES.</p> <p>The Scoping Report does not specifically identify what such 'other impacts' could comprise; therefore, the Inspectorate considers that insufficient detail has been provided to scope out cumulative effects. For the avoidance of doubt, the ES must assess all cumulative effects where significant effects are likely to occur.</p>
3.3.6	Paragraph 7.3.31	Transboundary effects	<p>The Scoping Report states that any impacts on the benthic subtidal or intertidal environment will be localised in nature and likely limited (for indirect effects) to one tidal excursion from the impact source and given the distance from the nearest adjacent Exclusive Economic Zone (EEZ) of an EEA Member State, it is considered that transboundary impacts will not occur.</p> <p>The Inspectorate agrees that significant effects on the benthic, subtidal or intertidal environment of EEA States are unlikely to arise and therefore agrees this matter can be scoped out of further assessment.</p>

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.3.7	Paragraph 7.3.28	Management Plans	This paragraph/aspect chapter contains the first reference in the Scoping Report to a Scour Protection Management Plan (SPMP). The ES should provide details of the proposed mitigation measures to be included in the SPMP and explain how such measures will be secured.
3.3.8	Table 7.3.3	Cumulative effects	It is unclear from Table 7.3.3 whether the cumulative effect of sediment disturbance arising from construction activities scoped into the assessment will comprise an assessment of cumulative effect with other projects or plans, or if this is from inter-project effects. For

ID	Ref	Description	Inspectorate's comments
			clarity, any likely significant effects on benthic subtidal and intertidal receptors occurring as a result of interactions with other plans and projects should be assessed in the ES.

### 3.4 Offshore Environment: Fish and Shellfish Ecology

(Scoping Report Section 7.4)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.4.1	Table 7.4.5	Accidental pollution - Construction, O&M, and Decommissioning	The Scoping Report proposes to scope out accidental pollution resulting from all phases of the Proposed Development. The Inspectorate agrees that such effects are capable of being mitigated through standard management practices and can be scoped out of the assessment. The ES should provide details of the proposed mitigation measures to be included in the PEMP/PEMMP and its constituent MPCP. The ES should also explain how such measures will be secured.
3.4.2	Table 7.4.5	Direct disturbance resulting from O&M activities - O&M	<p>The Scoping Report states that this is to be scoped out based on the limited spatial extent and length of time of disturbing activities during O&amp;M.</p> <p>The Inspectorate accepts that maintenance activities are likely to be of lower impact than construction; however, in the absence of any information as to the nature, duration, frequency, and extent of O&amp;M activities, the Inspectorate is unable to agree to scope out such effects at this stage.</p> <p>The ES should include an assessment of the effects or provide evidence demonstrating agreement with the relevant consultation bodies that significant effects are not likely to occur.</p>
3.4.3	Table 7.4.5	Impacts on fishing pressure due to displacement - Construction, O&M, and Decommissioning	The Scoping Report states that information will be collected as part of the Commercial Fisheries aspect chapter of the ES; however, as operational disturbance will be limited in spatial extent, with the risk of displacement considered minor, the Applicant proposes to scope out assessment of impacts from fishing pressure due to displacement.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>On the basis that potential impacts on fishing pressure will be included and assessed in the Commercial Fisheries aspect chapter of the ES, the Inspectorate is content for this matter to be scoped out of the Fish and Shellfish Ecology assessment.</p>
3.4.4	Table 7.4.5	Cumulative effects	<p>The Scoping Report states that, impacts scoped into the assessment for the Project alone, are generally spatially restricted to within the near field of the array and the offshore Export Cable Corridor (ECC) and that, with the exception of those impacts identified in Table 7.4.4, it is proposed that all other impacts with limited spatial extent, where not having an effect on a designated species, site or feature, are scoped out of further assessment in the ES.</p> <p>The Inspectorate agrees that where there are no likely significant effects on fish and shellfish receptors that could occur alone or cumulatively with other projects or plans, these can be scoped out of the assessment.</p>
3.4.5	Paragraph 7.4.50	Transboundary effects	<p>Transboundary effects on fish and shellfish receptors are proposed to be scoped out on the basis that the impacts of the Proposed Development are localised in nature (including those giving rise to the greatest footprint of effect such as underwater noise from piling).</p> <p>The Scoping Report includes a discussion about migratory fish, including UK designated sites and migratory species of conservation concern; however, the Scoping Report does not discuss whether the Proposed Development would have the potential to impact Annex II migratory fish species listed as features of European sites in other EEA States.</p> <p>The ES should clarify whether activities associated with the Proposed Development could have the potential to impact Annex II migratory fish species listed as features of European sites in other EEA States.</p>



ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>The ES should assess transboundary effects on fish and shellfish receptors in EEA States, where likely significant effects could occur or provide further justification to support the scoping out of transboundary effects.</p>

ID	Ref	Description	Inspectorate's comments
3.4.6	Paragraphs 7.4.9 and Table 7.4.1	Baseline data and site surveys	<p>The Scoping Report identifies extensive baseline data for fish and shellfish available from existing literature and surveys and thus no additional site-specific fish and shellfish surveys are proposed, although site-specific geophysical survey and grab samples which will be analysed for spawning habitat potential for species such as herring and sandeel.</p> <p>Whilst the Inspectorate acknowledges the numerous data sources available to inform the fish and shellfish assessment, it notes that, with the exception of one, the OWF data listed sources do not cover the array or cable corridor Area of Search (AoS) and a number are over 10 years old.</p> <p>The Applicant should ensure that the baseline data used in the ES assessments are sufficiently up-to-date to provide a robust baseline. The ES should provide evidence to justify that the largely desk-based data constitutes a robust characterisation of the receiving environment, with reference to the date, seasonal period and geographic coverage of the data. It is recommended the Applicant makes use of the EPP to seek to agree the use and extent of existing data with relevant consultation bodies.</p>

ID	Ref	Description	Inspectorate's comments
3.4.7	Figures 7.4.3 and 7.4.4	Nursery and spawning ground assessment and figures	<p>The key to the nursery and spawning grounds for individual species on Figures 7.4.3 and 7.4.4 is not clear. The Applicant should ensure clear figures are provided in the ES.</p> <p>The Applicant's attention is directed to the comments of the MMO at Appendix 2 of this Opinion with regards to the assessment of herring and sandeel potential spawning habitat and recommendations for the assessment methodology, together with the comments of NE with regards to potential mitigation for herring. The Applicant should seek to agree the baseline data and assessment methodology for the assessment of effects on fish spawning grounds with the relevant consultation bodies, including the MMO, NE and the EA, as part of the EPP.</p>
3.4.8	Paragraphs 7.4.54 to 7.4.56	Noise propagation modelling	<p>The Scoping Report contains very limited information with regards to the noise modelling proposed to inform the fish and shellfish ecology assessment, although the Inspectorate notes and welcomes the intention to discuss the model and parameters as part of the EPP. The ES, and/or accompanying appendices, should provide details of the noise modelling used to inform the impact assessment.</p>
3.4.9	Table 7.4.4	Impacts on prey availability	<p>Effects on prey availability for birds at designated sites, such as the Greater Wash Special Protection Area (SPA) and Flamborough and Filey Coast SPA is not identified as a potential impact in Table 7.4.4 of the Scoping Report. The ES should assess impacts on prey availability for birds at designated sites, where significant effects are likely to occur. Appropriate cross-references should be included between aspect chapters.</p>

### 3.5 Offshore Environment: Marine Mammals

(Scoping Report Section 7.5)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.5.1	Table 7.5.4	Accidental pollution – Construction, O&M, and Decommissioning	The Scoping Report proposes to scope out accidental pollution resulting from all phases of the Proposed Development. The Inspectorate agrees that such effects are capable of being mitigated through standard management practices and can be scoped out of the assessment. The ES should provide details of the proposed mitigation measures to be included in the PEMP and its constituent MPCP, and/or appropriate Code of Construction Practice (CoCP). The ES should also explain how such measures will be secured.
3.5.2	Table 7.5.4	Barrier effects – Operation	The Scoping Report lists a number of studies which evidence that the presence of operational OWFs does not, in the longer term, preclude the presence of marine mammals. The Scoping Report concludes that that <i>"while disturbance leading to temporary displacement may occur, this is expected to be spatially and temporally small scale and thus it is not expected that any stage of the Project will result in a permanent barrier to the movement of marine mammals in the area."</i> The Inspectorate is content that barrier effects to marine mammals during operation will be small scale and short lived and unlikely to result in significant effects. The Inspectorate therefore agrees this can be scoped out of the impact assessment.
3.5.3	Table 7.5.4	EMF	The Scoping Report references evidence that dates from 2018 that supports a position that there is no evidence of EMF from marine renewable devices having any impact (either positive or negative) on marine mammals. Furthermore, the only marine mammal stated to show any response to EMF is the Guiana dolphin ( <i>Sotalia guianesi</i> ), which are not reported as being present within the scoping area. EMF

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
			effects to marine mammals are therefore proposed to be scoped out. The Inspectorate is content to scope this matter out on this basis.
3.5.4	Table 7.5.4	Disturbance at seal haul-outs	<p>Construction activities resulting in disturbance to seals at haul-out sites are proposed to be scoped out on the basis of the distances to haul-outs (5-6km from the AoS) and the nature of the construction activities relative to activities which are generally reported to cause disturbance to seals at haul-outs (eg kayaks and fast-moving vessels within a few hundred metres).</p> <p>The Inspectorate notes the absence of information in the Scoping Report with regards to likely ports to be used as a source of vessel movements and thus whether vessels would be transiting from a closer location to seal haul-outs. As such, the Inspectorate does not agree that this matter can be scoped out of the assessment at this stage. The Inspectorate expects the ES to provide an assessment of impacts and resulting effects on seal haul-out sites, or robust evidence to support the conclusion that significant effects are unlikely. The Vessel Management Plan (VMP) should consider measures to reduce disturbance to marine mammals including seals at haul-out sites, as applicable. The Applicant should make effort to agree the evidence required in the ES with relevant consultation bodies, including NE, as part of the EPP.</p>

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.5.5	Paragraph 7.5.3	Species-specific Management Units (MU)	It is recommended the Applicant use the latest version of the Inter Agency Marine Mammal Working Group (IAMMWG) reports (dated March 2022) to inform the impact assessment.

ID	Ref	Description	Inspectorate's comments
3.5.6	Paragraph 7.5.4 and Table 7.5.1	Study area and surveys	The ES should clearly explain and justify the selection of the site-specific survey area for all marine mammals as 'the array area plus a 4km buffer', with reference to agreements sought through the EPP.
3.5.7	Paragraph 7.5.37	Designated sites	The Inspectorate considers that the ES should also assess effects on the minke whale feature of the Sea of the Hebrides MPA (Nature Conservation), where significant effects are likely to occur.
3.5.8	Paragraph 7.5.39	Assessment of Permanent Threshold Shift (PTS) and Temporary Threshold Shift (TTS)	The ES should present the TTS impact ranges and the number of animals predicted to be at risk. The Applicant's attention is directed to the comments of the MMO and NE at Appendix 2 to this Opinion. The Applicant should seek to agree the approach to the assessment of PTS and TTS-onset on marine mammals with the relevant consultation bodies, including the MMO and NE, through the EPP.
3.5.9	Paragraphs 7.5.40 to 7.5.42 and Table 7.5.3	Assessment of UXO and disturbance	The Applicant's attention is directed to the comments of the MMO and NE at Appendix 2 to this Opinion with regards to use of TTS-onset as proxy for disturbance and also the use of the Effective Deterrence Range (EDR). The ES should clearly state the evidence base used to determine the approach to assessing disturbance from UXO clearance and other activities and justify the approach selected. The Applicant should seek to agree the approach to the assessment of UXOs and disturbance of marine mammals with the relevant consultation bodies through the EPP, including the MMO and NE.
3.5.10	Paragraph 7.5.50	Mitigation measures	The ES should include consideration of measures to manage potential cumulative disturbance in the event that there is multiple piling or other noisy activities taking place simultaneously in the Southern North Sea Special Area of Conservation (SAC). It is also recommended an outline Site Integrity Plan (SIP) be provided with the Application.

### 3.6 Offshore Environment: Intertidal and Offshore Ornithology

(Scoping Report Section 7.6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.6.1	Table 7.6.6	Barrier effect: Array to migratory Important Ornithological Features (IOFs) – Construction, O&M, and Decommissioning	<p>The Scoping Report states it will consider displacement effects and barrier effects on resident IOFs together, as it is usually not possible to distinguish between the two effects. Barrier effects on IOFs that only migrate through the AoS are proposed to be scoped out on the basis of the referenced study which calculated that the costs of one-off avoidances during migration were small, accounting for less than 2% of available fat reserves, thus barrier effect impacts on migratory IOFs are considered negligible.</p> <p>The Scoping Report contains limited information regarding the likely extent of areas at each phase that could form a barrier to movement, and information on migratory IOFs is still being collated. While barrier effects would principally occur during operation, the Scoping Report does not explain why they would not also occur during other phases of the Proposed Development as structures and cables are being installed or removed. In the absence of information such as evidence demonstrating clear agreement with relevant consultation bodies, the Inspectorate is not in a position to agree to scope these matters from the assessment. The ES should include information on the sources of impact and the receptors that could be subject to barrier effects during construction, O&amp;M and decommissioning and assess the likely significance of such effects.</p>
3.6.2	Table 7.6.6	Disturbance and displacement: Intertidal ECC – O&M	<p>This effect is proposed to be scoped out on the basis that potential impacts along the offshore and intertidal ECC would be highly localised and episodic (ie limited to any maintenance or repair of the export cables).</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>The Scoping Report contains limited information on the extent and nature of any likely maintenance or repair works in the intertidal area and offshore ECC. In the absence of such information, including information on the IOFs that could be affected by such activities, the Inspectorate cannot agree to scope out disturbance effects on IOFs from O&amp;M activities along the offshore and intertidal ECC at this stage. The ES should assess impacts on IOFs from disturbance and displacement during O&amp;M, where significant effects are likely to occur; any assumptions made in the assessment should be clearly set out.</p>
3.6.3	Table 7.6.6	All other impacts not including cumulative disturbance/displacement and collision - Cumulative	<p>The Scoping Report proposes to scope out cumulative impacts with the exception of cumulative disturbance/displacement and collision. This is on the basis that the likelihood of a cumulative impact is low, and the contribution from the Project is likely to be small, and dependent on a temporal and spatial co-incidence of disturbance/displacement from other plans or projects.</p> <p>The Inspectorate notes the other potential 'project-alone' effects to be considered in the ES relate to barrier effects and effects on prey species. The Inspectorate is of the view that barrier effects should be considered in the ES (see point 3.6.1 above) and thus barrier effects should also be considered for any cumulative effects from the Proposed Development with other plans or projects, where likely significant effects could occur. With regards to effects on prey species, Scoping Report identifies that this assessment relies on the data and impact assessments including Physical Processes, Noise, Benthic Subtidal and Intertidal Ecology, and Fish and Shellfish. Noting the Applicant's assertion that the temporal and spatial extent of impacts will be small, this is yet to be evidenced and therefore the Inspectorate does not agree to scope these effects out of the assessment. The ES should include an assessment of cumulative</p>

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
			impacts where significant effects are likely to occur. The ES should also assess the potential for 'minor' effects to combine to produce a cumulative, significant effect.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.6.4	Table 7.6.2	Identification of bird species	The Inspectorate notes that there are large numbers of birds that have not been identified within Table 7.6.2 (marked as 'no ID'). The Inspectorate considers that the Applicant should make every effort to establish the species of bird identified during surveys in the ES.
3.6.5	Paragraphs 7.6.3 to 7.6.22 and Table 7.6.3	Study area, surveys, key species of focus, and characterisation of baseline	The Inspectorate notes the reference to the EPP in the Scoping Report and also the limited information provided with regards to specific survey methodologies. In the context of Offshore and Intertidal Ornithology, the Inspectorate advises that, amongst other matters, effort is made to agree via the EPP the extent of study area, the methodologies for data collection, characterisation of the baseline and key species for focus, and the assumptions made around connectivity of the populations within the study area to designated sites. The ES should fully explain how the baseline has been established and the outcomes of consultation undertaken in relation to these matters.
3.6.6	Table 7.6.1	Intertidal surveys	The Scoping Report does not contain detail about the number, frequency, extent, or proposed methodology for the intertidal surveys. The Inspectorate recommends the Applicant seek to agree the surveys with relevant consultation bodies, such as NE, and other relevant stakeholders as part of the EPP.



ID	Ref	Description	Inspectorate's comments
3.6.7	Paragraph 7.6.20 and Figure 7.6.1	Designated sites	The ES should also assess any likely significant effects to the North Norfolk Coast SPA on the basis of the proximity of the Proposed Development and the presence of breeding sandwich tern at the SPA.
3.6.8	Paragraph 7.6.35	Mitigation - vessel movements	<p>The Scoping Report identifies potential mitigation for impacts from both construction and O&amp;M vessel movements, this includes defining a route from their home port to avoid areas with high concentrations of red-throated diver (a species known to be sensitive to disturbance by boat traffic). The Inspectorate considers that seasonal timing of construction and O&amp;M vessel movements should also be considered as a potential measure within the ES. The Applicant's attention is drawn to the response of NE at Appendix 2 to this Opinion with regard to seasonal timings.</p> <p>The ES should clearly identify the mechanism for securing and delivering such mitigation, where relied upon for the impact assessment. The ES should make clear the assumptions that have been made about vessel movements informing the assessment of such impacts on IOFs.</p>

### 3.7 Offshore Environment: Marine Archaeology

(Scoping Report Section 7.7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.7.1	Paragraphs 7.7.36 to 7.7.37	Transboundary impacts	<p>The Scoping Report seeks to scope this matter out on the grounds that any potential impacts would be localised. Paragraph 7.7.37 states should wrecks or aircrafts of non-British nationality be affected by the Project, further archaeological investigations may be warranted and in line with the procedures that will be outlined in the Outline Marine Written Scheme of Investigation (WSI) that will be produced. It also states that there is potential for paleochannels and paleolandscapes within the North Sea to stretch beyond international boundaries but that the impact on submerged landscapes in those cases is expected to be local within the Proposed Development boundary and will be mitigated and offset by archaeological assessments of geotechnical data.</p> <p>On the basis of the above, the Inspectorate agrees that transboundary impacts on marine archaeology are unlikely and can be scoped out from further assessment. However, the ES should clearly describe the findings and any mitigation relied upon.</p>

ID	Ref	Description	Inspectorate's comments
3.7.2	Paragraph 7.7.3	Study area	<p>The Scoping Report describes the study area but does not explain why the area chosen is sufficient to reflect the likely ZoI for the Proposed Development. The ES should be based on a defined study area, which is sufficient to identify the likely significant effects of the Proposed Development, including any potential effects caused by changes to marine physical processes. The ES should also confirm</p>

ID	Ref	Description	Inspectorate's comments
			whether the study area aligns with relevant policy and guidance and provide justification for any divergences.
3.7.3	Table 7.7.5	Compression impacts	The Scoping Report describes both penetration and compression impacts to the seabed from construction activities. The Applicant should ensure that these effects are fully explained in the ES, in order to explain the nature of compression impacts and establish whether there is potential for two different types of effect.
3.7.4	Paragraph 7.7.31	Use of geotechnical and geophysical information	The Inspectorate considers that in addition to use of this information to inform the assessment, the opportunity for this information to also identify areas of high archaeological potential is considered in the development of the design and explained in the ES.

### 3.8 Offshore Environment: Commercial Fisheries

(Scoping Report Section 7.8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.8.1	Table 7.8.3	Additional steaming to alternative fishing grounds for vessels that would otherwise fish within the array area – Construction, O&M; and Decommissioning	The Inspectorate agrees that due to the nature and the low sensitivity of fishing vessels, taking account of their large operational range, a significant effect is unlikely and a detailed assessment in the ES is not required. However, the ES should characterise the operational effects on commercial fisheries including increased steaming times and provide the evidence used to determine that significant effects are unlikely. The ES should also detail the measures proposed to ensure adequate notification is provided.

ID	Ref	Description	Inspectorate's comments
3.8.2	Paragraph 7.8.23	Fishery bylaws to protect MPAs	Scoping Report paragraph 7.8.23 references the Inshore Fisheries and Conservation Authorities (IFCA) and MMO byelaws to protect designated features. The ES should demonstrate that the Proposed Development does not undermine these byelaws or hinder the implementation of the management measures.
3.8.3	Paragraphs 7.8.29	Mitigation measures – cable burial	The Scoping Report states that where practicable, cable burial will be the preferred means of cable protection. The ES should include an assessment of the effects of cable protection from methods other than burial, based on the worst-case scenario which has been defined for the area of cable protection likely to be required.
3.8.4	Table 7.8.2	Assessment – duration of impacts	The Scoping Report identifies the potential for some loss of fishing opportunities over the construction period, though effect is expected

ID	Ref	Description	Inspectorate's comments
			to be short-term and localised. The ES should clearly define the duration of 'short-term' and 'localised' impacts.
3.8.5	Table 7.8.2	Assessment – assumptions	The Scoping Report states that it is assumed fishing can resume to a degree within the array area. The ES should clarify the assumptions made within the assessment, including the extent to which fishing would be permitted to resume within the array area.

### 3.9 Offshore Environment: Shipping and Navigation

(Scoping Report Section 7.9)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.9.1	n/a	n/a	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Description	Inspectorate's comments
3.9.2	Paragraphs 7.9.4 and 7.9.7	Study area	A study area of 10 nautical miles (nm) has been proposed for the shipping and navigation assessment, with a likely final study area within the Navigational Risk Assessment (NRA) of 10nm proposed for the array and any Offshore Reactive Platforms (ORPs), and 2nm for the ECC. The ES should explain the rationale behind the choice of study areas and, where possible, the approach should be agreed with the relevant consultation bodies.
3.9.3	Paragraph 7.9.5	ECC – Baseline information	The Scoping Report states that a preliminary assessment of navigational features within the AoS for the ECC has been undertaken; however, no baseline information for the ECC AoS has been included within the Scoping Report. The ES should describe the shipping and navigational baseline conditions for the entire AoS, accompanied by clear figures.
3.9.4	Paragraph 7.9.29 and Table 7.9.2	Assessment methodology	The Scoping Report proposes to determine significance as either broadly acceptable, tolerable, or unacceptable. The ES should clearly set out how the risk assessment approach leads to an assessment of significance of effect consistent/compatible with the terminology used in the ES, for which the intended approach is set out in Chapter 5 (paragraphs 5.7.12 to 5.7.13) of the Scoping Report.

ID	Ref	Description	Inspectorate's comments
3.9.5	Table 7.9.3	Cumulative impact assessment - assumptions	Noting the Scoping Report states that it will include changes to baseline routeing associated with submitted or consented OWF projects, notably Hornsea 3 and Hornsea 4, the ES should clearly state any assumptions made with regards to the baseline.
3.9.6	n/a	Future baseline	The ES should identify a future baseline for vessel movements and explain how this has been established, taking into account the existing sea users and the numerous proposed OWF projects in the vicinity.

### 3.10 Offshore Environment: Aviation, Radar and Military

(Scoping Report Section 7.10)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.10.1	Table 7.10.3	Impact on civil and military Primary Surveillance Radar (PSR) systems – Construction	The Inspectorate accepts that interference with PSRs from the presence of wind turbines will relate primarily to the operational phase. However, the Applicant should ensure that consultation with relevant operators addresses potential effects from the presence of turbine towers and WTGs in the final phases of construction or testing phase prior to operation. The ES should assess any potential likely significant effects, where they could occur, and identify the need for mitigation or control measures and how these would be secured.
3.10.2	Table 7.10.3	Impacts from the offshore export cable – Construction, O&M, and Decommissioning	The description of this matter and the justification in the Scoping Report to scope out impacts from the construction of the offshore export cable is brief; however, the Inspectorate also notes from Table 7.10.2 (matters scoped in) that potential impacts on Donna Nook Air Weapons Range activities during installation of the offshore export cable are proposed to be scoped into the impact assessment. The Inspectorate agrees that other impacts from the offshore export cable during construction, O&M and decommissioning can be scoped out of the ES on the basis that the offshore export cable would be below the water surface, making it unlikely to result in significant effects to military and civil aviation during the construction, O&M and decommissioning of the Proposed Development.
3.10.3	Table 7.10.3	Impact on civil and military Secondary Surveillance Radar (SSR) systems - Operation	The Scoping Report states that there are no SSR systems within 10km of the Proposed Development. The Inspectorate considers that, in accordance with Civil Aviation Authority (CAA) Guidance: CAA Policy and Guidelines on Wind Turbines, potential interference to SSR systems is unlikely to be significant and therefore agrees that this



ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			matter can be scoped out. The Applicant is however directed to point 3.10.11 of this Opinion below.
3.10.4	Table 7.10.3	Impact on Humberside Airport PSR and Norwich Airport PSR - Operation	The Scoping Report proposes to scope this matter out of the ES on the basis that the airspace in the vicinity of the wind turbine array is not operationally significant to Humberside Airport and Norwich Airport PSR. Considering both the Humberside Airport PSR and Norwich Airport PSR are located approximately 90km (48nm) from the array area and beyond the Lower Airspace Radar Service (LARS) 30nm service radius, the Inspectorate agrees that potential impacts to the Humberside Airport PSR and Norwich Airport PSR are unlikely and therefore agrees that this matter can be scoped out. The Applicant is however directed to point 3.10.12 of this Opinion below.
3.10.5	Table 7.10.3	Impact on Royal Air Force (RAF) Coningsby PSR, RAF Marham PSR, and RAF Waddington PSR - Operation	The Scoping Report states that the WTGs will not be visible to RAF Coningsby PSR, RAF Marham PSR, and RAF Waddington PSR and are located considerably beyond the LARS radius for these three RAF sites. The Inspectorate notes the response of the Defence Infrastructure Organisation (DIO) at Appendix 2 to this Opinion, which does not identify concerns with regards to impacts on these RAF PSRs. The Inspectorate therefore agrees that potential impacts to the RAF Coningsby PSR, RAF Marham PSR, and RAF Waddington PSR are unlikely and these matters can be scoped out.
3.10.6	Table 7.10.3	Creation of an aviation obstacle environment - Decommissioning	The Scoping Report proposes to scope out effects relating to the creation of an aviation obstacle environment during decommissioning as the existing WTGs will be gradually dismantled and the aviation obstacle environment will be removed. However, given there are potential effects similar to those experienced during construction, for example related to the involvement of tall crane vessels, the Inspectorate is of the opinion that this matter cannot be scoped out.

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
3.10.7	Table 7.10.3	Impact on NERL (NATS (En Route Plc) Radars at Cromer and Claxby, and Ministry of Defence (MoD) Staxton Wold and Trimmingham Air Defence (AD) PSR systems - Decommissioning	<p>The Scoping Report seeks to scope this matter out of the ES on the basis that during decommissioning the blades of WTGs will cease rotating and mitigation will be in place until the last WTG ceases to rotate; therefore, the impact on PSRs will gradually reduce until the last WTG ceases operation.</p> <p>The Inspectorate accepts that interference with PSRs from the presence of wind turbines will relate primarily to the operational phase. However, the Applicant should ensure that consultation with relevant operators addresses potential effects from the presence of turbine towers and WTGs in the decommissioning phase. The ES should assess any potential likely significant effects, where they could occur, and identify the need for mitigation or control measures and how these would be secured. The Applicant is also directed to point 3.10.12 of this Opinion below.</p>
3.10.8	Paragraphs 7.10.68 to 7.10.69	Transboundary impacts	<p>The Scoping Report seeks to scope out transboundary impacts on the grounds that the effects on aviation are expected to be localised. Paragraph 7.10.68 states that the nearest Dutch operated airspace is more than 60km east of the Proposed Development. As such the Applicant considers there would be no transboundary effects. The Inspectorate agrees that this matter can be scoped out of further assessment.</p>

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.10.9	Paragraph 7.10.29, 7.10.66 and Table 7.10.2	Air Weapons Range (AWR)	<p>The Applicant is directed to the response of the DIO at Appendix 2 to this Opinion, which identifies that the AoS for the export cable route also falls within the Holbeach AWR. The Applicant is advised to undertake further consultation with the DIO with regards to the export cable installation and proximity to Military Practice and</p>

ID	Ref	Description	Inspectorate's comments
			<p>Exercise Areas (PEXA)/danger areas and take account of the latest MOD PEXA guidance. The ES should consider the potential impact of AWR activities during installation of the offshore export cable, where likely significant effects could occur, and specify any mitigation measures proposed.</p>
3.10.10	Paragraph 7.10.35	Receptors –MoD Air Defence Radars	<p>As noted in the DIO response at Appendix 2 to this Opinion, the ES should also consider the detectability of the Proposed Development by Remote Radar Head (RRH) Neatishead. The ES should assess the impact of the Proposed Development on this radar and detail any mitigation required.</p>
3.10.11	Paragraph 7.10.57	Potential mitigation measures	<p>It is noted that the measures listed include implementing aids to navigation such as lighting. Unless otherwise agreed with relevant stakeholders, the ES should explain how the Proposed Development would be fitted with MoD accredited aviation safety lighting in accordance with the CAA Air Navigation Order 2016.</p>
3.10.12	n/a	NATS (En-Route) Safeguarding	<p>The Inspectorate notes the current objection from NATS (En-Route) Plc contained at Appendix 2 to this Opinion and requests the Applicant work with NATS (En-Route) Plc in effort to reach a satisfactory conclusion to the operational assessment of impacts to radar safeguarding and NATS technical sites from the Proposed Development, avoiding the potential for any likely significant effects. Where it has not been possible to reach a satisfactory conclusion, the Applicant should ensure that any likely significant effects are assessed in the ES and demonstrate how the position of NATS has been taken into account.</p>

### 3.11 Offshore Environment: Seascape, Landscape and Visual

(Scoping Report Section 7.11)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.1	Table 7.11.6 and paragraph 7.11.57	Seascape, landscape and visual effects as a result of the array area – Construction, O&M, and Decommissioning	<p>The Inspectorate does not agree to scope out seascape, landscape and visual effects as a result of the array area. It is considered that seascape, landscape and visual effects associated with the array are possible, as the array area is located 54km away from the coastline and within the 60km study area and the Zone of Theoretical Visibility (ZTV) presented in Figure 7.11.2.</p> <p>The ES should provide an assessment of seascape, landscape and visual effects within the 60km study area during all phases of the Proposed Development, where significant effects are likely to occur.</p>
3.11.2	Table 7.11.6	Seascape, landscape and visual impacts outside the 60km radius study area – Construction, O&M, and Decommissioning	<p>The Scoping Report states that the ZTV and visibility data based on atmospheric conditions, show that the views of the Proposed Development will become restricted, dispersed and infrequent at distances beyond 60km. The Inspectorate is content that at distances greater than 60km significant effects are unlikely and agrees that this matter can be scoped out.</p>
3.11.3	Table 7.11.6	Impacts on the Landscape Character Types (LCTs) located outside the ZTV and/or inland from the coast where the land is unlikely to have a strong visual relationship with the sea or intervisibility of the Project – Construction and Decommissioning	<p>The Scoping Report seeks to scope this matter out on the grounds that LCTs inland from the coast are located outside the main visual envelope of the sea and the Proposed Development, so are unlikely to be affected by changes occurring out to sea. In the absence of evidence demonstrating clear agreement with relevant consultation bodies, the Inspectorate is not in a position to agree to scope out this matter from the assessment. Accordingly, the ES should include an assessment of these matters or evidence demonstrating agreement</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			with the relevant consultation bodies and the absence of a likely significant effect.
3.11.4	Table 7.11.6	Impact of the construction and decommissioning of the array area on physical aspects of landscape character – Construction and Decommissioning	The Scoping Report proposes to scope this matter out on the basis that the array area is located at considerable distance offshore and will only result in indirect impacts on the perception of landscape character and qualities. Considering the location of the array area, the Inspectorate agrees that this impact can be scoped out of the assessment as significant effects are unlikely to occur.
3.11.5	Table 7.11.6	The seascape, landscape and visual impacts of the offshore cable route – Construction, O&M, and Decommissioning	The Scoping Report seeks to scope this matter out as the likely impacts would be temporary in nature and relate to the presence of a small number of vessels out at sea. The Inspectorate agree this matter can be scoped out as significant effects are unlikely to occur.
3.11.6	Table 7.11.6	Impact of the array area lighting on seascape, landscape and visual receptors – Construction and Decommissioning	The Inspectorate agrees that this matter can be scoped out of the ES as the lighting during construction and decommissioning will be temporary in nature and largely located behind existing OWFs. Therefore, making it unlikely to result in significant effects to seascape, landscape and visual receptors during the construction and decommissioning of the Proposed Development.
3.11.7	Table 7.11.6	Impact of the array area aviation and marine navigation lighting on seascape, landscape and visual receptors – O&M	The Scoping Report seeks to scope out this matter on the basis that aviation navigation lights would only be visible from the coastline in excellent visibility conditions, marine navigation lighting has limited range and the distance of visibility would be restricted by the screening effect of the horizon that occurs due to the Earth's curvature. The Inspectorate agrees that this impact can be scoped out of the assessment as significant effects are unlikely to occur.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.8	Table 7.11.6	Impact of the array area on the views experienced by offshore visual receptors – O&M	<p>The Scoping Report proposes to scope out this effect on the basis that whilst there may be some increase in the density and spread of WTGs within this area and in views from vessels, offshore visual receptors such as people working in fisheries, oil and gas, or other commercial activities, are considered to be not of high sensitivity and are unlikely to experience significant effects as a result of the Proposed Development. Furthermore, effects of the array area on recreational sea users in the vicinity of the coast are considered likely to be of low magnitude given the presence of several other OWFs in construction or operational within the immediate vicinity of the Proposed Development.</p> <p>The Scoping Report notes that there could be a variety of offshore visual receptors such as recreational sea users, people working in oil and gas industry and commercial users, although limited in formation is currently provided with regards to recreational users in particular. The Inspectorate does not agree to scope out the impact of the array area on views experienced by offshore visual receptors due to insufficient evidence at this stage. The ES should provide an assessment of the visual effects on offshore receptors during all phases of the Proposed Development, where significant effects are likely to occur.</p>
3.11.9	Table 7.11.5 and Table 7.11.6	Cumulative effect (daytime) of the offshore Reactive Compensation Station (RCS) on seascape character, landscape character and views/visual receptors – Construction, O&M, and Decommissioning	Table 7.11.5 states that the cumulative effect of the construction, O&M, and decommissioning of the offshore RCS on seascape character, landscape character and visual receptors will be scoped into the Seascape, Landscape and Visual Impact Assessment (SLVIA), which is in contradiction to Table 7.11.6. The ES should provide an assessment of the potential cumulative effects of the offshore RCS for all phases of the Proposed Development, where likely significant effects could occur.

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
			Table 7.11.6 also states with regards to cumulative effects that " <i>The operational Hornsea Projects One and Two OWFs, and the consented Hornsea Three OWF, will be scoped out of the SLVIA due to their long distance offshore and lack of visibility from the coastline.</i> " The Inspectorate agrees that cumulative effects with these projects can be scoped out on this basis.
3.11.10	Paragraph 7.11.60	Transboundary impacts	The Scoping Report seeks to scope this matter out of further assessment on the grounds that there are unlikely to be any transboundary effects because of the distance between the Proposed Development and the boundaries of EEA States. The Inspectorate agrees that effects on an EEA State are unlikely, and this matter can be scoped out of further assessment.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.11.11	Table 7.11.4	Heritage Coast receptors	The Applicant's attention is directed to the response of NE at Appendix 2 to this Opinion, which identifies proposals for the creation of a Heritage Coast north of Mablethorpe that may overlap with the onshore Scoping Boundary for the cable landfall and grid connection. Following further liaison with NE regarding this potential new Heritage Coast, the ES should assess impacts to this receptor, where significant effects are likely to occur.
3.11.12	Paragraph 7.11.9	ZTV and study area for RCS	It is noted that the location of the RCS is to be defined at a later stage and could be situated anywhere within the ECC. The ES should include a ZTV for the RCS and, with reference to the ZTV, provide justification that the proposed 30km radius study area is sufficient to identify any likely significant effects. The ES should assess likely significant effects arising from the RCS on the Heritage Coast and onshore Areas of Outstanding Natural Beauty (AONB), including the

ID	Ref	Description	Inspectorate's comments
			Lincolnshire Wolds AONB. The approach to the assessment should be discussed with relevant consultation bodies and stakeholders, such as the Lincolnshire Wolds Countryside Service (Lincolnshire Wolds AONB Partnership).
3.11.13	Table 7.11.3	Offshore visual receptors	The viewpoint list within Table 7.11.3 does not include any views from offshore receptors, for example from vessel routes located within the study area. The Applicant should make effort to agree representative visualisations of points from offshore receptors with the relevant stakeholders and consultation bodies.



### 3.12 Offshore Environment: Infrastructure and Other Marine Users (IOMU)

(Scoping Report Section 7.12)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.12.1	Table 7.12.6	Effects on OWFs – Construction, O&M, and Decommissioning	It is noted that the Triton Knoll OWF is surrounded by the ECC search area, the potential exists for construction, maintenance and decommissioning activities to therefore be carried out within its vicinity. In the absence of further refinement of the ECC at this stage, the Inspectorate advises that the ES should include an assessment of impacts on this OWF and associated infrastructure where significant effects could occur.
3.12.2	Table 7.12.6	Effects on wave and tidal energy sites – Construction, O&M, and Decommissioning	The Scoping Report proposes to scope out effects on wave and tidal energy sites for all phases of the Proposed Development on the grounds that there is no overlap with any existing or proposed infrastructure. The Inspectorate is content to scope this matter out of further assessment.
3.12.3	Table 7.12.6	Effects on oil and gas assets subject to decommissioning – Construction, O&M, and Decommissioning	The Applicant proposes to scope out effects on oil and gas assets that are subject to decommissioning. Provided the oil and gas platforms set to be commissioned are fully removed prior to commencement of construction of the Proposed Development, the Inspectorate agree that this matter can be scoped out as significant effects are unlikely to occur.
3.12.4	Table 7.12.6	Effects on oil and gas assets or activity from the installation and operation of the offshore export cable – Construction, O&M, and Decommissioning	The Scoping Report seeks to scope out effects on oil and gas assets and activities as there will be no overlap with the various existing activities following the refinement of the ECC. In the absence of further refinement of the ECC at this stage, the Inspectorate advises that the ES should include an assessment of impacts on oil and gas assets and activities, where likely significant effects could occur.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.12.5	Table 7.12.6	Effects on Carbon Capture Utilisation and Storage (CCUS) – Construction, O&M, and Decommissioning	<p>The Scoping Report proposes to scope out this matter on the basis that there will be no overlap with the Northern Endurance Partnership (NEP) planned CCUS connecting infrastructure or any interaction with other CCUS infrastructure following refinement of the ECC. Paragraph 7.12.26 of the Scoping Report however states that although the main Endurance site lies outside of the IOMU study area, it is understood that some infrastructure to connect to the Humber region may be required and could therefore interact with the study area.</p> <p>The ES should provide an assessment of the potential effects on CCUS for all phases of the Proposed Development where significant effects are likely to occur. Should the desk study assessment and further consultations proposed establish that there would be no overlap with the NEP/planned CCUS, the Inspectorate would agree this matter could be scoped out of the assessment.</p>
3.12.6	Table 7.12.6	Effects on nuclear facilities – Construction, O&M, and Decommissioning	<p>On the basis that there is no overlap in nuclear infrastructure and facilities, coupled with the distance to the nearest nuclear facility at Sizewell in Suffolk, the Inspectorate is content to scope this matter out of further assessment.</p>
3.12.7	Table 7.12.6	Effects on wastewater assets, marine disposal, and aggregate dredging – Construction, O&M, and Decommissioning	<p>The Scoping Report seeks to scope out these matters as there will be no overlap with the various existing activities following the refinement of the ECC. However, the absence of further refinement of the ECC at this stage, the Inspectorate advises that the ES should include an assessment of impacts related to these matters where significant effects could occur.</p>
3.12.8	7.12.57	Transboundary impacts	<p>The Scoping Report seeks to scope this matter out of further assessment on the grounds that the any impacts on IOMU receptors would be localised and all receptors lie wholly within the UK EEZ.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>The Inspectorate notes the presence of the Viking Link cable on Figure 7.12.5 currently under construction that passes through the nearshore part of the study area and connects from Bicker Fen in Lincolnshire to the substation at Revsing in southern Jutland, Denmark. The ES should consider whether there would be any likely effects on interconnector cables and include an assessment where likely significant effects could occur.</p>

ID	Ref	Description	Inspectorate's comments
3.12.9	Paragraph 7.12.5	Study area	<p>The Scoping Report identifies a maximum ZoI of 15km, which relates to the area over which suspended sediments may be detected following disturbance as a result of construction activities, or the area within which significant underwater noise may be detectable as a result of foundation piling events. However, this distance is not explicitly stated in the Physical Processes section of the Scoping Report. Notwithstanding that this figure is subject to refinement as site specific modelling is undertaken, the ES should include a clear justification of the study area and ZoI for the IOMU aspect chapter.</p>

### 3.13 Onshore Environment: Air Quality

(Scoping Report Section 8.1)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.13.1	Table 8.1.4	Emissions generated from operation of non-road mobile machinery (NRMM) – Construction	In the absence of information on the type, quantity and use of the NRMM the Inspectorate does not agree to this matter being scoped out of the assessment at this stage. The ES should include an assessment of emissions generated from the operation of NRMM during construction, where likely significant effects could occur.
3.13.2	Table 8.1.4	Emissions generated from offshore vessel movements - Construction	<p>The Scoping Report seeks to scope out emissions from offshore vessel movements during construction on onshore receptors based on the likely small number of vessel traffic and thus small number of overall emissions, together with the Emission Control Area present within the North Sea which implements strict controls on emissions. The Scoping Report also acknowledges that the specific port locations to be utilised by vessels during offshore construction works are yet to be determined.</p> <p>Given the stage of the Proposed Development and the lack of information on what port locations, types of vessels and vessel movements may be required, the Inspectorate cannot agree to this matter being scoped out of the assessment at this stage. The ES should include an assessment of emissions generated from offshore vessel on sensitive human and/or ecological receptors, where likely significant effects could occur.</p>
3.13.3	Table 8.1.4	Operational phase traffic movements – O&M	The Inspectorate agrees that it is unlikely that there would be a significant change in vehicle flows during O&M and therefore it is also unlikely that significant effects would occur in respect of air quality. However, the ES should confirm that the anticipated road vehicle movements are below the Institute of Air Quality Management

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			(IAQM) and Environmental Protection UK (EPUK) screening values, and if values are exceeded then an assessment of likely significant effects should be provided.
3.13.4	Table 8.1.4	Emissions generated from offshore vessel movements – O&M	On the basis that operational phase offshore vessel movements will be limited to maintenance activities and expected to be intermittent/infrequent in comparison to construction activities, the Inspectorate agrees that this matter can be scoped out of the assessment.
3.13.5	Table 8.1.4	Decommissioning phase traffic movements and other works - Decommissioning	The Inspectorate notes that no date is given for the likely decommissioning phase in the Scoping Report; however, the lack of information at this stage about the nature and scale of possible decommissioning activities means that some consideration of this effects of this phase of development should be provided in the ES. The Inspectorate therefore does not agree to this matter being scoped out of the assessment. The ES should include an assessment of decommissioning phase traffic movements and other works, where likely significant effects could occur.
3.13.6	Table 8.1.4	Cumulative dust and PM10 generated from temporary construction activities on both human and ecological receptors	Given the lack of details of the scale and nature of projects that will be considered within a Cumulative Effects Assessment (CEA), the Inspectorate does not agree that this matter can be scoped out of the assessment at this stage. The ES should include an assessment of cumulative dust and PM10 from temporary construction activities on both human and ecological receptors, where likely significant effects could occur.
3.13.7	Paragraphs 8.1.57 to 8.1.58	Transboundary effects	Onshore transboundary effects are scoped out of the assessment as the Applicant considers that air quality effects will be localised and

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
			restricted to the onshore area. The Inspectorate agrees that this matter can be scoped out of the assessment.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.13.8	Figure 8.1.1	Figures	Where figures are presented within the ES, these should be of an appropriate scale such that it is possible to identify the location of, in this case, the boundaries of Air Quality Management Areas (AQMAs), in relation to the Proposed Development.
3.13.9	Paragraphs 8.1.12 to 8.1.13	Air quality monitoring	The Inspectorate considers that it is not yet possible to agree that project-specific air quality surveys will not be required, particularly given the lack of Automatic Urban and Rural Road Network monitors in the AoS (stated in paragraph 8.1.14 of the Scoping Report and identified as a key source of baseline data in Table 8.1.1). The need for field-based surveys should be reviewed once the cable route corridor is confirmed and the Inspectorate recommends the Applicant seek to confirm the need or otherwise for project-specific surveys with the relevant consultation bodies.
3.13.10	Paragraph 8.1.47	Assessment of in-combination effects on national and local designated ecological sites	The Inspectorate considers that at this stage of the Proposed Development, there is insufficient detail on the nature and scale of the onshore part of the Proposed Development to exclude the potential for significant air quality effects on nationally or locally designated sites cumulatively with other projects or plans. This matter should be included in the assessment where likely significant effects could occur.

### 3.14 Onshore Environment: Archaeology and Cultural Heritage

(Scoping Report Section 8.2)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.14.1	Table 8.2.4	Indirect (setting) effects caused by the construction of the onshore export cable on designated heritage assets more than 500m from the route - Construction	Given the stage of the Proposed Development and current absence of information regarding the significance of assets and potential impacts of the Proposed Development, the Inspectorate does not agree to scope this matter out. The ES should include an assessment of indirect (setting) effects arising from the construction of the onshore export cable on designated heritage assets more than 500m from the route, where likely significant effects could occur.
3.14.2	Table 8.2.4	Indirect (setting) effects caused by the presence of the onshore substation (OnSS) on designated heritage assets more than 2km from the installations - O&M	Given the stage of the Proposed Development and lack of information about the location of the OnSS, the Inspectorate does not agree at this stage it is possible to scope out effects on heritage assets in excess of 2km from the route. Given the potential size, scale and undefined location of this element of the Proposed Development, this matter should be scoped into the assessment where likely significant effects could occur.
3.14.3	Table 8.2.4	Indirect setting effects from offshore turbines and Offshore Substation Platform (OSP) on terrestrial designated heritage assets not highlighted by stakeholders or identified as being potentially sensitive by the heritage consultant - O&M	Given the distance to the array, the Inspectorate agrees that there is unlikely to be a significant effect on the terrestrial heritage assets not highlighted by stakeholders or identified as being potentially sensitive by the heritage consultant and that this matter can be scoped out of the assessment.
3.14.4	Paragraph 8.2.44	Transboundary heritage effects	The Inspectorate agrees that given the localised onshore nature of the effects from the Proposed Development, significant transboundary

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
			heritage effects are unlikely to occur, and this matter can be scoped out of the assessment.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.14.5	Table 8.2.1	Data sources	The Applicant's attention is directed to the response of Historic England at Appendix 2 of this Opinion, which identifies the East Midlands Historic Environment Research Framework (EMHERF) as an important resource for both marine and terrestrial archaeology impact assessments.
3.14.6	Paragraph 8.2.23	Study area	It is not clear from the Scoping Report why a 2km search area around the OnSS has been chosen to establish those heritage assets that could be sensitive to changes in their setting. The ES should explain the choice of all search areas used including the reasons for their selection.
3.14.7	Paragraph 8.2.38	ZTV	The Inspectorate notes that a ZTV will be prepared as part of the landscape and visual assessment (LVIA) for the onshore works and that it may be used for the Archaeology and Cultural Heritage assessment. The Inspectorate recommends the LVIA and heritage consultants liaise closely with regards to the ZTV to ensure heritage assets within the LVIA ZTV are appropriately identified, noting that impacts on setting are not limited to just visual. Should the use of a ZTV be considered ineffective for the cultural heritage assessment (as noted as possible in the Scoping Report), this should be explained and justified in the ES.



<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.14.8	Paragraph 8.2.39	Importance of heritage assets	The ES should clearly explain what aspect-specific criteria are used to define receptor value/sensitivity and magnitude of change for the archaeology and cultural heritage assessment.
3.14.9	Table 8.2.3	Historic hedgerows	The ES should also consider the potential for effects on other historic land features, such as drainage patterns and ditches alongside historic landscape character, where significant effects are likely to occur. Reference could be made to the Lincolnshire Historic Landscape Characterisation (2011).
3.14.10	Paragraph 8.2.31	Heritage Statement	The assessment should address the significance of both designated and non-designated heritage assets, using sufficiently robust evidence and taking into account advice from relevant consultation bodies.
3.14.11	Paragraph 8.2.35	Baseline data	The baseline data should include a review of available Portable Antiquities Scheme data.
3.14.12	Paragraphs 8.2.40 to 8.2.41	Mitigation strategy	The Inspectorate notes that limited information is provided in the Scoping Report on the approach to mitigation, beyond proposed embedded measures. The Applicant should seek to agree an appropriate mitigation strategy that addresses significant effects with the relevant consultation bodies, as part of the EPP.
3.14.13	n/a	Effects of changes to drainage on designated and non-designated heritage assets	The onshore elements of the Proposed Development have potential to change the pattern of drainage within and adjacent to the boundary of works. Effects of changes to drainage on designated and non-designated heritage assets should be included in the assessment, where significant effects are likely to occur.
3.14.14	n/a	Gunby Hall Registered Park and Garden (RPG)	This RPG is located adjacent to the western boundary of the AoS for the Proposed Development. Setting effects on this receptor should be

ID	Ref	Description	Inspectorate's comments
			addressed in the assessment where significant effects are likely to occur. There should be appropriate cross reference between the LVIA and the Archaeology and Cultural Heritage assessments to ensure there is complete consideration of potential effects on this receptor.
3.14.15	n/a	Potential for peat deposits	The ES should assess impacts to peat deposits in this aspect chapter, in addition to the consideration of peat acknowledged for the Marine Archaeology aspect chapter, where significant effects are likely to occur. The approach to assessment and any proposed mitigation should be discussed with the relevant consultation bodies.
3.14.16	n/a	Approach to archaeological assessment	The Applicant's attention is directed to the response of Lincolnshire County Council contained in Appendix 2 to this Opinion in respect of the approach to the design and detail for the archaeological impact assessment. The Applicant should seek to agree the detailed scope of the impact assessment with the relevant consultation bodies, including the County Archaeologist and Historic England, as part of the EPP.
3.14.17	n/a	Approach to archaeological assessment	The Applicant should seek to agree a phased programme of desk-based and then field-based evaluation with Lincolnshire County Council and, where relevant, Historic England, to ensure sufficient information has been gathered to identify the archaeological potential associated with the Proposed Development. This should include consideration of the need for aerial photography and LiDAR analysis, map regression, intrusive and non-intrusive field surveys.

### 3.15 Onshore Environment: Onshore Ecology

(Scoping Report Section 8.3)

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
3.15.1	Paragraph 8.3.55	Impacts to ancient woodland	The Scoping Report identifies that the closest ancient woodland site to the AoS is 1.47km. The Inspectorate is content to scope out impacts to ancient woodland on the basis that the ES demonstrates ancient woodland would not be directly or indirectly affected by the Proposed Development.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.15.2	Paragraph 8.3.3	Study area and data collection	The ES should clearly define and justify the study area for each ecological receptor, with reference to the ZoI for the Proposed Development. The Applicant's attention is directed to the comments of NE (Appendix 2 of this Opinion) that identifies some concerns with regards to the spatial scope of the data sources, as specified in Table 8.3.1. The Applicant should seek to agree the sources and extent of data sources with relevant consultation bodies, including NE, as the onshore element of the scheme develops further.
3.15.3	Paragraphs 8.3.46 to 8.3.50	Mitigation measures for INNS	INNS are identified in the study area. The ES should detail and secure mitigation/biosecurity measures during all phases of the Proposed Development to avoid/reduce the spread and introduction of INNS. Effort should be made to agree the approach with the relevant consultation bodies.
3.15.4	Paragraphs 8.3.46 to 8.3.50 and	Drilling fluid breakout plan	Scoping Report paragraph 3.6.6 states that HDD may be utilised for construction. The ES should confirm where HDD will be employed and should this have potential to impact sensitive ecological receptors,

ID	Ref	Description	Inspectorate's comments
	Paragraph 3.6.6		appropriate mitigation, such as measures to be included in a drilling fluid breakout plan, should be described in the ES and appropriately secured.
3.15.5	Tables 8.3.4 and 8.5.3	Impacts to waterbodies, fish and freshwater species	Surveys are proposed for otter and water vole; however, impacts to fish and other freshwater species and on water quality have not been considered in the Onshore Ecology aspect chapter of the Scoping Report. The ES should assess impacts to fish and other freshwater species and on water quality, where significant effects are likely to occur, supported by desk study information and surveys as necessary. Effort should be made to agree the methodology with the relevant consultation bodies.
3.15.6	Paragraphs 8.3.58 to 8.3.64	Survey methodologies	The Scoping Report contains limited detail concerning the proposed species-specific surveys for onshore ecology and at this stage, the location of the onshore ECC and OnSS is not yet known. Effort should be made to agree the approach to surveys with relevant consultation bodies, including NE, as part of the EPP. The ES should detail the specific methodologies, this information could be included within appendices to the ES aspect chapter.
3.15.7	n/a	Confidential Annexes	Public bodies have a responsibility to avoid releasing environmental information that could bring about harm to sensitive or vulnerable ecological features. Specific survey and assessment data relating to the presence and locations of species such as badgers, rare birds and plants that could be subject to disturbance, damage, persecution, or commercial exploitation resulting from publication of the information, should be provided in the ES as a confidential annex. All other assessment information should be included in an ES chapter, as normal, with a placeholder explaining that a confidential annex has been submitted to the Inspectorate and may be made available subject to request.

### 3.16 Onshore Environment: Geology, Ground Conditions and Land Quality

(Scoping Report Section 8.4)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.16.1	Table 8.4.7	Operational impacts on geology/ground conditions and associated longer term risks to human and environmental receptors – O&M	<p>The Scoping Report seeks to scope out this matter on the basis that significant ground disturbance is unlikely during the operational phase and that work instructions and control measures would be known and implemented.</p> <p>The Inspectorate notes the limited information on the likely O&amp;M activities in the Scoping Report and therefore cannot agree to scope out operational impacts on geology/ground conditions at this stage. The ES should include an assessment of operational impacts on geology/ground conditions and associated longer term risks to human and environmental receptors, where likely significant effects could occur.</p>
3.16.2	Table 8.4.7	Loss of agricultural land from operation of underground cables – O&M	<p>The Scoping Report states that construction of the onshore ECC would be carried out in a controlled and considered manner so as not have any long-term impact upon agricultural land.</p> <p>The Inspectorate is of the view that the onshore elements of the Proposed Development have potential to change the pattern of drainage within and adjacent to the boundary of works. The ES should include consideration of such effects during construction. Where this has been appropriately considered and mitigated (where applicable), the Inspectorate agrees that long-term effects on agricultural land can be scoped out of the assessment. Although see also point 3.16.9 below.</p>

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
3.16.3	Table 8.4.7	Routine maintenance effects on sterilisation of minerals and loss of agricultural land – O&M	Given the small-scale of likely O&M activities, the Inspectorate agrees that this matter can be scoped out of the assessment as significant effects are unlikely to occur.
3.16.4	Paragraph 8.4.43	Transboundary effects on geology, ground conditions and land quality	The Inspectorate agrees that given the localised nature of the Proposed Development, significant transboundary effects are unlikely to occur and can be scoped out of the assessment.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.16.5	Table 8.4.1	Local geological sites	The ES should assess effects on local geological sites, where significant effects are likely to occur.
3.16.6	Paragraph 8.4.3	Reference to other aspect chapters and assessments	The geology, ground conditions and land quality assessment should also refer to the Land Use aspect chapter (for information on soil and agricultural land quality) and Onshore Ecology (for information in relation to Sites of Special Scientific Interest (SSSI) that have both ecological and geological interest features) to ensure there is complete consideration of potential effects on receptors.
3.16.7	Paragraphs 8.4.25 to 8.4.34	Assessment methodology	The ES should explain what aspect-specific criteria are used to define receptor value/sensitivity and magnitude of change for the geology, ground conditions and land quality assessment.
3.16.8	Paragraph 8.6.12	Guidance documents	The Inspectorate also suggests consideration of the Institute of Environmental Management and Assessment (IEMA) Guidance – Land and Soil in EIA (2022).
3.16.9	n/a	Effects on agricultural land quality and soil condition	The assessment of these effects is addressed in two chapters – the Geology, Ground Conditions and Land Quality chapter and the Land

ID	Ref	Description	Inspectorate's comments
			<p>Use chapter. For example, reference is made in both chapters to similar effects on soil quality (in the Land Use chapter) and soil compaction (in Geology, Ground Conditions and Land Quality chapter) that could occur during construction. The ES should ensure it is possible to easily locate information in relation to significant effects and to ensure that effects are not under-represented, or indeed unnecessarily duplicated, as a result of inclusion in two aspect chapters.</p>

### 3.17 Onshore Environment: Hydrology, Hydrogeology and Flood Risk

(Scoping Report Section 8.5)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.17.1	Table 8.5.4	Accidental spillages and leakages of polluting substances – Construction, O&M and Decommissioning	The Scoping Report proposes to scope out accidental pollution resulting from construction, operation and decommissioning of the Proposed Development. The Inspectorate agrees that such effects are capable of mitigation through standard management practices and can be scoped out of the assessment. The ES should provide details of the proposed mitigation measures to be included in the Environment Management Plan. The ES should also explain how such measures will be secured.
3.17.2	Table 8.5.4	Impact on Water Framework Directive (WFD) status for surface water or groundwater bodies – O&M	The Inspectorate agrees that once installed, the underground cabling elements of the proposed onshore development are unlikely to have significant effects on WFD waterbodies during the operational phase and this matter can be scoped out of the assessment.
3.17.3	Table 8.5.4	Potential for damage to flood defence or surface water drainage infrastructure - Decommissioning	The Scoping Report seeks to scope this matter out on the basis that onshore cables would be left in situ and therefore no effects would result from decommissioning. However, the Scoping Report currently contains limited information with regard to decommissioning activities. The ES should consider the potential for damage to flood defences as a result of required decommissioning activities, such as the removal of any above ground infrastructure, and also whether any elements left in situ would impact the future maintenance or improvement works to flood defences.
3.17.4	Table 8.5.4	Pollution or disruption of flow to groundwater through ground	The Scoping Report seeks to scope out this matter on the basis that any piling or deep excavation works would be left <i>in situ</i> and therefore no affects would result from decommissioning.



<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
		excavations or piling – Decommissioning	The Scoping Report contains very limited reference to piling or deep excavations, or the likely decommissioning activities. However, the Inspectorate agrees that where the Proposed Development is to be left <i>in situ</i> and there would be no pollution or disruption of flow to ground water arising from decommissioning activities, this matter can be scoped out of the assessment.
3.17.5	Table 8.5.4	Changes to surface water drainage at the OnSS location – Cumulative	<p>The Scoping Report states that the proposed surface water management scheme will reduce the potential for significant impacts from the Proposed Development in this regard and there would be no potential for cumulative impacts during the operational phase.</p> <p>The Scoping Report contains limited information on the proposed surface water management, or likely projects or plans that may act cumulatively; therefore, the Inspectorate cannot agree that this matter can be scoped out of the assessment at this stage. The ES should include an assessment of cumulative changes to surface water drainage at the OnSS location, where likely significant effects could occur.</p>
3.17.6	Paragraph 8.5.42	Transboundary hydrology, hydrogeology and flood risk effects	Onshore transboundary effects are scoped out of the assessment as the Applicant considers that hydrology, hydrogeology and flood risk transboundary effects will be highly unlikely to occur. The Inspectorate agrees that as effects are likely to be localised, this matter can be scoped out of the assessment.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.17.7	Paragraph 8.5.4	Study area	The Scoping Report describes a study area of up to 2km from the AoS as appropriate for areas where there is potential for hydraulic connectivity but does not give reasons for the choice of study area

ID	Ref	Description	Inspectorate's comments
			nor the approach that will be used to refine the study area for the ES. The ES should explain the rationale behind the choice of study area and, where possible, the approach should be discussed with the relevant consultation bodies.
3.17.8	Paragraph 8.5.46	WFD assessment	The Inspectorate recommends the sources of data and guidance listed in Table 7.2.1 (Marine Water Quality) of the Scoping Report also be considered for the WFD assessment identified for the onshore aspect chapter, where applicable. It is unclear if one WFD assessment is to be provided for the Proposed Development with the ES and DCO application. The Inspectorate recommends that one WFD assessment be provided, with the information used to inform both the Offshore: Marine Water Quality and Onshore: Hydrology, Hydrogeology and Flood Risk aspect assessments.
3.17.9	n/a	Future proposals for watercourses within the study area	The Inspectorate points the Applicant to the response from South Holland IDB for consideration in the future baseline for hydrology, drainage and flood risk. The ES should identify any future plans that could involve potential widening of watercourses and the implications for the Proposed Development during construction, operation and decommissioning. The Applicant is encouraged to discuss future plans for waterbodies with the relevant consultation bodies, including the IDBs and the EA.

### 3.18 Onshore Environment: Land Use

(Scoping Report Section 8.6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.18.1	Table 8.6.3	Highways infrastructure - Construction	The Inspectorate agrees that as severance of highways infrastructure is scoped into the assessment for traffic and transport, this matter can be scoped out of the land use assessment.
3.18.2	Table 8.6.3	Drainage and productivity - Operation	<p>The Scoping Report proposes to scope out potential impacts on agricultural drainage systems potentially leading to a loss of agricultural productivity and loss of soil structure and impacts from loss of agricultural yield and Best and Most Versatile (BMV) land from the laying of underground cables in farmland. This is scoped out on the basis that this would only occur at the construction stage and these impacts would be mitigated by the reinstatement of the land and ancillary drainage systems.</p> <p>The Scoping Report does not provide details of how agricultural land and drainage will be reinstated following construction of the onshore elements of the Proposed Development, nor does it provide evidence of its effectiveness and describe how any measures to ensure this occurs will be secured. The Inspectorate does not agree that this matter can be scoped out of the assessment at this stage. The ES should include an assessment of effects on agricultural drainage and productivity from operation, where likely significant effects could occur.</p>
3.18.3	Table 8.6.3	Outdoor Recreation Land - Operation	The Inspectorate agrees that effects on outdoor recreation land would mainly occur during construction and likely to be insignificant if impacted during operation; land would be reinstated as per the CoCP.

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
			Due to the nature of the Proposed Development in its operational phase on land, the Inspectorate is content to scope this matter out.
3.18.4	Table 8.6.3	Public Rights of Way (PRoW) - Operation	The Inspectorate agrees that effects on PRoW are most likely to occur during construction and notes the stated intention that in the event of a cable failure, all reasonable efforts will be made to undertake repairs without affecting PRoW. Considering the nature of the Proposed Development during the operational phase, the Inspectorate is content to scope this matter out.
3.18.5	Table 8.6.3	Tourism - Operation	The Scoping Report states that further potential temporary closures of tourism land use facilities, such as caravan/camping sites, would not be required for the O&M stage of the Proposed Development; therefore, this matter is proposed to be scoped out. On the basis the ES secures and demonstrates how closures would be avoided, the Inspectorate is content to scope this matter out.
3.18.6	Paragraph 8.6.25	Transboundary land use effects	Onshore transboundary effects are scoped out of the assessment as the Applicant considers that land use effects will be localised within the AoS. The Inspectorate agrees that this matter can be scoped out of the assessment.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.18.7	Table 8.6.2	Agricultural productivity	As well as agricultural yield, the ES should also describe and assess effects on farm holdings or businesses of a reduction in land being available for farming activities due to temporary construction activity, where likely significant effects could occur. Given that the location of the onshore elements is also not yet defined, these effects should

ID	Ref	Description	Inspectorate's comments
			also be considered for the operational phase of the Proposed Development, where significant effects could occur.
3.18.8	Paragraphs 8.6.13 and 8.6.18	Further impacts scoped into the assessment	The Scoping Report notes that further impacts will be identified at the latter stages of the project without providing many details as to the effects that could arise. Given the uncertainty and the lack of information to comment on the scope at this stage, the Inspectorate considers that the scope of the assessment should be developed in consultation with the consultation bodies and with reference to the stated guidance in paragraph 8.6.13. Any identified impacts should be scoped in for all stages of the Proposed Development (construction, O&M and decommissioning) at this stage.
3.18.9	n/a	Potential effects of loss or damage to soil function	The Inspectorate considers that in addition to the consideration of agricultural yield, the potential effects of loss or damage to soil function should be assessed in the ES, where likely significant effects could occur. The ES should explain how loss or damage of soils has been avoided and where this impact occurs, the potential effect on soil function.

### 3.19 Onshore Environment: Noise and Vibration

(Scoping Report Section 8.7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.19.1	Table 8.7.6	Construction and decommissioning of the offshore elements on onshore noise sensitive receptors	The Inspectorate agrees that given the array will be 54km from the shore and any onshore noise sensitive receptors, this matter can be scoped out of the assessment, as significant effects from noise over this distance is unlikely to occur.
3.19.2	Table 8.7.6	Vibration from the OnSS - Operation	Given the uncertainty around the location and design of the OnSS (and onshore RCS, if required) and thus the potential sensitive receptors that could be affected, the Inspectorate does not agree that operational vibration can be scoped out of the assessment. The ES should provide an assessment of effects associated with vibration for OnSS during operation, where likely significant effects could occur.
3.19.3	Table 8.7.6	Noise and vibration from the underground cable – O&M	The Inspectorate agrees that once buried, there is unlikely to be any significant noise or vibration effects from the underground cabling. The Inspectorate agrees that this matter can be scoped out of the assessment.
3.19.4	Table 8.7.6	Operation of the offshore elements on onshore noise sensitive receptors	The Inspectorate agrees that given the array will be 54km from the shore and therefore a considerable distance from relevant onshore noise sensitive receptors, that this matter can be scoped out of the assessment as significant effects are unlikely to occur.
3.19.5	Paragraph 8.7.36	Transboundary noise and vibration effects	The Inspectorate agrees that given the localised nature of any noise and vibration effects, significant transboundary effects are unlikely to occur and can be scoped out of the assessment.

ID	Ref	Description	Inspectorate's comments
3.19.6	Table 8.7.1	Use of Triton Knoll baseline information	The ES should explain the relevant details of the Triton Knoll Electrical System that have been used to inform the baseline in addition to its location. This is to enable understanding of how the Triton Knoll Electrical System is also comparable in terms of (for example) size, scale and levels of noise generation.
3.19.7	Table 8.7.3	Sensitivity of receptors	Table 8.7.3 identifies that designated sites such as SPA and SSSI are of 'medium' sensitivity. The Inspectorate advises the that designated sites with noise-sensitive ecological receptors, such as bird species at coastal sites, should be identified as receptors of 'high' sensitivity.
3.19.8	Table 8.7.5	Potential impacts - noise from construction site compounds	The construction noise and vibration assessment should also incorporate effects arising from the construction and use of construction site compounds, where significant effects are likely to occur.
3.19.9	Table 8.7.5	Construction noise and vibration at watercourse crossings	In addition to the potential for noise and vibration at railway and major road crossings, the ES should assess the noise and vibration impacts on sensitive receptors at watercourse crossings due to drilling, where likely significant effects could occur.
3.19.10	Table 8.7.5	Cumulative noise and vibration assessment	The Scoping Report states that cumulative noise and vibration will be scoped into the assessment in the ES for construction and operational noise. The cumulative assessment should encompass the effects from all elements of the onshore works including those that are listed as options in Section 3.7 of the Scoping Report, where significant effects are likely to occur.
3.19.11	Paragraphs 8.7.35 to 8.7.36	Transboundary effects	The Inspectorate agrees that due to the localised nature of any potential noise and vibration impacts, transboundary impacts will not occur and therefore this matter can be scoped out of the impact assessment.

### 3.20 Onshore Environment: Traffic and Transport

(Scoping Report Section 8.8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.20.1	Table 8.8.3	Traffic noise - Construction	The Inspectorates agrees that this matter can be scoped out of the traffic and transport aspect chapter of the ES on the basis that it will be included in the Noise and Vibration ES chapter.
3.20.2	Table 8.3.3	Disruption to the railway - Construction	Given the stage of the Proposed Development and the lack of information on where the cable route may cross railway infrastructure and the crossing methods that could be used, the Inspectorate considers that there is insufficient evidence at this stage scope this matter out of the assessment. The ES should include an assessment of disruption to the railway network, where likely significant effects could occur.
3.20.3	Table 8.3.3	Any impacts during operation	The Inspectorate agrees that it is unlikely that there would be a significant change in vehicle flows during O&M; therefore, significant traffic and transport effects during operation are unlikely to occur. However, the ES should confirm the anticipated road vehicle movements during O&M and demonstrate that these are below guidance thresholds for significant effects.
3.20.4	Table 8.3.3	Impacts during decommissioning	The Scoping Report contains limited information with regards to decommissioning activities; however, on the basis of the information that the onshore cable is likely to be left <i>in situ</i> to avoid adverse effects on the environment and communities, and that activities would be similar to those during construction but in reverse and on a smaller scale, the Inspectorate is of the view that significant impacts on traffic and transport during decommissioning can be scoped out of the assessment.



<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
3.20.5	Table 8.3.3	Cumulative traffic noise	The Scoping Report states that cumulative traffic noise will be addressed elsewhere in the ES and so will not also be considered in the traffic and transport assessment. The Inspectorate agrees that this matter can be scoped out of the Traffic and Transport aspect chapter of the ES on the basis that a cumulative noise assessment will be included in the Noise and Vibration aspect chapter.
3.20.6	Table 8.3.3	Cumulative disruption to the railway	As noted at point 3.20.2 of this Opinion, the Inspectorate cannot agree to scope out the potential effect of disruption to the railway at this stage. The ES should include an assessment of any significant cumulative effects from disruption to the railway.
3.20.7	Paragraph 8.8.39	Transboundary effects	The Inspectorate agrees that as effects are likely to be localised, transboundary traffic and transport effects are unlikely to occur; this matter can be scoped out of the assessment.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.20.8	n/a	n/a	n/a

### 3.21 Onshore Environment: Landscape and Visual Impact Assessment

(Scoping Report Section 8.9)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.21.1	Table 8.9.3	Effect of export cable landfall – O&M	<p>The Scoping Report currently provides limited information on the nature of the landfall, both in terms of its location and the structures that could be in place following construction, together with the sensitive receptors that could be affected by the landfall works, and the nature of any restoration and planting works.</p> <p>The ES should include sufficient information on restoration measures and timescales to allow understanding of any change in appearance of land resulting from the Proposed Development.</p> <p>The ES should assess any likely significant effects of the export cable landfall and also demonstrate how consultation with the relevant consultation bodies and stakeholders has been taken into account.</p>
3.21.2	Table 8.9.3	Effects of onshore ECC – O&M	<p>The Inspectorate agrees that in general the introduction of the ECC is unlikely to give rise to significant long-term effects on landscape character and visual resources during operation of the Proposed Development. However, it is unclear whether any easement required would result in permanent landscape changes and the potential for such effects should be considered. The ES should assess the potential for significant short-term effects during the beginning of the operational phase, as proposed reinstatement measures mature along the export cable route.</p>
3.21.3	Paragraph 8.9.46	Transboundary landscape and visual effects	<p>The Inspectorate agrees that onshore landscape and visual effects are likely to be localised and that transboundary onshore landscape and visual effects can be scoped out of the assessment.</p>

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.21.4	Paragraph 8.9.6	Study area	The ES should clearly define the study areas that have been used to inform the assessment and give reasons for their selection. This should include reference to a figure showing the extent of the study areas.
3.21.5	Figure 8.9.3	Heritage Coast	The ES should assess impacts to this receptor, where significant effects are likely to occur. The ES should ensure appropriate cross-references and coordination between aspect chapters, including Archaeology and Cultural Heritage, for the assessment of effects on the Heritage Coast.
3.21.6	Paragraph 8.9.28	Assessment methodology	The Scoping Report states that the proposed EIA methodology for the LVIA will be based on the method outlined in Section 5 of the Scoping Report but will also comply with the Guidelines for Landscape and Visual Impact Assessment version 3 (Landscape Institute, 2013). The ES should explain the methodology used and, where it combines the approach from two different methodologies, any differences or limitations with the adopted approach should be made clear.
3.21.7	Paragraph 8.9.30	RPGs open to the public	The Scoping Report is not clear what 'open to the public' will include for the purposes of the assessment and this should be explained in the ES. For example, whether this includes RPGs where there is public access through PRow or permissive access, as well as those sites where wider public access by the landowner is permitted.
3.21.8	Paragraph 8.9.33	Evaluation of significant effects	The ES should explain what aspect-specific criteria are used to define receptor value/sensitivity and magnitude of change for the landscape and visual impact assessment.
3.21.9	Paragraph 8.9.39	Mitigation planting	The ES should also demonstrate that where advanced planting is identified to mitigate significant landscape and visual effects, that

ID	Ref	Description	Inspectorate's comments
			controls are in place to time its implementation it such that it will be mature enough to provide the necessary mitigation screening.

### 3.22 Wider Environment: Human Health

(Scoping Report Section 9.1)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.22.1	Table 9.1.2	Impact from dust and traffic emissions - O&M	The Inspectorate considers that based on the low predicted operational traffic volumes and maintenance activities, consideration of impacts from emissions on human health during operation may be scoped out from the ES. However, the ES should confirm anticipated traffic movements and maintenance activities.
3.22.2	Table 9.1.2	Impacts from emissions to water - O&M	On the basis that the submission secures the requirement to reinstate all ground surfaces along the cable route to their original condition and a drainage strategy is secured and implemented, the Inspectorate is content to scope out impacts from emissions to water on human health during O&M.
3.22.3	Table 9.1.2	Impacts from emissions to soil (including hazardous waste and substances) - O&M	The Inspectorate is content to scope out this matter from the assessment taking into account the proposed measures to avoid a likely significant effect. Measures relied upon to address impacts from unplanned maintenance should be described in the CoCP for the Proposed Development.
3.22.4	Table 9.1.2	Disruption to local road networks including reduced access to services and amenities – O&M	The Inspectorate considers that based on the low predicted operational traffic volumes and maintenance activities, consideration of impacts from disruption to local road networks and reduced access on human health during O&M can be scoped out from the ES. However, the ES should confirm anticipated traffic movements and maintenance activities.
3.22.5	Table 9.1.2 and	Impacts from exposure to EMF – alone and cumulative	On the basis that the ES can demonstrate all electrical infrastructure will remain below negligible levels in line with the International

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
	Paragraph 9.1.43		Commission Non-Ionising Radiation Protection (ICNIRP) guidelines (2020), the Inspectorate is content to scope out the potential for EMF affects from the Proposed Development alone and cumulatively.
3.22.6	Table 9.1.2	Impacts from pests	Based on the nature of the Proposed Development, the Inspectorate agrees that it is unlikely to result in the increase of pests that would affect human health and therefore is content to scope this matter out.
3.22.7	Table 9.1.2	Impacts from odours	Considering the nature of the Proposed Development, the Inspectorate is of the view that significant odours are not likely to be generated and is content that this matter can be scoped out of the ES.
3.22.8	Paragraphs 9.1.40 to 9.1.42	Cumulative impacts – non-radioactive effects	Scoping Report paragraph 9.1.42 states that cumulative impacts will be considered following determination of the onshore ECC and OnSS and if agreed as appropriate, the Applicant would seek to scope out cumulative impacts with relevant consultation bodies, including the UK Health Security Agency (UKHSA). The Inspectorate welcomes the intention to discuss this matter with consultation bodies once further information is available on the design/route of the Proposed Development and likely effects and receptors. For clarity, the Inspectorate considers this should be informed by the location and potential impacts of both the Proposed Development and other relevant development particularly where the ZoI overlap. The ES should include an assessment of cumulative effects to human health, where likely significant effects could occur.
3.22.9	Paragraphs 9.1.44 to 9.1.45	Transboundary effects	The Inspectorate agrees that due to the likely localised nature of any potential effects on human health this matter can be scoped out of the impact assessment.

<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
3.22.10	Paragraphs 9.1.46 to 9.1.59	Standalone Major Accidents and Disasters	A separate chapter on Major Accidents and Disasters within the ES is not proposed. Instead, the Scoping Report proposes to identify accidents and disasters by undertaking a Hazard Identification Study (HAZID), which will be informed by other relevant aspect chapters in the ES. A Major Accidents and Disaster risk assessment matrix will then be used to assess the significance of potential impacts and identify any appropriate mitigation to be secured through the DCO. The Inspectorate is content with this approach on the basis that relevant risks, or likely major accidents and disasters associated with the Proposed Development identified and included in the ES, where significant effects are likely to occur.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.22.11	Paragraph 9.1.8	Census data	New census data was published in June 2022 with further data anticipated to be published by the end of 2023. Up-to-date census data should be used to inform baseline data and the ES assessment.
3.22.12	Paragraph 9.1.33	Study area	The study area is defined as all 'local populations which have potential to be affected' but it is unclear what constitutes a 'local' population. The ES should define and justify the extent of the study area. Effort should be made to agree the study area with the relevant consultation bodies.

### 3.23 Wider Environment: Climate Change

(Scoping Report Section 9.2)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.23.1	Paragraphs 9.2.15 and 9.2.27	Impacts on climate resilience during construction	<p>The Inspectorate disagrees that within a 10-year period of construction the impacts from climate change would not lead to a significant effect as impacts to infrastructure would be limited, particularly at coastal locations. This does not take into account extreme weather events both onshore and offshore or impacts to human receptors (eg construction workers). It is not clear whether this will be accounted for in the assessment of major accidents and disasters (Scoping Report paragraphs 9.1.46 to 9.1.59).</p> <p>The ES should assess impacts from climate change over the construction period where significant effects are likely to occur and describe and secure any relevant mitigation measures.</p>
3.23.2	Paragraphs 9.2.19 to 9.2.20	Impacts on climate resilience during decommissioning	<p>The Scoping Report proposed to scope out climate resilience issues during decommissioning on the basis of the 'short period' over which of decommissioning is expected to occur. The Scoping Report contains no information regarding the length of time decommissioning activities would take place; therefore, the Inspectorate does not agree to scope this matter out of the assessment at this stage. The ES should include an assessment of climate resilience during decommissioning, where likely significant effects could occur, and include appropriate cross reference to the assessment of climate resilience matters in other relevant aspect chapters, such as Hydrology, Hydrogeology and Flood Risk, and also the proposed major accidents and disasters assessment matrix (Scoping Report paragraphs 9.1.46 to 9.1.59), as appropriate.</p>



<b>ID</b>	<b>Ref</b>	<b>Applicant's proposed matters to scope out</b>	<b>Inspectorate's comments</b>
3.23.3	Paragraph 9.2.21	Cumulative impacts from emissions	The Inspectorate agrees that the assessment of GHG emissions against the carbon budgets are inherently cumulative and therefore this will be assessed in the Climate Change aspect chapter rather than as a separate element of the cumulative chapter.
3.23.4	Paragraph 9.2.24	Transboundary climate change effects	The Inspectorate agrees that although climate change is a global issue, the assessment will focus on the UK context and relevant targets and budgets. Therefore, the Inspectorate is content to scope out transboundary effects in relation to climate change.

<b>ID</b>	<b>Ref</b>	<b>Description</b>	<b>Inspectorate's comments</b>
3.23.5	n/a	n/a	n/a

### 3.24 Wider Environment: Socio-Economics

(Scoping Report Section 9.3)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.24.1	Table 9.3.12 and Paragraphs 9.3.35 to 9.3.98	Transboundary effects during all phases	The Inspectorate agrees that transboundary effects during all phases can be scoped out given the spatial extent of effects related to economic and supply chain assessments.
3.24.2	Table 9.3.12	Demographic and service demand impacts including long term housing/accommodation – O&M	The Inspectorate agrees that due to the nature of the Proposed Development, an increase in population and construction workers within the study area is unlikely during the operational phase; therefore, the Inspectorate is content to scope this matter out.
3.24.3	Table 9.3.12	Demographic and service demand - Decommissioning	Scoping Report Section 3.9 states that during decommissioning, all offshore structures above the seabed level including all subsea cables, will be removed. It is not clear whether construction workers will be required to use the local area onshore during decommissioning and no evidence is provided to demonstrate that there would not be an increase in population within the study areas as a result. Therefore, the Inspectorate does not agree to scope this matter out. The ES should include an assessment of demographics and service demands during decommissioning, unless a robust justification be provided to demonstrate this is not required.

ID	Ref	Description	Inspectorate's comments
3.24.4	Paragraph 9.3.69	Decommissioning	The Scoping Report proposes to assess impacts during the development, construction and operational phases; however, this

ID	Ref	Description	Inspectorate's comments
			<p>does not align with the proposal to assess the decommissioning phase in Scoping Report paragraph 9.3.91 and Table 9.3.11. For clarity, the ES should assess impacts during the decommissioning phase or provide appropriate justification as to why this assessment is not required.</p>

## APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

**TABLE A1: PRESCRIBED CONSULTATION BODIES<sup>1</sup>**

<b>SCHEDULE 1 DESCRIPTION</b>	<b>ORGANISATION</b>
The Health and Safety Executive	Health and Safety Executive
The National Health Service Commissioning Board	NHS England
The relevant Clinical Commissioning Group	NHS Lincolnshire Integrated Care Board
Natural England	Natural England
The Historic Buildings and Monuments Commission for England	Historic England
The relevant fire and rescue authority	Lincolnshire Fire and Rescue
The relevant police and crime commissioner	Lincolnshire Police and Crime Commissioner
The relevant parish councils	Surfleet Parish Council
	Kirton Parish Council
	Fishtoft Parish Council
	Freiston Parish Council
	Sutterton Parish Council
	Swineshead Parish Council
	Algarkirk Parish Council
	Fosdyke Parish Council
	Frampton Parish Council
	Wyberton Parish Council
Amber Hill Parish Council	

<sup>1</sup> Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the 'APFP Regulations')

SCHEDULE 1 DESCRIPTION	ORGANISATION
	Butterwick Parish Council
	Wrangle Parish Council
	The Moultons Parish Council
	Holbeach Parish Council
	Weston Parish Council
	Whaplode Parish Council
	Wainfleet All Saints Parish Council
	Thorpe St. Peter Parish Council
	Croft Parish Council
	Burgh Le Marsh Parish Council
	Skegness Parish Council
	Orby Parish Council
	Addlethorpe Parish Council
	Ingoldmells Parish Council
	Hogsthorpe Parish Council
	Holland Fen with Brothertoft Parish Council
	Benington Parish Council
	Leverton Parish Council
	Old Leake Parish Council
	Wigtoft Parish Council
	Friskney Parish Council
	Wainfleet St. Mary Parish Council
	Willoughby with Sloothby Parish Council
	Mablethorpe and Sutton Parish Council

SCHEDULE 1 DESCRIPTION	ORGANISATION
	Langrville Parish Council
	Frithville and Westville Parish Council
	Sibsey Parish Council
	New Leake Parish Council
	Eastville Parish Council
	Halton Holegate Parish Council
	Beesby with Saleby Parish Council
	Strubby with Woodthorpe Parish Council
	Withern with Stain Parish Council
	Anderby Parish Council
	Hannah cum Hagnaby Parish Council
	Little Steeping Parish Council
	Markby Parish Council
	Mumby Parish Council
	Chapel St. Leonards Parish Council
	Firsby Parish Council
	Great Steeping Parish Council
	Irby in the Marsh Parish Council
	Bratoft Parish Council
	Little Steeping Parish Council
	Candlesby with Gunby Parish Council
	Cumberworth Parish Council
	Farlesthorpe Parish Council
	Bilsby Parish Council
	Huttoft Parish Council

SCHEDULE 1 DESCRIPTION	ORGANISATION
	Maltby Le Marsh Parish Council
	Theddlethorpe St Helen Parish Council
	Theddlethorpe All Saints Parish Council
The Environment Agency	The Environment Agency
The Joint Nature Conservation Committee	Joint Nature Conservation Committee
The Maritime and Coastguard Agency	Maritime and Coastguard Agency
The Marine Management Organisation	Marine Management Organisation
The Civil Aviation Authority	Civil Aviation Authority
The Relevant Highways Authority	Lincolnshire County Council
The relevant strategic highways company	National Highways
The Coal Authority	The Coal Authority
The relevant internal drainage board	Lindsay Marsh Internal Drainage Board
	Black Sluice Internal Drainage Board
	Witham Fourth Internal Drainage Board
	Holland South Internal Drainage Board
	Welland and Deepings Internal Drainage Board
The Canal and River Trust	The Canal and River Trust
Trinity House	Trinity House
United Kingdom Health Security Agency, an executive agency of the Department of Health and Social Care	United Kingdom Health Security Agency

**TABLE A2: RELEVANT STATUTORY UNDERTAKERS<sup>2</sup>**

<b>STATUTORY UNDERTAKER</b>	<b>ORGANISATION</b>
The Crown Estate Commissioners	The Crown Estate
The Forestry Commission	The Forestry Commission
The Secretary of State for Defence	Ministry of Defence
The relevant Clinical Commissioning Group	NHS Lincolnshire Integrated Care Board
The National Health Service Commissioning Board	NHS England
The relevant NHS Trust	United Lincolnshire Hospitals NHS Trust
	East Midlands Ambulance Service NHS Trust
The relevant NHS Foundation Trust	Lincolnshire Partnership NHS Foundation Trust
Railways	Network Rail Infrastructure Ltd
	Highways England Historical Railways Estate
Canal Or Inland Navigation Authorities	The Canal and River Trust
	Environment Agency
Dock and Harbour authority	Port of Boston
	Port of Fosdyke
Civil Aviation Authority	Civil Aviation Authority
Licence Holder (Chapter 1 Of Part 1 Of Transport Act 2000)	NATS En-Route Safeguarding
Universal Service Provider	Royal Mail Group
Homes and Communities Agency	Homes England
The relevant Environment Agency	The Environment Agency

<sup>2</sup> 'Statutory Undertaker' is defined in the APFP Regulations as having the same meaning as in Section 127 of the Planning Act 2008 (PA2008)



<b>STATUTORY UNDERTAKER</b>	<b>ORGANISATION</b>
The relevant water and sewage undertaker	Anglian Water
The relevant public gas transporter	Cadent Gas Limited
	Northern Gas Networks Limited
	Scotland Gas Networks Plc
	Southern Gas Networks Plc
	Wales and West Utilities Ltd
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Networks Ltd
	ESP Pipelines Ltd
	ESP Connections Ltd
	Fulcrum Pipelines Limited
	Harlaxton Gas Networks Limited
	GTC Pipelines Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Leep Gas Networks Limited
	Last Mile Gas Ltd
	Quadrant Pipelines Limited
Squire Energy Limited	
National Grid Gas Plc	
Saltfleetby Energy Limited	
The relevant electricity generator with CPO Powers	Triton Knoll Offshore Windfarm Limited
	Eclipse Power Network Limited

STATUTORY UNDERTAKER	ORGANISATION
	Energy Assets Networks Limited
	ESP Electricity Limited
	Fulcrum Electricity Assets Limited
	Harlaxton Energy Networks Limited
	Independent Power Networks Limited
	Indigo Power Limited
	Last Mile Electricity Ltd
	Leep Electricity Networks Limited
	Mua Electricity Limited
	Optimal Power Networks Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	Vattenfall Networks Limited
	Eastern Power Networks Plc
	Northern Powergrid (Yorkshire) plc
	UK Power Networks Limited
	Western Power Distribution (East Midlands) plc
The relevant electricity transmitter with CPO Powers	National Grid Electricity Transmission Plc
	National Grid Electricity System Operator Limited
The relevant electricity interconnector with CPO Powers	National Grid Viking Link Limited

**TABLE A3: SECTION 43 LOCAL AUTHORITIES (FOR THE PURPOSES OF SECTION 42(1)(B))<sup>3</sup>**

<b>LOCAL AUTHORITY<sup>4</sup></b>
Borough Council of King's Lynn and West Norfolk
Boston Borough Council
Cambridgeshire County Council
East Lindsey District Council
Fenland District Council
Leicestershire County Council
Lincolnshire County Council
Norfolk County Council
North East Lincolnshire Council
North Kesteven District Council
North Lincolnshire Council
North Northamptonshire Council
Nottinghamshire County Council
Peterborough City Council
Rutland County Council
South Holland District Council
South Kesteven District Council
West Lindsey District Council

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<sup>3</sup> Sections 43 and 42(B) of the PA2008

<sup>4</sup> As defined in Section 43(3) of the PA2008

**TABLE A4: NON-PRESCRIBED CONSULTATION BODIES**

<b>ORGANISATION</b>
Royal National Lifeboat Institution

## **APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES**

<b>CONSULTATION BODIES WHO REPLIED BY THE STATUTORY DEADLINE:</b>
Boston Borough Council
Bratoft Parish Council
Canal and River Trust
Coal Authority
Defence Infrastructure Organisation
East Lindsey District Council
Environment Agency
Fenland District Council
Forestry Commission
Health and Safety Executive
Historic England
Holbeach Parish Council
Lincolnshire County Council
Lindsey Marsh Internal Drainage Board (IDB)
Maritime and Coastguard Agency
Marine Management Organisation
National Grid Electricity Transmission Plc
National Grid Gas Plc
National Highways
NATS En-Route Plc
National Health Service Lincolnshire Integrated Health Board
Natural England
Network Rail

<b>CONSULTATION BODIES WHO REPLIED BY THE STATUTORY DEADLINE:</b>
Norfolk County Council
North Lincolnshire Council
North Northamptonshire Council
Northern Gas Networks
South Holland District Council
South Holland IDB
South Kesteven District Council
Trinity House
UK Health Security Agency
West Lindsey District Council
Witham Fourth District IDB



# B O S T O N

## B O R O U G H C O U N C I L

Municipal Buildings, West Street, Boston, Lincolnshire, PE21 8QR

Application no: B/22/0337  
Case Officer: Abbie Marwood  
Email: [planning@boston.gov.uk](mailto:planning@boston.gov.uk)

Date: 25 August 2022

The Planning Inspectorate  
Environmental Services  
Central Operations  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

### **Consultation from the Planning Inspectorate to BBC for a EIA Scoping Opinion in relation to Outer Dowsing Offshore Wind Farm proposals.**

Thank you for your recent consultation in relation to the above.

The current Area of Search for the proposed on-shore works would cross or be within proximity to a number of sensitive environmental, heritage and human receptors including the town of Boston, Local Wildlife Sites and Scheduled Ancient Monuments along with a number of undesignated water-courses, drains and verges.

I write to confirm that the Council has no comments to make on the Scoping Opinion at this time. However, as the scheme progresses and the route of the onshore cable and 24 hectare substation location is determined, the Council would wish to be further consulted.

This advice is therefore based upon the information available at this time. Please note that the advice is given without prejudice to any future decision made by the Local Planning Authority upon the receipt of further information.

If you have any queries please do not hesitate to contact the case officer Abbie Marwood.

Yours faithfully

**Mike Gildersleeves**  
**Assistant Director – Planning and Strategic Infrastructure**



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[www.visitbostonuk.com](http://www.visitbostonuk.com)

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Boston Borough Council

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**From:** [LindaKidd](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** Re: Consultation request.  
**Date:** 25 August 2022 21:51:49

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The Parish Councillor for Bratoft does not have any objections to the Outer Dowsing Offshore Windfarm.

Kind regards

Linda

Mrs Linda Kidd

Clerk to the Firsby Group Parish Council



Secretary of State  
The Planning Inspectorate  
Environmental Services  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

Your Ref EN010130-000032

Our Ref IPP-164

Thursday 18<sup>th</sup> August 2022

BY EMAIL ONLY [OuterDowsingOffshoreWind@planninginspectorate.gov.uk](mailto:OuterDowsingOffshoreWind@planninginspectorate.gov.uk)

**EN010130-000032 Outer Dowsing Offshore Wind Generating Station ("the Project") - EIA Scoping Report Notification and Consultation**

Thank you for your consultation on the Environmental Impact Assessment Scoping for the above project.

We are the charity who look after and bring to life 2000 miles of canals & rivers. Our waterways contribute to the health and wellbeing of local communities and economies, creating attractive and connected places to live, work, volunteer and spend leisure time. These historic, natural and cultural assets form part of the strategic and local green-blue infrastructure network, linking urban and rural communities as well as habitats. By caring for our waterways and promoting their use we believe we can improve the wellbeing of our nation.

Having reviewed the location of the Project and the Scoping Report (July 2022), we wish to make the following comments.

The Trust is Navigation Authority for the River Witham and is the freehold owner of the riverbed between the Grand Sluice, Boston and Lincoln. The River Witham falls within the Project's Area of Search in relation to the potential route for the onshore cable corridor.

**Cable Route Corridor**

The Scoping Report identifies a cable route corridor which includes a stretch of the River Witham approximately 5km in length to the west of the Grand Sluice, Boston. We note that assessment work is ongoing, and the final route of the corridor has not yet been finalised; however, it would appear from figures 1.5.1 and 1.5.6 that any cable route within the Onshore Scoping Boundary would inevitably need to cross the River Witham and we have prepared this response on that basis.

We further note that the Scoping Report states that the developers will be working on design development and environmental mitigation to reduce overall environmental and social effects, in particular on communities in proximity to the cable corridor and on known ecological and archaeologically sensitive areas adjacent to the River Witham and we consider that this is an appropriate approach.

We strongly recommend that the Trust is included in future discussions over the location of the cable crossing so we can advise on any potential issues likely to affect navigational safety or our interests as an affected landowner. Please be advised that the Trust is a statutory undertaker and has specific duties to protect its waterways. We would therefore resist any proposed use of compulsory purchase powers which may affect our land or

**Canal & River Trust**

Fradley Junction, Alrewas, Burton-upon-Trent, Staffordshire DE13 7DN

undertakings and reserve the right to make representations regarding section 127 of the Planning Act 2008 during the examination of the application if necessary. Accordingly, we advise that the acquisition of any Trust land or rights over Trust land should be secured by agreement and we strongly recommend early contact with the Trust's Utilities Team to commence discussions over the terms of such an agreement ahead of submission of the DCO application. Please contact Beth Woodhouse, Senior Utilities Surveyor, at [REDACTED] or on [REDACTED] for further advice.

Overhead crossings of waterways have increased visual impacts to consider and the potential to restrict navigational height, which as navigation authority we would resist. The Scoping Report indicates at paragraph 3.5.4 that the cable crossing of the river will be underground, and we consider that this will assist in minimising visual impacts on the river and potential impacts on the use of the River Witham as a navigational waterway.

As the proposal would appear to involve works affecting the Trust's waterways, we will also require the applicant/developer to comply with the Trust's Code of Practice for Works Affecting the Canal & River Trust (current version dated April 2022, as updated from time to time) and recommend early discussion with the Trust's Infrastructure Services Team over all works likely to affect Trust property. Please contact Keith Boswell, Works Engineer, at [REDACTED] for further advice.

### **Noise and Vibration**

Works to install a cable crossing beneath the River Witham have significant potential to generate noise and vibration impacts and these effects on the River Witham and its users (noise sensitive receptors) should be considered within the Environmental Statement. In particular, works in proximity to the river need to be carefully managed to minimise the risk of significant vibration or loading that could adversely affect the stability of the riverbank. In carrying out ground investigations it should be noted that while the Witham is a river, it has been significantly engineered in pre-industrial times, so ground conditions may be highly variable in the vicinity of the river. Detailed survey work will therefore be necessary to inform methodologies around the design of the cable crossing of the River Witham.

### **Ecology and Biodiversity**

The Scoping Report mentions the consideration of seabed sediments but has not discussed the potential for sediment mobilisation from the riverbed through the use of directional drilling methods to install cable connections beneath waterways such as the River Witham. There will be a small risk of vibrations leading to sediment mobilisation, or the emission of pollutants, although such impacts are considered likely to be minor to moderately adverse in the short to medium term. We consider that directional drilling can cause sediment discharges and problems arising from mud toxicity due to vibrations below the river. As a result, we believe the impact should be **scoped in**, with consideration given to the provision of field studies into invertebrates and fish species found in the water to assess the sensitivity of these species to potential sediment movement.

Temporary construction lighting along the cable corridor route in the vicinity of the River Witham will have the potential to disturb wildlife. As a result, we believe the impact should be **scoped in**, with consideration given to the provision of mitigation measures to minimise impacts on ecology and biodiversity, as well as landscape and visual impact.

### **Landscape and Visual Impact**

The Environmental Statement should consider the potential visual impact of construction operations along the cable route corridor, including the River Witham. In particular, the siting of construction compounds should be considered within the onshore LVIA and river users should be considered as potential receptors. It is important that visual impacts are assessed within the context of the river being a navigable waterway and that visual impacts on the river do not result in any harm to navigational safety.

### **Canal & River Trust**

Fradley Junction, Alrewas, Burton-upon-Trent, Staffordshire DE13 7DN

[REDACTED] [E canalrivertrust.org.uk/contact-us](mailto:canalrivertrust.org.uk/contact-us) [W canalrivertrust.org.uk](http://canalrivertrust.org.uk)

## Heritage

The River Witham is a non-designated heritage asset and as a river navigation has potential for archaeological interest. Whilst the Scoping Report appears to have included a full list of affected designated heritage assets, impacts on non-designated heritage assets and the archaeology of the river environment should also be scoped into the Environmental Statement.

Please do not hesitate to contact me with any queries you may have.

Yours sincerely,

**Hazel Smith MRTPI**  
Area Planner – Midlands

[Redacted signature block]



## **Canal & River Trust**

Fradley Junction, Alrewas, Burton-upon-Trent, Staffordshire DE13 7DN  
[Redacted] [E canalrivertrust.org.uk/contact-us](mailto:canalrivertrust.org.uk/contact-us) [W canalrivertrust.org.uk](http://canalrivertrust.org.uk)

**From:** [The Coal Authority-Planning](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** RE: [External] EN010130 - Outer Dowsing Offshore Wind - EIA Scoping Notification and Consultation  
**Date:** 09 August 2022 13:35:43  
**Attachments:** [~WRD000.jpg](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)

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For the attention of Marie Shoemith – Senior EAI Advisor

Dear Marie

Further to your notification below, I can confirm that having reviewed the areas within Figure 1.5.1 of the Scoping Report (Document Number: 123-ODO-CON-K-RA-000002-01, V1.0 July 2022) I can confirm that as the project site lies outside the coalfield, the Coal Authority have no specific comments or observations to make on this project.

In the spirit of efficiency of resources and proportionality, it will not be necessary for you to consult the Coal Authority at any future stages of the project. This email can be used as evidence for the legal and procedural consultation requirements, if considered necessary.

Kind regards

Deb Roberts



**Deb Roberts** *M.Sc. MRTPI*

**Planning & Development Manager – Planning & Development Team**



My pronouns are: she / her

How to pronounce my name (phonetic spelling): Deb Roh-berts



# Defence Infrastructure Organisation

Ministry of Defence  
Safeguarding Department  
St George's House  
DIO Headquarters  
DMS Whittington  
Lichfield  
Staffordshire  
WS14 9PY

Your Reference: EN010130-000032-220802

Tel: [REDACTED]

Our Reference: 10055904 Rev.1

Email: [REDACTED]

Ms M Shoesmith  
The Planning Inspectorate  
Environmental Services  
Central Operations  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

30 August 2022

**By email only.**

Dear Ms Shoesmith,

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11.**

**Application by GTR4 Limited, trading as Outer Dowsing Offshore Wind (the Applicant) for an Order granting Development Consent for the Dogger Bank South Offshore Wind Farms (the Proposed Development) - Scoping consultation and notification of the Applicant's contact details.**

Thank you for consulting the Ministry of Defence (MOD) on the above detailed Scoping Opinion in respect of the Outer Dowsing Offshore Wind Farm development. Consultation correspondence was received by this office on 2 August 2022.

It is acknowledged that, at this time, details of the precise location, dimensions, and configuration of the turbines and associated infrastructure are not available. Indicative turbine parameters have been provided at table 3.4.1, which specify a maximum of 100 turbines with a maximum blade tip height of 403m above lowest astronomical tide (LAT), and maximum rotor diameter of 340m. Offshore and onshore study areas have been designated.

I write to confirm the safeguarding position of the MOD on information that should be provided in the Environmental Statement to support any application, this response is based on the Outer Dowsing Offshore Wind Scoping Report dated July 2022 (Document Reference: 123-ODO-CON-K-RA-000002-01 Rev: v1.0) which recognises some of the principal defence issues that will be of relevance to the progression of the proposed development.

MOD activity and interests are identified in paragraph 4.2.6 as considerations/constraints when designing the extent of the array area. The potential for the development to impact on the operation and capability of air defence radar, firing ranges, danger and exercise areas is acknowledged. Section 7.10 Aviation, Radar and Military provides more detailed commentary on the potential impacts of the development on MOD activity and interests.

## **MOD Radar**

Wind turbine development has the potential to affect, and be detectable by, radar systems and can have a significant and detrimental impact on the capability and operation of such systems. At paragraph 7.10.33, the report identifies the nearest primary radar-equipped military airfields to the proposed development. It is identified that the development would not be visible to primary surveillance radars used to enable air traffic services.

The visibility of the development to Air Defence Radar (ADR) is acknowledged at paragraph 7.10.35 which identifies the position of the application site relative to Remote Radar Head (RRH) Staxton Wold and RRH Trimingham. It should be noted that the development proposed would also be detectable by RRH Neatishead. The impact of the development on those radars should be considered as the design is progressed and any impact will need to be mitigated, it will be for the applicant to provide appropriate technical mitigation(s).

## **Military Aviation, Danger and Practice Areas**

Paragraphs 7.10.28 and 7.10.31 acknowledge that the offshore array may fall wholly or partially within the Southern Managed Danger Area (specifically EGD323E) and Air to Air Refuelling Area 8. The lower vertical limits of blocks of danger area airspace are also noted.

The proximity of Danger Areas associated with Air Weapons Ranges at Donna Nook (EGD307) and Holbeach (EGD207) are also noted, along with their parameters, in paragraph 7.10.29. Similarly, the context provided by The Wash North and South Aerial Tactics Areas (ATAs) along with their vertical limits is set out at paragraph 7.10.32.

The applicant should be advised to take account of the current published MOD Practice and Exercise Areas (PEXA) in preparation of their development proposal. The MOD has highly surveyed routes in the locality which may be relevant to the installation of the array & associated infrastructure. With the information provided at this time the area of search for the cable route falls within both the Donna Nook & Holbeach Air Weapons Range. Preparation of any cable route undertaken will need to be compatible with the operation of the Air Weapon Ranges. The MOD would need to be consulted at the next stage of this application when further information in respect of the agreed export cable route is available.

## **Low Flying**

With regard to aviation safety, the requirement to install aviation safety lighting on the turbines proposed is set out in paragraphs 7.10.54 and 7.10.57. In addition to the MOD accredited aviation safety lighting, the MOD will also require that sufficient information is submitted to ensure accurate marking of the development on aeronautical charts.

## **Unexploded Ordnance (UXO)**

The potential for unexploded ordnance (UXO) to be present within the study area and the necessity for clearance is acknowledged within the Scoping Report. The potential presence of UXO and disposal sites should be a consideration during the installation and decommissioning of turbines, cables, and any other infrastructure, or where other intrusive works are necessary.

## **Landfall and Onshore**

The landfall and onshore elements of the proposal, described in section 3.6 and 3.5 of the Scoping Report, identify landfall close to Mablethorpe, sets out a requirement for a substation, and cable routeing from Mablethorpe, south toward Skegness then southwest toward Boston and Holbeach. As the proposal matures MOD should be consulted in order that any impact on MOD assets can be identified.

I trust this is clear however should you have any questions please do not hesitate to contact me.

Yours sincerely,

James Houghton  
Senior Safeguarding Manager



Tedder Hall, Manby Park, Louth, Lincolnshire. LN11 8UP  
T: 01507 601111  
www.e-lindsey.gov.uk

Ms. M. Shoesmith,  
The Planning Inspectorate,  
Environmental Services, Central Operations,  
Temple Quay House,  
2 The Square,  
BRISTOL.  
BS1 6PN

**Your Reference:**

**Our Reference:** N/113/01506/22/IC

**Contact:** Mr. C. Panton

**Ext:** [REDACTED]

**Email:** [REDACTED]

**Date:** 10 August 2022

Dear Madam,

APPLICANT: The Planning Inspectorate,  
PROPOSAL: Scoping Opinion for Outer Dowsing Offshore Wind

I refer to your letter dated 2nd August 2022 concerning the Scoping Opinion for the above project.

Please note that all advice is given without prejudice to any decision made by the local planning authority upon the receipt of further information. This advice is therefore based upon the information available at this time and if you require any further information or clarification, please do not hesitate to contact me. ***I have not contacted any statutory consultees.***

I wish to advise I have no comments to make on the Scoping Opinion as submitted.

However as the scheme evolves and the route of the onshore cables and the 24 hectare substation location is determined, then the Council would wish to be further consulted.

I trust that this is of assistance, if you have any queries please do not hesitate to contact me and if you do contact us about this enquiry please quote our reference number as shown at the top of this letter.

Yours faithfully

[REDACTED]

Mike Gildersleeves  
Assistant Director - Planning & Strategic Infrastructure



Ms Marie Shoesmith  
Senior EIA Advisor  
The Planning Inspectorate  
Environmental Services  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

**Our ref:** AN/2022/133365/01-L01  
**Your ref:** EN010130-000032-220802  
**Date:** 19 August 2022

Dear Madam

**Application by GTR4 Limited, trading as Outer Dowsing Offshore Wind (the Applicant) for an Order granting Development Consent for the Outer Dowsing Offshore Wind (the Proposed Development), 53km off the Lincolnshire Coast, landfall between Mablethorpe & Chapel St Leonards**

Thank you for consulting us on the Environmental Impact Assessment (EIA) Scoping Report for the above project on 2 August 2022.

We have reviewed the Scoping Report, undertaken by GoBe Consultants Ltd (Document Reference: 123-ODO-CON-K-RA-000002- 01, July 2022) and have the following comments to make on issues that fall within the Environment Agency's remit. These are set out in response to the Applicant's '*Consideration for Consultees*' question format, plus additional comments where required.

## **Chapter 7: Offshore Environment**

### **7.1 Marine Physical Processes**

1. *Do you agree that the data sources identified, including project specific surveys, are sufficient to inform the marine physical processes baseline for the PEIR and ES? Yes – although updates to erosion risks may be available with the eventual launch of our National Coastal Erosion Risk Mapping (NCERM2).*

2. *Do you agree that all the pathways, receptors and potential impacts have been identified for marine physical processes? Yes.*

3. *Do you agree that the impacts described in Table 7.1.3 can be scoped out for marine physical processes? No – although mitigation measures have been proposed to reduce scour and its effects, consideration of scour should remain scoped in to establish levels of mitigation necessary. Also, possibly, cumulative effects/interaction with other schemes within the area should be considered regarding impacts to sediment transport*

regime – however, since the scheme is located in the offshore zone, for the final decision regarding these impacts, and whether it is appropriate to scope them out of the assessment, we would defer to the Marine Management Organisation’s view.

4. *For those impacts scoped in (Table 7.1.2), do you agree that the methods described are sufficient to inform a robust impact assessment?* Yes – although consideration of historic and contemporary rates of coastal change should be made in relation to the operational life and location of the physical landfall site, i.e. how deep in the subsurface the cable run should be emplaced and how far inland the landfall junction site should be located.

5. *Do you agree that the embedded mitigation measures described provide a suitable means for managing and mitigating the potential effects of the Project on the marine physical process receptors?* Yes, with the limited information available, it is noted that further information will be provided in the Preliminary Environmental Information Report (PEIR) and the Environmental Statement (ES).

6. *Do you have any specific requirements for the marine physical processes modelling Methodology?* Not at this time – it is noted that opportunities for further consultation regarding process modelling will be available at points throughout the EIA process.

We have also reviewed the Scoping Report chapters regarding marine ecology and marine water and sediment quality, in so far as these issues/chapters relate to the Environment Agency’s remit<sup>1</sup>, and we can advise that we are satisfied with the methodologies etc proposed.

## **Chapter 8: Onshore Environment**

### **8.4 Geology, Ground Conditions and Land Quality**

1. *Do you agree that the risks and impacts associated with contaminated land are unlikely to be significant across the large majority of any onshore ECC, and that any subsequent, more detailed assessments are most likely to target localised impacts?* We are satisfied that the cable corridor route is likely to be across predominantly agricultural/Greenfield land, which we consider to pose a low likelihood of potential contamination. Further detailed assessment will be required for any parts of the proposed route that cross Brownfield land.

2. *Do you agree that the proposed phased approach to the assessment of risk and associated impacts are sufficient to inform the onshore baseline ground conditions for the PEIR and ES?* We agree with the proposed phased approach to the assessment of risk. We recommend developers should:

- follow the risk management framework provided in [Land Contamination: Risk Management](#), when dealing with land affected by contamination;
- refer to our [Guiding principles for land contamination](#) for the type of information that we require in order to assess risks to controlled waters from the site - the local authority can advise on risk to other receptors, such as human health;
- consider using the [National Quality Mark Scheme for Land Contamination](#)

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<sup>1</sup> In relation to this application, the EA’s offshore remit is limited to the following geographical area:

Regulating activities in controlled waters, including coastal waters out to 3 miles;  Statutory responsibility for the management of migratory fish to 6 nautical miles;  Competent Authority for the Water Framework Directive (including transitional and coastal waters out to 1 nautical mile).

Management which involves the use of competent persons to ensure that land contamination risks are appropriately managed;

- refer to the contaminated land pages on gov.uk for more information.

3. *Are there any potentially significant sources of ground contamination/contaminative activities within the AoS that have not been identified by the initial data review?* We are not aware of any significant sources of potential contamination that have not been identified at this time. We consider that any previously unidentified contaminative sites/activities should be identified as part of the site-specific Phase 1 Risk Assessments, that are to be undertaken once the final cable corridor route is confirmed.

4. *Have all potentially sensitive receptors within the wider AoS been identified?* In so far as it relates to groundwater protection, we are satisfied that the underlying principal and secondary aquifers, and Source Protection Zones have been identified.

5. *Do you agree that the impacts described in Table 8.4.7 can be scoped out?* In so far as it relates to groundwater protection, we have no objections to the impacts in Table 8.4.7 being scoped out.

6. *For those impacts scoped in (Table 8.4.6), do you agree that the methods described are sufficient to inform a robust impact assessment?* We are satisfied that the methods described in Table 8.4.6 are sufficient to inform a robust impact assessment. We would refer the Applicant to the risk management guidance provided above.

## **8.5 Hydrology and Hydrogeology**

(Please note that we have addressed the issue of flood risk in a separate section below).

1. *Do you agree that the data sources identified above are sufficient to inform the onshore hydrology, hydrogeology, and flood risk baseline for the PEIR and ES?*

Liaison with Local Authorities is recommended to obtain details of private and domestic water supplies. The 'Pollution prevention for businesses' guidance may contain some useful information: <https://www.gov.uk/guidance/pollution-prevention-for-businesses>. There is also guidance available on 'Passive dewatering: regulatory position statement': <https://www.gov.uk/government/publications/passive-dewatering-regulatory-position-statement> and the Applicant should check if they need a licence to abstract water at: <https://www.gov.uk/guidance/check-if-you-need-a-licence-to-abstract-water>, which may be relevant for dewatering.

2. *Have all potential impacts resulting from development of the onshore ECC been identified for water environment receptors?* Depending on drilling / tunnelling/ laying method, the risk of blow out and loss of drilling fluids should be considered. Also, Groundwater Quantity and Quality Risk to an artesian or sub artesian bedrock aquifer, depending on the drilling depths and transition between superficial deposits and bedrock.

3. *Do you agree that the impacts described in Table 8.5.4 can be scoped out?* Yes, if pollution prevention guidelines are followed to prevent deterioration of groundwater and surface water quality. The Applicant must mitigate all impacts and ensure that water quality is not degraded. The Applicant should refer to the Catchment Data Explorer for up-to-date classifications in the year construction is carried out.

4. *For those impacts scoped in (Table 8.5.3), do you agree that the methods described are sufficient to inform a robust impact assessment?* Yes, the links provided above may

provide further information relating to the dewatering activities.

5. *Do you agree that the embedded mitigation measures described provide a suitable means for managing and mitigating the potential effects of the onshore ECC on hydrology, hydrogeology, and flood risk for onshore receptors?* Yes, so long as suitable pollution prevention measures are built into the construction methodology and project environment plan.

### **8.5 Flood Risk**

In addition to the questions asked by the Application we also provide additional comments on the Flood Risk Assessment (FRA), Crossing Points and impact on Environment Agency assets and flood risk management works below.

1. *Do you agree that the data sources identified above are sufficient to inform the onshore hydrology, hydrogeology, and flood risk baseline for the PEIR and ES?*

The Environment Agency has modelled a number of the watercourses within the scoping boundary. We also have hazard mapping, which shows the consequences should a breach or overtopping of the defences occur, including the likely flood depths, velocities and overall hazard that could impact the site over its lifetime. The Environment Agency's Coastal Hazard Mapping and River Steeping Hazard Mapping cover the scoping boundary. This data should be used to inform the assessment of flood risk, development design and proposed mitigation measures required. To obtain this information please make a formal enquiry to our Customers and Engagement team at [LNenquiries@environment-agency.gov.uk](mailto:LNenquiries@environment-agency.gov.uk).

Details of what the Flood Risk Assessment Data information products contain is available at <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications> "Get information to complete an assessment".

The Strategic Flood Risk Assessments for the respective Local Planning Authority areas may also contain further relevant information.

2. *Have all potential impacts resulting from development of the onshore ECC been identified for water environment receptors?* No - the impacts of flood risk arising from the development (particularly concerning increased flood risk impacting on people and property) does not appear to be considered. For example, crossing flood defences poses a significant risk (and large consequence) and mitigation will be required.

We would expect flood risk to people and property to be considered as part of the FRA and address any potential mitigation required. Please see our subsequent comments on the FRA, and sea defence and watercourse crossings below.

3. *Do you agree that the impacts described in Table 8.5.4 can be scoped out?* No – the justification for scoping out 'potential for damage to flood defence or surface water drainage infrastructure' is that onshore cables would be left in situ and therefore no effects would result from decommissioning. Further consideration and information should be provided on the decommissioning elements. We would want to ensure that any elements left in situ would not impact our future maintenance or improvement works. Furthermore, the reinstatement works to remove above ground infrastructure may potentially take place within areas at risk of flooding. The flood risk of this activity will need to be assessed and mitigation measures put in place.

4. *For those impacts scoped in (Table 8.5.3), do you agree that the methods described*

are sufficient to inform a robust impact assessment? Yes, however, please see our comments on question 2 above for further impacts that should be considered.

5. Do you agree that the embedded mitigation measures described provide a suitable means for managing and mitigating the potential effects of the onshore ECC on hydrology, hydrogeology, and flood risk for onshore receptors? Yes, however further mitigation measures may be required to manage and mitigate the potential effects of the development on flood risk to people and property.

### **Flood Risk Assessment**

Table 8.5.3. We welcome the acknowledgement that the site lies in an area which is at risk of flooding and therefore a FRA will support the Development Consent Order (DCO) application. The FRA must identify and assess the risks from all sources of flooding, to and from the development, which may include tidal, fluvial, ground water, drainage systems, reservoirs, canals, or ordinary watercourses. The FRA must demonstrate how these flood risks will be managed to ensure that the development remains safe throughout its lifetime, taking climate change into account, without increasing flood risk elsewhere and where possible reducing flood risk overall.

The FRA should identify the vulnerability classification of the proposal, the expected lifetime of the development, and whether or not it needs to remain operational in a flood event. For development defined as 'Essential Infrastructure', all critical operational components, such as the specific onshore electrical infrastructure facilities, should be located above the flood depths expected for the 0.1% (1 in 1000) scenario including climate change appropriate to the lifetime of development.

Some further elements that should be considered in the FRA include but are not limited to:

- assessment of the storage of topsoil and subsoil within the temporary working corridor to ensure that any stored material does not increase flood risk to others; such locations may be within the floodplain;
- potential impacts on raised defences as the proposed cable route crosses existing flood defences;
- landfall location and any mitigation around the construction pits that may be required to prevent these from becoming flow routes when water levels are high.

Section 8.5.45 states that the FRA will '*assess the risk of flooding posed to the development*'. The FRA must also consider flood risk posed to third parties or the surrounding areas, which could result from the development, and address any potential mitigation required.

### **Sea Defence and Watercourse Crossings**

Paragraph 3.6.6 of the Scoping Report states that '*most of the cable route will be constructed using an open cut method of cable construction. Where an open trench approach is not possible due to significant obstructions (e.g. a major road or watercourse) non-trenching techniques may be employed, such as HDD*'.

The crossing of the sea defence and Main River crossings must be undertaken using trenchless techniques, rather than open trenching methods. Trenchless techniques are the preferred method for installing pipes, ducts, or cables underneath our flood defences and watercourses. These techniques avoid unnecessary disturbance to ground conditions, defence stability and will ensure the defence profile is left intact. It also significantly reduces the amount of disruption caused by traditional trenching methods.

The FRA will need to consider the potential impacts of the construction of the scheme and the risks associated with crossing the large tidal defences at the landfall and other potential impacts of crossing large watercourses with raised embankments. These risks will steer the appropriate mitigation (e.g. trenchless crossings), in addition to any other measures that are identified as necessary, such as bunding the pits etc.

There are likely to be constraints unique to the potential landfall area and we will be able to provide further advice as the proposal is considered and refined. We would welcome early discussions on the sea defence and main river crossings, particularly on the methodology and temporary works to facilitate the cable installation. There may be issues with tidal inundation during construction so this should be taken into consideration, especially with regard to the pits.

### **Impact on Environment Agency assets and flood risk management works**

We have concerns that the offshore and landfall locations have the potential to impact the delivery and costs of our important flood risk management works. We would welcome an early discussion on this. Close liaison and further discussions will be required to ensure that we can both operate in this area.

We will need to ensure appropriate measures are in place to secure the continued protection of our assets. In line with other similar schemes, a legal agreement may need to be completed with us. The potential landfall area receives an artificial sediment supply through our beach renourishment campaigns. We can offer no assurances to the future approach to flood risk management and it remains the Applicant's responsibility to ensure that there is sufficient coverage of their cables in the intertidal area and any localised re-profiling of the beach to the design profile occurs after the cables are laid. The Saltfleet to Gibraltar Point Strategy sets out the future of the flood risk management approach along these important frontages.

We have found Figures 8.5.1 and Figure 8.5.2 are quite difficult to read, given the number of layers shown on each of the plans. Also, Table 10.1.1 is unclear/incomplete? The section on Hydrology, Hydrogeology and Flood Risk includes nothing on Flood Risk, however section 8.5 proposes a number of impacts to be scoped in and out.

### **Environmental Permitting – protective provisions**

We would welcome early notification from the Applicant of their wishes regarding the disapplication of relevant legislation to allow discussion of protective provisions.

Under the Environmental Permitting (England and Wales) Regulations 2016, permission must be obtained from the Environment Agency for any proposed activities which will take place:

- in, over, under or within 8 metres of a main river (16 metres if tidal)
- on or within 8 metres of a flood defence structure or culvert (16 metres if tidal)
- on or within 16 metres of a sea defence
- within 16 metres of any main river, flood defence (including a remote defence) or culvert for quarrying or excavation
- in a flood plain more than 8 metres from the river bank, culvert or flood defence structure (16 metres if tidal) if planning permission has not already been granted for the works

Further guidance and advice is available on our website:

<https://www.gov.uk/guidance/flood-risk-activities-environmental-permits>.

Environmental Permitting for flood risk activities could be complex, and needs to be considered well in advance of the DCO application submission. Whether or not disapplication is pursued, the permitting work will need significant consideration. Furthermore, there may also be interactions with marine licensing. It may be prudent to hold a meeting to understand how best to approach this matter.

Should you require any additional information, or wish to discuss these matters further, please do not hesitate to contact me on the number below.

Yours faithfully

**Annette Hewitson**  
**Principal Planning Adviser**

████████████████████  
██

Marie Shoesmith  
The Planning Inspectorate  
Environmental Services  
Central Operations  
Temple Quay House  
2 The Square  
Bristol, BS1 6PN

Contact: Danielle Brooke  
Development Services  
Direct Dial Tel: [REDACTED]

Our ref: F/YR22/4018/LACON  
Your ref: EN010130

11 August 2022

Dear Marie Shoesmith

**Planning inspectorate - Outer Dowsing Offshore Wind - EIA Scoping Notification and Consultation at Planning LACON County Road March Cambridgeshire**

In response to the consultation received 2<sup>nd</sup> August 2022 the Local Planning Authority have no observations to make.

Yours sincerely

[REDACTED]  
Danielle Brooke *SB*  
Senior Development Officer

**Data Protection Act 1998**

To provide you with our services we will need to record personal information, such as your name and address. This information will be kept securely and only accessed by approved staff. We will not share your information with anyone else without first telling you. If you would like more details about how we protect personal information then please contact our Data Protection Officer.



**From:** [Jarvis, Neil](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** Forestry Commission response.  
**Date:** 03 August 2022 09:44:04


---

Dear Ms Shoesmith,

Thank you for consulting the Forestry Commission. Having reviewed the Scoping Report, the Forestry Commission is satisfied that since there are no ancient woodlands within the area of study for the onshore cable routing, the nearest being Within Wood and Hornby / Mother Woods at 1.47 Km, and as stated in the Scoping Report, veteran trees can be avoided. The Commission has no further comment to make.

Yours sincerely,



Local Partnership Advisor  
East and East Midlands  
Mobile number 

My working days are Monday, Tuesday and Wednesday.

### **Disclaimer**

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This email has been scanned for viruses and malware.

For the attention of:  
Marie Shoesmith  
The Planning Inspectorate  
Temple Quay House  
Temple Quay  
Bristol  
BS1 6PN

Chemicals, Explosives and  
Microbiological Hazards  
Division – Unit 4

NSIP Consultations  
Land Use Planning Team  
Building 1.2,  
Redgrave Court,  
Bootle L20 7HS

**Date: 23/8/2022**

[NSIP.applications@hse.gov.uk](mailto:NSIP.applications@hse.gov.uk)

**References: CM9 Ref: 4.2.1.7004.  
NSIP Ref: EN010130**

<http://www.hse.gov.uk/>

Dear Ms Shoesmith,

**PROPOSED Order granting Development Consent for the Outer Dowsing Offshore Wind  
PROPOSAL BY GTR4 Limited, trading as Outer Dowsing Offshore Wind  
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017  
(as amended) REGULATIONS 10 and 11**

Thank you for your letter of 2/8/2022 regarding the information to be provided in an environmental statement relating to the above project. HSE does not comment on EIA Scoping Reports but the following information is likely to be useful to the applicant.

**HSE's Land Use Planning Advice**

Will the proposed development fall within any of HSE's consultation distances?

1. In regard to the offshore wind farm section of the NSIP project, the development's supporting information contains no information to suggest that the development requires Hazardous Substances Consent (HSC).
2. The proposed contribution of the unit as part of HSE's response has been shown below.
3. When considering the onshore section of the NSIP project, it appears that the project may be split up into two distinct scenarios. They are:
  - i. The installation of no additional associated developments with the offshore wind farm and required infrastructure and,
  - ii. The installation of additional associated developments with the offshore wind farm and required infrastructure
4. In both scenarios, the onshore development scoping area presented is significant in size and according to HSE's records, is within multiple consultation zones of major accident hazard sites and major accident hazard pipelines. This includes the expected landfall area for cables between Saltfleetby All Saints and Chapel St Leonards. In this context and referring to paragraph 8.6.31 of the scoping report, as the specific onshore locations and development sizes are unknown, the Applicant is advised to consult the HSE's land use planning advice webpage at [Land use planning \(LUP\) - Public safety advice - HSE](#) when more information is available. When HSE are consulted by the Applicant with further information under Section 42 of the Planning Act 2008, HSE can provide full advice.
5. Construction activities within the consultation zones related to Major Accident Hazard Pipelines require the applicant to obtain permission for the work from the pipeline operator.
6. With reference to paragraph 3.7.1 of the scoping report, the installation of associated developments scenario could include green hydrogen production facilities or battery facilities. Hydrogen is a

hazardous substance; and therefore, production facilities may require HSC or qualify as a COMAH establishment. Similar requirements may fall upon battery facilities.

7. The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) will probably require HSC under the Planning (Hazardous Substances) Act 1990 as amended. The substances, alone or when aggregated with others for which HSC is required, and the associated Controlled Quantities, are set out in The Planning (Hazardous Substances) Regulations 2015 as amended. HSC would be required to store or use any of the Named Hazardous Substances or Categories of Substances at or above the controlled quantities set out in Schedule 1 of these Regulations. Further information on HSC should be sought from the relevant Hazardous Substances Authority (HSA). In this case because of the development size, multiple HSA may require consultation.
8. A similar regime is in place under the Control of Major Accident Hazards Regulations 2015 and more information can be found on the HSE website at [Control Of Major Accident Hazards Regulations 2015 \(COMAH\) \(hse.gov.uk\)](https://www.hse.gov.uk/control-of-major-accident-hazards-regulations-2015-comah/). A guide for new entrants is available at [understanding-comah-new-entrants.pdf \(hse.gov.uk\)](https://www.hse.gov.uk/comah-new-entrants.pdf).

Regulation 5(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development's vulnerability to major accidents. HSE's role on NSIPs is summarised in the following Advice Note 11 Annex on the Planning Inspectorate's website - [Annex G – The Health and Safety Executive](#). This document includes consideration of risk assessments on page 3.

#### Explosives sites

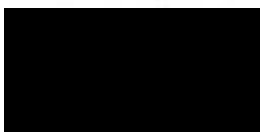
Explosives Inspectorate have no comment to make in regards to the proposed development as there are no HSE licenced sites in the vicinity of the proposed development.

#### Electrical safety

No comment from a planning perspective

At this time, please send any further communication on this project directly to the HSE's designated e-mail account for NSIP applications at [nsip.applications@hse.gov.uk](mailto:nsip.applications@hse.gov.uk). We are currently unable to accept hard copies, as our offices have limited access.

Yours faithfully,



**pp MR ALLAN BENSON  
CEMHD4  
NSIP Consultation Team**



Historic England

Marie Shoesmith  
Senior EIA Advisor  
The Planning Inspectorate  
Temple Quay House  
2 The Square  
Bristol, BS1 6PN

Your Ref: EN010130-000032-220802

30<sup>th</sup> August 2022

Dear Ms Shoesmith,

**Outer Dowsing Offshore Wind Project  
Environmental Impact Assessment Scoping Report**

Thank you for your email and letter, dated 2<sup>nd</sup> August 2022 requesting our comments on the following EIA Scoping Report, as referenced:

*Outer Dowsing Offshore Wind Scoping Report (Dated July 2022), Document No: 123 -ODOODO-CONCON-K-RA -00000 2-01*

In summary, Historic England concur with the impacts that have been scoped into this report to be assessed in the production of a Preliminary Environmental Information Report (PEIR) and subsequent Environmental Statement (ES). We welcome the embedded mitigation that has been set out and we look forward to continued engagement during the Pre-Application phase of this project.

The role of Historic England

As you may be aware, Historic England is the Government's advisor on all aspects of the historic environment in England. Historic England's general powers under section 33 of the National Heritage Act 1983 were extended (via the National Heritage Act 2002) to modify our functions to include securing the preservation of monuments in, on, or under the seabed within the seaward limits of the UK Territorial Sea adjacent to England. We also provide our advice in recognition of the English marine plan areas (inshore and offshore), as defined by the Marine and Coastal Access Act 2009 and the objectives and policies of published Marine Plans.



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## The Proposed Outer Dowsing Offshore Wind Farm

We understand that Corio Generation and TotalEnergies are jointly developing the Outer Dowsing Offshore Wind Project which could be located 54km off the coast of Lincolnshire.

We note that this proposed development does not have a confirmed grid connection point and is subject to the Offshore Transmission Network Review (OTNR) Holistic Network Design (HND) process. However, the explanation is provided that preferred locations are either the 'Lincolnshire Node' located near the Lincolnshire coast or a connection at the junction of existing overhead lines at Weston Marsh, near Boston, Lincolnshire.

We are aware that this EIA Scoping Report will address the following components of the proposed development comprising:

- Wind Turbine Generators (WTGs);
- offshore platform;
- foundations (e.g. monopile, suction bucket, gravity base structure);
- inter-array cables;
- scour and cable protection;
- offshore export cables;
- reactive compensation station (onshore or offshore);
- landfall and Transition Joint Bays;
- onshore export cables;
- onshore substation;
- grid connection; and
- miscellaneous (e.g. battery energy storage).

We note the detail provided in Table 3.4.1 that the maximum number of WTGs to be assessed in the production of the Environmental Statement (ES) will be 100 with a maximum blade tip height above LAT of 403m.

### Chapter 7.7 Marine archaeology

We note that the Applicants have drafted this Scoping Report to assess the potential effects of Construction, Operation and Maintenance, Decommissioning and Cumulative Impacts on Marine Archaeology. We welcome this approach from the Applicant. We also note that the Marine Archaeology Study Area for this project has been outlined as the Array Area, Export Cable Corridor (ECC) Area of Search (AoS) and a 1km buffer up to Mean High Water Springs (MHWS), we consider this to be an appropriate Study Area.

It is further noted that the Applicants have stated in Section 7.7.3 that the Marine Archaeology study area will be reviewed and amended at future stages (i.e. PEIR) and subsequently in the ES in response to such matters as refinement of the onshore/offshore AoS, feedback from consultees, and/ or the identification of additional constraints (environmental and/or engineering). Historic England welcomes this statement and considers it appropriate.



The Applicants have outlined the data sources that they have used to inform their Baseline Environment in table 7.7.1. Historic England would point out that the Rapid Coastal Zone Assessment for Yorkshire and Lincolnshire should also be used to further inform the Baseline data. Please direct the Applicant to access:

- [https://archaeologydataservice.ac.uk/archives/view/yorksacza\\_eh\\_2009/](https://archaeologydataservice.ac.uk/archives/view/yorksacza_eh_2009/)

The Applicants have provided 5 main categories for the sites/features that are to be considered for the Baseline Environment, they are:

- Submerged Prehistoric Landscapes;
- Archaeological remains of watercraft;
- Remains of aircraft crash site;
- Structural remains other than watercraft; and
- Historic Seascape Character.

We welcome the inclusion of these categories however, we remind the Applicant that the attention given to the Historic Environment should be cross referenced with the assessment of Historic Seascape Characterisation, as this is an extremely important factor in establishing an EIA baseline for the Historic Environment. We note further in Section 7.7.23 that a Historic Seascape Character Assessment will be presented in the PEIR and the final ES. Historic England is pleased to see this confirmed by the Applicant, however, we would encourage prior engagement with us on this matter to ensure that any such assessment is robust enough to fully assess the capacity of the Historic Seascape to accommodate the change presented by this proposed development.

Regarding designated sites, we note the Applicants assertion that there are no known archaeological features or sites, including the remains of any aircraft within the array area that are currently designated under the Protection of Wrecks Act 1973, or any other site designation or statutory protection. We also note their point that within the ECC, there is the remains of two aircrafts, UKHO 66921 (Sunderland flying boat) and UKHO 60889 (WWII casualty), both classified by the UKHO as 'live' (a wreck considered to exist) (UKHO via Admiralty Maritime Data Solutions, 2022). Historic England welcomes the inclusion of this information.

The Applicants further stated that there are currently no protected areas or statutory designations in relation to submerged landscapes within the marine archaeology study area. However, the Applicants also stated that the potential for submerged landscapes within the marine archaeology study area is high, this awareness of currently unidentified features is welcomed by Historic England. In addition to this, the Applicants have stated that the Historic England Peat Database highlights 10 records of peat along the coast near the ECC landfall site and 33 records throughout the North Sea. Exact coordinates for most of these locations are not confirmed and that the number of records indicates high probability that peat could be found within both the ECC AoS and the array area. We note that the peat database will be analysed further during the PEIR stage and that previously, two examples of peat were recovered within the ECC AoS in 2015 during trawling and will be further analysed during PEIR stage. Historic England encourages the Applicant to corroborate desk-based sources of information, such as held in the peat database, with technical survey data acquired for this project.



Regarding wrecks, the Applicants have stated that there are a total of 200 wrecks, obstructions and fouls recorded by the UKHO within the marine archaeology study area, tables 7.7.2 and 7.7.3 provide a description of where these wreck sites are and from which period they are from. We consider this information to be a useful inclusion from the Applicant.

In addition to this, the Applicants have stated that there are 40 records in the National Record of Historic Environment (NRHE) dataset within the marine archaeology study area for this windfarm and that of this recorded data, 27 correspond with the UKHO records. We welcome the statement that the remaining 13 unique records will be further assessed to produce the PEIR in order to develop the baseline as necessary to complete the EIA exercise.

We note that the Applicants have collected geophysical and geotechnical data in 2021/22 that covers the Array area and ECC AoS. We further note that the geophysical works contain the following survey techniques:

- Multi-Beam Echo Sounder Bathymetry (MBES);
- Side Scan Sonar (SSS);
- Magnetometer (MAG); and
- Sub-Bottom Profiling (SBP) shallow acoustic data.

We are also aware that the pre-application geotechnical works that were undertaken included boreholes and vibrocores within the marine archaeology study area and that additional geotechnical works including archaeology specific cores, will be undertaken upon the review of all geophysical data collected in 2021/ 2022. Furthermore, analysis of geotechnical survey data will follow the staged approach as outlined in published guidance. We welcome this approach taken by the Applicant for these data and for its inclusion in the PEIR.

Regarding embedded mitigation, we note that the following mitigation measures have been proposed for this project:

- An Outline Marine WSI which will detail the techniques and methodologies for the analysis of all survey data acquired as necessary to support delivery of all project stages (should consent be obtained);
- The implementation of a Protocol for Archaeological Discoveries (PAD);
- AEZs as outlined in the Outline Marine WSI to protect any known and identified marine archaeological receptors and allow the rerouting and micro-siting of seabed structures and cables; and
- Commitments to undertake full archaeological reviews and assessments of all relevant geophysical and geotechnical data collected both pre- and post-consent as informed by the outline WSI.



Historic England is content with the mitigation measures proposed and welcome the Applicants commitment that the requirement and feasibility of any mitigation measures will be consulted upon with statutory consultees throughout the pre-application phase for these works.

We have reviewed Table 7.7.5, which lists the impacts proposed to be scoped into the assessment for marine archaeology, as well as Table 10.1.1, which is a complete list of all the proposed impacts that have been scoped in and out of the assessment. We welcome the inclusion of these tables and that all relevant impacts to the historic environment, known and presently unknown, have been scoped into this assessment. However, Historic England would request that the Applicant define what 'Compression effects' are, as mentioned in Table 7.7.5, this is in the interest of clarification and should be included in the PEIR.

Historic England has reviewed the 'Summary of Next Steps' provided in Section 7.7.38 which helpfully provides a chronological plan for ensuring all archaeological features are considered by this project. We welcome the commitment to consulting on this matter with advisors such as Historic England.

We note the commitment of the Applicant to undertake a full marine archaeological desk-based study ahead of the production of the PEIR. Historic England welcomes this but would remind the Applicant that an experienced and qualified archaeological contractor should be utilised to undertake this assessment.

In addition to this, we note the Applicants assertion that a baseline assessment of the Historic Seascape will be undertaken prior to the production of the PEIR. The importance of historic seascape character should not be underestimated by offshore wind farm developers, as such, Historic England welcomes this commitment from the Applicant.

We also welcome the statement that the available marine geophysical and geotechnical survey data will be utilised for archaeological assessments, as well as the Applicants statement that the PEIR and final ES will include an assessment of significance of effects. In order to assess the design scenario and the impacts on all known and newly identified marine archaeological and cultural heritage receptors, we suggest that the Applicant considers how such newly acquired datasets may also be able to determine areas of high archaeological potential. For example, if a known wreck is considered to be heavily dispersed and, in a location, close to proposed development, does the possibility of a wider spread of wreck material exist, which may need to be investigated earlier in the design planning process, to inform effective mitigation.

We note that the Applicant has stated that the Outline WSI document and the PAD documents will be appended to the PEIR and final ES documents, Historic England welcomes this action from the Applicant. However, they should ensure that both documents follow industry guidance, for instance the former should align with The Crown Estate (2021), *Archaeological Written Schemes of Investigation for OWF Projects*.



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## Chapter 8.2 Archaeology and Cultural Heritage

We welcome the inclusion of heritage matters in the submitted scoping report and reference to our GPA 3 *Setting of Heritage Assets*, we look forwards to ongoing discussions with the Applicants in respect of both setting effects upon heritage assets and direct impacts upon archaeological remains.

We welcome an iterative approach to investigations and will look forward to early sight of the results of cartographic, geophysical survey, LiDAR and aerial photographic analysis; and the results of the Applicant's detailed consultation with County Archaeological Curators and Historic Environment Records and Portable Antiquities Scheme Records. This archaeological work should be well integrated with cable route and substation location refinement with deposit modelling and trial trenching. Overall a risk-based approach should be taken, the greater the risk of more sensitive or important remains and the greater the interaction with engineering constraints the greater and sooner the quantum of archaeological effort which should be applied. Early efforts should be made to understand the scheme in the context of the former coastline and crucially the interaction of the position of former inlets and channels from the sea, and areas of solid ground within the marsh. It is important that the staged process of investigation proceeds rapidly such that the results of modelling and targeted trial trenching can be reported and thereby effectively inform both design and appropriately resourced mitigation works.

It was good to see the inclusion of resources such as the Historic England Peat Database (paragraphs 7.7.16-18). However, it was disappointing to see that this was only considered from the marine aspect. To ensure a successful project it is crucial that a holistic approach is taken to ensure the results of study across marine, intertidal and terrestrial zones are considered from the start with an integrated approach. Presently the sections on marine and terrestrial do not really gel, and this risks an incoherent EIA that fails to adequately achieve its objectives.

We also noticed that neither the Marine Archaeology or Archaeology and Cultural Heritage chapters appeared to give attention to the East Midlands Historic Environment Research Framework (EMHERF). This is an important resource that covers both marine and terrestrial environments and we recommend it is included as it will help in understanding the significance of the archaeology it is expected to encounter. Its use will also help provide a tool to frame appropriate and proportionate questions further as work progresses. The EMHERF can be obtained from here:

- <https://researchframeworks.org/emherf/>

Deposit modelling is mentioned in the marine Section 7.7.25 and Table 7.7.5, however, it is disappointing to see there is no mention of it in the Archaeology and Cultural Heritage chapter. It is recommended that deposit modelling is integrated into the terrestrial approach. Historic England's guidance on this may be useful to consider here:

- <https://historicengland.org.uk/images-books/publications/deposit-modelling-and-archaeology/>

Paragraph 8.2.19 It is stated that "...the eastern parts of the AoS (south of the Skegness region) are lacking in recorded remains. This is likely due to the coastline being further west before post-medieval drainage works. The eastern part of the AoS (south of Skegness) has a lower archaeological potential." However, we consider it



necessary that subsequent work to produce a Preliminary Environmental Information Report for this proposed development also considered the potential that this area could contain earlier prehistoric remains.

Table 8.2.3: in terms of effects there needs to be an awareness that works could, in some circumstances, lead to a change in the water environment for archaeological sites and deposits (for instance pollution or disruption of flow to groundwater through ground excavations or piling). This may lead to the degradation of sensitive sites, and even a temporary change in water environment can lead to permanent loss of information. Opportunities should be sought to ensure that an integrated approach is adopted and that cultural heritage is considered in the hydrology, hydrogeology and flood risk impacts. Our guidance on the Preserving Archaeological Remains may be useful to consider here:

- <https://historicengland.org.uk/images-books/publications/preserving-archaeological-remains/>

Paragraph 8.2.36 includes the ClfA *Standard and guidance for archaeological geophysical survey*, and we recommend that this list is expanded to include the EAC *Guidelines for the Use of Geophysics in Archaeology*:

- <https://historicengland.org.uk/images-books/publications/eac-guidelines-for-use-of-geophysics-in-archaeology/>

#### Chapter 10 Summary and Next Steps

As noted above, Historic England notes that the Applicant has stated that ‘No impacts have been identified at this stage to be scoped out for the assessment’. Historic England welcome this assertion and agree that no impacts should be scoped of this assessment.

Yours sincerely,



Dr Christopher Pater  
**Head of Marine Planning**

Cc Tim Allen (Development Advice Team Leader (North) – Midlands Region, Historic England)



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## Shoemith, Marie

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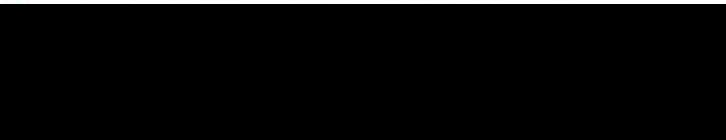
**From:** [REDACTED]  
**Sent:** 11 August 2022 14:48  
**To:** Outer Dowsing Offshore Wind  
**Subject:** Outer Dowsing Offshore Wind (Generating Station) Ref EN010130-000032-220802

Good afternoon,

Holbeach Parish Council held their full council meeting on the 8<sup>th</sup> August 2022 and it was resolved to agree under agenda item 2022/3-057 (c) that there was no objection.

Kind regards,  
*Karen*

*Karen Baxter*  
Assistant Clerk



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<https://www.facebook.com/HolbeachParishCouncil/>

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30 August 2022

By email to

[Outerdowsingoffshorewind@planninginspectorate.gov.uk](mailto:Outerdowsingoffshorewind@planninginspectorate.gov.uk)

*Please reply to:*

Neil McBride  
Head of Planning  
Lincolnshire County Council  
County Offices  
Newland  
Lincoln  
LN1 1YL

E Mail: [REDACTED]

Dear Sir/Madam

**Planning Act 2008 (As Amended) and Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA) Regulations 10 and 11**

**Application by GTR4 Ltd trading as Outer Dowsing Offshore Wind (the applicant) for an Order granting development Consent Order for the Outer Dowsing Offshore Wind (Proposed Development)**

**Scoping Opinion Under the Infrastructure Planning Regulation 2017**

Thank you for your letter and consultation report 'Environmental Impact Assessment Scoping Report' for the above dated 2<sup>nd</sup> August 2022

The Council understands that its views are sought on a statutory consultee on the scoping opinion that has been submitted to the Secretary of State pursuant to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

The Council have reviewed the information provided and have the following comments to make.

Section 2– Need Policy and Legislative Context – No comments to make

Section 4 Alternatives\_– welcome the approach to alternatives which should be set out in detail in the Environmental Statement so a clear justification for the onshore cable route chosen is provided to give confidence and credibility that other options were considered before the preferred route was confirmed.

Section 5 – Approach to EIA – in relation to the section on consultation the Council is supportive of broad principles in respect of consultation, however it is key that public consultation is meaningful and wide ranging particular given the other potential significant infrastructure projects in the East Lindsey, Boston, North Kesteven and South Holland District areas.

Section 6 – Stakeholder engagement and consultation – as above in relation to EIA consultation the need to consult with Councillors and Parish Councils will also need to be a key aspect of the proposal and have provided comments in relation to the draft Statement of Community Consultation which also need to be taken into consideration.

Section 7 - Offshore Environment – No comment to make.

Section 8.2 - Archaeology and Cultural Heritage -

For the most part are pleased with the proposed approach to Cultural Heritage laid out in the scoping report. We do however have concerns particularly regarding the timely provision of sufficient information in accordance with the requirements of the National Planning Policy Framework and EIA Regulations.

We agree with section 8.2.8 that *“the underground cable works would be anticipated to have the potential to disturb buried archaeological remains and the potential to temporarily affect the significance of designated heritage assets through setting change during the construction period.”*

We would point out that with regard to the Overview of Baseline Environment (sections 8.2.19 – 8.2.29) is based on searches on county Historic Environment Records and the National Heritage List, until the full suite of desk based assessments and site specific field evaluation phases have been undertaken the identified potential can only be provisional.

The Proposed Assessment Methodology section states that an Archaeological Desk Based Assessment will be produced (8.2.31). *“The Archaeology and Heritage chapter of the PEIR and subsequent ES would be supported by technical appendices prepared in accordance with guidance referenced below. The technical appendices would include an Archaeological Desk Based Assessment (DBA) prepared to assess the potential direct impact to the buried archaeological resource.”*

It's vital that a competent full desk based assessment be completed at the earliest opportunity, as this along with a full Air Photo/LiDAR assessment and the geophysical survey results across the impact zone all required to inform the trial trenching strategy which is necessary to determine the archaeological potential within the impact zone.

We would expect the desk based evaluation to be complete and the field evaluation to be well underway by the time the PEIR is produced.

*“Supporting archaeological information would also be provided through reports referencing the results of evaluation fieldwork should this be undertaken prior to the completion of the assessment.”*

This implies that there may be an intention to complete the desk based assessment after the evaluation fieldwork. This is the wrong way around, archaeological evaluation is a phased approach with each step informing the next. Desk based work provides the basis for initial understanding, this is informed by and built upon by fieldwork phases of geophysical survey which in turn assists in the development of the trial trenching programme.

The trenching results will provide a sufficient evidence base to allow for sufficient understanding of the site-specific archaeological potential of the development and provide the basis for an effective mitigation strategy to deal with the archaeological impact which is reasonable, appropriate and fit for purpose.

Section 8.2.31 also states that *“A further technical appendix would comprise a Heritage Statement prepared specifically with regard to potential in-direct effects as a consequence of changes within the setting of designated heritage assets.”*

The Heritage Statement needs to begin from an understanding of the significance of each heritage asset in order to assess the potential impact of the development upon them and put forward any potential benefit or mitigation of proposed negative impact.

It is not just potential visual impact with views to, from and across any other heritage asset which may be affected and how it can be viewed from any point which is publicly accessible, it's also how the heritage asset is experienced kinetically and within its landscape. Assessment of all this must start with an understanding of the significance of each heritage asset and any interrelationships it may have with other heritage assets as well as the landscape in which it sits, for example remnant field boundaries of the field system that surrounded and supported a Medieval village.

Assessments of significance should be undertaken for all designated and undesignated assets which may be affected to ensure any assets subject to proposed despoiling has an evidence base demonstrating an understanding of the significance of each of those assets as well as any cumulative impacts.

8.2.32 *“The study area referenced by the technical appendices (and referred to within the ES chapter) will be refined as necessary in each technical appendix. The study area for the DBA will be restricted to an overall search area of up to 500m from the route. This search area will be used for consultation with the Lincolnshire, Humber and Nottinghamshire Historic Environment Records and is expected to represent the archaeological character of the route. This is not sufficient, we would expect an HER search area of 2km from the site and the cable route boundary to maximize the potential for known information to inform an understanding of the archaeological landscape context which will be impacted.*

Section 8.2.32 also states that *“A targeted review of historic mapping and a targeted walkover survey within this study area would further inform on archaeological potential.”* This is not sufficient, full historic map regression of the impact zone is required which should include all available maps to provide a reasonable understanding of the development and time depth of the site.

8.2.33 *“The study area for assessing potential impact through temporary setting change associated with the installation of the onshore export cable will be restricted to a 500m corridor either side of the route. This reflects the short-term nature of setting impacts associated with the construction of the cable route.”*

We would expect a minimum 2km search beyond the extent of the full impact zone including the cable route for non-designated assets. All designated and undesignated heritage assets which may be impacted by the development must be included and will be subject to a full competent assessment of significance. All designated and undesignated heritage assets which may be impacted by the development must be included and will be subject to a full competent assessment of significance.

Regarding the desk based assessment datasets listed in section 8.2.35, Portable Antiquities Scheme (PAS) data is also required to inform the desk based assessment.

The scoping report does not mention aerial photography. A full competent LiDAR and air photo analysis, interpretation and assessment is required with full aerial photo coverage using all available oblique and

vertical air photos including the Historic England Archive and Cambridge University Collection of Air Photos as well as RAF and Ordnance Survey photos including those held by Lincolnshire County Council.

The Lincolnshire Archaeology Handbook is also required guidance to inform good practice and methodology approaches for archaeological work undertaken in this county.

*8.2.40 "Any potential harm to archaeological remains of national importance could be avoided by the careful routing of the onshore export cable around particularly sensitive locations, such as Scheduled Monuments or other areas containing remains of national importance identified through baseline data collection. The potential necessity for/consideration of this could arise during initial baseline collection for the selected route but may not arise until the undertaking of archaeological fieldwork."*

This is one of the main reasons why field evaluation is vital at the earliest opportunity. The full potential impact zone must be included in the evaluation process as archaeological impacts and subsequent mitigation have the potential for significant financial and scheduling impacts. Sufficient evaluation is essential in informing the selection process and in ensuring the subsequent design and work programme is devised with an understanding of the level of archaeological work which may be required before and during the construction phase. Pre-determination evaluation also informs a decision on the most cost effective and viable route and design layout.

Section 8.2.42 states that *"The impacts that have been scoped into the Project EIA are outlined in Table 8.2.3, together with a description of any proposed additional data collection (e.g. site-specific surveys) and/or supporting analyses (e.g. modelling) to enable an assessment of the impact."* Table 8.2.3 states that *"Evaluative techniques such as geophysical survey and trial trenching would also be utilised where necessary to inform on archaeological potential and significance."* Again, the full suite of standard archaeological field evaluation is required for the full impact zone.

Following geophysical survey a programme of trial trenching is required, not only across known or suspected archaeology to determine their presence or absence, depth, extent and significance but also across the 'blank' areas to obtain baseline evidence where previous evaluation techniques have not identified archaeological remains. This is required to get a full understanding of the archaeology which will be impacted across the full impact zone and will inform the archaeological mitigation strategy which must be undertaken as part of the EIA.

The Impacts to be Scoped Out section Table 8.2.4 states that heritage assets over 500m away will be descoped from the potential construction impact as the effect would be temporary. We do not agree that any heritage asset which may be affected be scoped out until their significance and the potential impact has been competently assessed.

In the Summary of Next Steps section 8.2.45 states that *"It is anticipated that the PEIR chapter will reference a baseline in respect to a preferred onshore route corridor and OnSS location. The baseline may be presented with supporting technical appendices including an Archaeological DBA and a Heritage Statement if these have been prepared at this stage."* This is not acceptable, assessments must be produced as a matter of urgency, they are the first steps of preliminary investigation which are required as the basis the evaluation programme and their results must be available to inform the design and to avoid unnecessary delays and associated costs.

Section 8.2.5 also states *“It is anticipated that supporting archaeological fieldwork reports (if fieldwork is required at the predetermination stage) may not be available for the PEIR.”* Predetermination fieldwork is required, as stated above a full programme of standard archaeological evaluation including geophysical survey and trial trenching is required.

Trenching results are essential for effective risk management and to inform programme scheduling and budget management. Failing to do so could lead to unnecessary destruction of heritage assets, potential programme delays and excessive cost increases that could otherwise be avoided. A programme of trial trenching is required to inform a robust mitigation strategy which will need to be agreed by the time the Environmental Statement is produced and submitted with the DCO application.

8.2.46 *“The study area referenced to assess archaeological potential would be set at up to 500m from the preferred route corridor. This search area will be used for consultation with the Lincolnshire, Historic Environment Records and is expected to represent the archaeological character of the preferred route corridor. Targeted walkover surveys of the route and OnSS footprints may have been undertaken at this stage. Likewise, targeted map regression may have been undertaken. If not undertaken, these elements would be presented within the final ES submission.”*

As stated above 500m is insufficient, targeted map regression is insufficient and much more is required than walkover surveys, see above. This level of extraordinarily delayed delivery of the standard archaeological evaluation process does not fit with the EIA process. EIA Regulations state that the mitigation strategy should be included in the Environmental Statement (ES) so all of this would be expected long before this phase.

8.2.47 *“The study area referenced to assess setting impacts would be set at 2km around any above ground terrestrial installations, namely the OnSS. This will capture any designated heritage assets potentially sensitive to permanent change within their setting. A ZTV may be useful at this stage. Full statements of significance and conclusions on setting impact may be delayed until the provision of the ES chapter and a full Heritage Statement. The study area for assessing potential impact through temporary setting change associated with the installation of the onshore export cable will be restricted to a 500m corridor either side of the route. This reflects the short-term nature of setting impacts associated with the construction of the cable route.”* Again the Heritage Statement should be produced in a timely fashion.

8.2.48 *“In all instances, however, the search area for baseline collection/consideration could be extended under the professional judgement of the heritage consultant and/or in response to stakeholder comments specifying particular assets.”* As stated above we have not yet been contacted and would be very happy to engage with whoever is undertaking this work at the earliest opportunity.

8.2.50 *“In respect to the potential for archaeological fieldwork, it is anticipated that the footprint of disturbance associated with the OnSS, the cable easement and any disturbance associated with compounds and access tracks may require an archaeological response.”* There is also the potential construction impacts of compaction, machine tracking and reduction of protective depths of soil, as well as the potential effects on the moisture levels and chemical composition of the soils all of which may have an impact upon surviving archaeology. Any proposed mitigation measures such as landscaping or tree planting could also lead to potential impacts on surviving archaeology and settings impacts.



The full suite of evaluation work will need to be undertaken to identify archaeological potential across the full impact zone, and appropriate and proportionate archaeological mitigation will be required.

8.2.50 also states that *"The timing/potential targeting of this response would depend on initial baseline collection and consultee responses from the LPA archaeologists and (where relevant) Historic England. It is anticipated that predetermination field evaluation could be limited to geophysical survey and (where necessary) targeted trial trenches."* We do not agree, see above.

In conclusion, the ES will require the full suite of comprehensive desk-based research, non-intrusive surveys, and intrusive field evaluation for the full extent of proposed impact. The results should be used to minimise the impact on the historic environment through informing the project design and an appropriate programme of archaeological mitigation. The provision of sufficient baseline information to identify and assess the impact on known and potential heritage assets is required by **Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (Regulation 5 (2d))**, **National Planning Statement Policy EN1 (Section 5.8)**, and the **National Planning Policy Framework**.

Sufficient information on the archaeological potential must include evidential information on the depth, extent and significance of the archaeological deposits which will be impacted by the development. The results will inform a fit for purpose mitigation strategy which will identify what measures are to be taken to minimise or adequately record the impact of the proposal on archaeological remains which must be submitted with the EIA.

This is in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 which states ***"The EIA must identify, describe and assess in an appropriate manner...the direct and indirect significant impacts of the proposed development on...material assets, cultural heritage and the landscape."*** (Regulation 5 (2d))

Section 8.5 Hydrology, Hydrogeology and Flood Risk - This chapter lists background data sources, EIA scoping and legislation. At this early stage, the overall scope is considered appropriate. Paragraph 8.5.45 states that an FRA and Surface Water Drainage strategy will be prepared, the scope of these will need to be agreed and they will need to address any large areas of impermeability that may be created (particularly during construction) such as plant compounds, access roads, the increased run off will need to be determined and mitigated in accordance with SUDS principles.

Section 8.8 Traffic and Transport – The scope set out in this Chapter is considered appropriate and it is agreed with the proposals for scoping in /scoping out (Table 8.8.2). Once the construction routes and vehicle estimates are more clearly defined, the next stage would be to determine the necessary mitigation in terms of junction upgrades, passing places, road widening, access points. Swept paths of proposed HGV routes may be necessary at key points on the network.

Section 9.1 Human Health – Consider that the Scoping Report already covers everything that would ask for such as local health priorities, workforce, traffic, public rights of way / open space, socio economics etc.so nothing further to add. From a negative health impact perspective, I can't think of any implications from off-shore wind farms with on-shore cabling / connection to the National Grid – it'd be worse if it wasn't underground cabling.

Section 9.3 Socio-Economics - Based on the Socio-Economic section of Chapter 9.3 from a growth perspective the range of the scoping document appears reasonable, and will be able to comment in further detail as the project progresses and the grid connection point has been confirmed.

Section 19 – Summary Next Steps and Cumulative Impact – The suggested methodology is acceptable but would draw attention to the potential for other major infrastructure projects in the locality of the proposed cable route and therefore the local community sensitivity to this project should be considered carefully when undertaking community and stakeholder engagement in this area.

The Council will continue to engage with this proposal as required and therefore any further queries, please do not hesitate to get in contact.

Yours faithfully

Neil McBride

**Head of Planning**

**From:** [Darren Cowling](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Cc:** [Robert Brown](#); [David Hickman](#); [Andrew McGill](#)  
**Subject:** Outer Dowsing Wind EIA Scoping  
**Date:** 02 August 2022 15:25:12  
**Attachments:** [image003.png](#)

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Good afternoon,

Thank you for the opportunity to comment on the above submission.

I would advise that Lindsey Marsh Drainage Board have been involved in pre submission discussions with the applicants.

At this time, while it is likely that the cable will make landfall within the Boards area and if so ultimately will impact on a number of Board and riparian watercourses the exact details are still to be determined. With this in mind the Board is not yet in a position to make any specific comments on the proposal.

However, it is noted that within s3.6 of the document reference is made to the possible use of HDD Techniques for crossing roads and watercourses.

I would advise that this matter did come up in the early stage discussions with the applicant and they were advised that Lindsey Marsh Drainage Board and other Boards affected by the proposal will require all watercourses to be crossed by means of HDD at a depth no less than 2 metres PLUS the cable safety distance below the hard bed level of all watercourses (to ODN if EA or IDB maintained). This will allow the IDBs to have the flexibility to improve watercourses in the future due to climate change (works will include deepening & widening of watercourses). These parameters were applied to and ultimately accepted by previous off shore wind farm developments.

It is anticipated that the above requirements would be covered by SOCGs, MOU, and via Protective Provisions within the DCO.

It was pointed out to the applicants that while they may not consider this requirement relevant at this stage, it is important that they were made aware of this now so that they can plan for these requirements prior to the submission of the DCO.

The applicants were also advised that the use of HDD offers benefits with regard to minimising the impact on the ecology of watercourses.

I hope that the above is of assistance.



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Marie Shoesmith  
Senior EIA Advisor  
Outer Dowsing Offshore Wind Case Team  
Planning Inspectorate

Email: [OuterDowsingOffshoreWind@planninginspectorate.gov.uk](mailto:OuterDowsingOffshoreWind@planninginspectorate.gov.uk)

**By email only**

26<sup>th</sup> August 2022

Dear Marie Shoesmith,

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11**

**MMO scoping consultation response on the application by GTR4 Limited, trading as Outer Dowsing Offshore Wind (the Applicant) for an Order granting Development Consent for the Outer Dowsing Offshore Wind (the Proposed Development)**

Thank you for your scoping consultation dated 2 August 2022 and for providing the Marine Management Organisation (MMO) with the opportunity to share our comments with you on the Immingham Eastern Ro-Ro Terminal Scoping Report.

The MMO's role in Nationally Significant Infrastructure Projects

The MMO was established by the Marine and Coastal Access Act 2009 (the "2009 Act") to contribute to sustainable development in the marine area and to promote clean, healthy, safe, productive and biologically diverse oceans and seas. The responsibilities of the MMO include the licensing of construction works, deposits and removals in English inshore and offshore waters and for Welsh and Northern Ireland offshore waters by way of a marine licence<sup>1</sup>. Inshore waters include any area which is submerged at mean high water spring ("MHWS") tide. They also include the waters of every estuary, river or channel where the tide flows at MHWS tide. Waters in areas which are closed permanently or intermittently by a lock or other artificial means against the regular action of the tide are included, where seawater flows into or out from the area. In the case of Nationally Significant Infrastructure Projects ("NSIPs"), the 2008 Act enables Development Consent Order's ("DCO") for projects which affect the marine environment to include provisions which deem marine licences<sup>2</sup>.

As a prescribed consultee under the 2008 Act, the MMO advises developers during preapplication on those aspects of a project that may have an impact on the marine area or those who use it. In addition to considering the impacts of any construction, deposit or removal within the marine area, this also includes assessing any risks to human health,

<sup>1</sup> Under Part 4 of the 2009 Act

<sup>2</sup> Section 149A of the 2008 Act

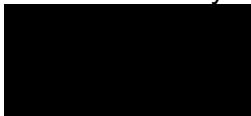
other legitimate uses of the sea and any potential impacts on the marine environment from terrestrial works. Where a marine licence is deemed within a DCO, the MMO is the delivery body responsible for post-consent monitoring, variation, enforcement and revocation of provisions relating to the marine environment. As such, the MMO has a keen interest in ensuring that provisions drafted in a deemed marine licence (“dML”) enable the MMO to fulfil these obligations. Further information on licensable activities can be found on the MMO’s website<sup>3</sup>. Further information on the interaction between the Planning Inspectorate and the MMO can be found in our joint advice note<sup>4</sup>.

Please find attached the scoping opinion of the MMO. In providing these comments, the MMO has sought the views of our technical advisors at the Centre for Environment, Fisheries and Aquaculture Science (Cefas) and the MMO East Coastal Office.

The MMO reserves the right to make further comments on the project throughout the preapplication process and may modify its present advice or opinion in view of any additional information that may come to our attention. This representation is also submitted without prejudice to any decision the MMO may make on any associated application for consent, permission, approval or any other type of authorisation submitted to the MMO either for the works in the marine area or for any other authorisation relevant to the proposed development.

If you require any further information, please do not hesitate to contact me using the details provided below.

Yours Sincerely



Emma Shore  
Marine Licensing Case Officer



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<sup>3</sup> <https://www.gov.uk/planning-development/marine-licences>

<sup>4</sup> <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/04/Advice-note-11-Annex-B-MMO.pdf>

# Scoping consultation response

**Title:** Outer Dowsing Offshore Wind

**Applicant:** GTR4 Limited, trading as Outer Dowsing Offshore Wind

**MMO Reference:** DCO/2021/00003

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## 1. Proposal

### 1.1 Project background

Outer Dowsing Offshore Wind has secured Preferred Bidder status to develop the Outer Dowsing offshore wind farm in the southern North Sea. The applicant is proposing to construct an offshore windfarm located approximately 54 km off the coast of Lincolnshire, England. It comprises an offshore generating station and covering an area of seabed, at this stage, of up to 500 km<sup>2</sup>. The applicant intends to reduce the size of the array from 500 km<sup>2</sup> to an area of up to 300 km<sup>2</sup> prior to consent.

### 1.2 Proposed development

The proposed development, which will be taken forward as a Nationally Significant Infrastructure Project (NSIP), is located approximately 54 km off the coast of Lincolnshire, England. It is anticipated the works will comprise:

Windfarm array:

- A maximum of 100 wind turbine generators (WTGs).
- A maximum of 7 offshore platforms (OPs).
- WTG and OPs foundations: foundation types are being considered for the project including, monopile, suction bucket, gravity base structure (GBS), pin piled jacket, suction bucket jacket, and GBS jacket. All of the foundation types being considered will be fixed to the seabed, i.e., the WTGs will not be floating structures.
- Indicative range of 475–700 km of inter-array cables.
- The maximum area of scour protection per WTG foundation will be approximately 11,400 m<sup>2</sup> (worst case is GBS).

Offshore Export Cable Corridor (ECC) and landfall:

- Scour and cable protection: applicable where cable burial cannot be achieved.
- Offshore export cables: up to 6 HVAC or HVDC cables, each with a maximum length of 80 km.
- Reactive compensation station may be required if HVAC transmission is used.
- Transition joint bays (TJBs): where export cables are brought ashore and joined to onshore cables.

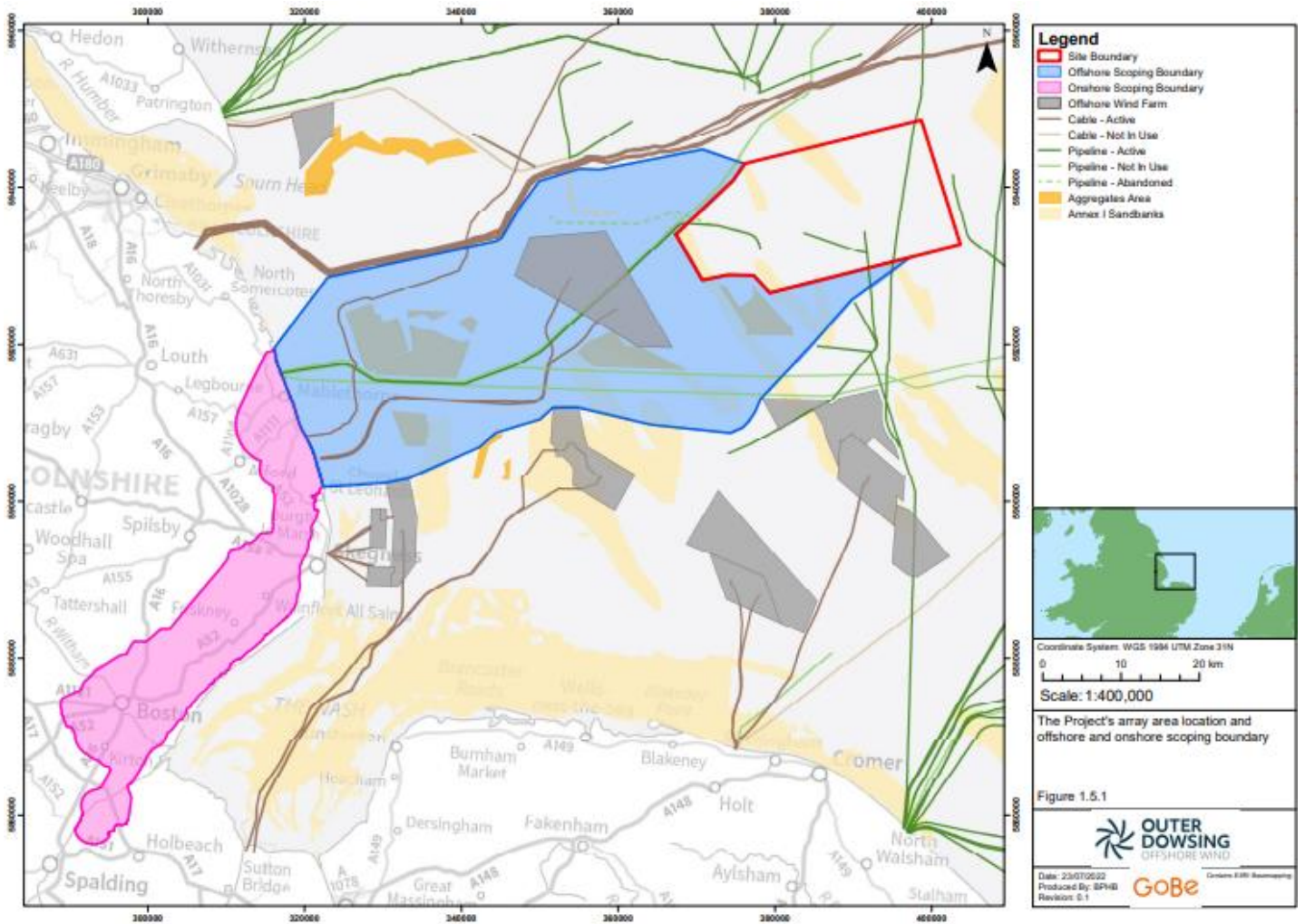
At present, there are two possible grid connection options: i) a location known as 'Lincolnshire Node' which is located close to the coast in Lincolnshire, or, ii) a connection at Weston Marsh, to the south of Boston, Lincolnshire. The ECC landfall is currently expected to be at a location along the Lincolnshire coastline, between Saltfleetby All Saints in the north and Chapel St Leonards in the south.

## 2. Location

The Outer Dowsing Offshore Wind lies approximately 54 km off the coast of Lincolnshire, England.



**Figure 1: The Scoping Boundary of Outer Dowsing Offshore Wind**



### 3. Scoping consultation response

Outer Dowsing Offshore Wind has asked the Planning Inspectorate on behalf of the Secretary of State for its opinion (a Scoping Opinion) as to the information to be provided in an Environmental Statement (ES) relating to the Proposed Development. The Planning Inspectorate has consulted the MMO on the Scoping Report titled 'Outer Dowsing Offshore Wind' and asked that the MMO identifies the information that should be provided in the ES.

The MMO has reviewed the Scoping Report and agrees with the topics outlined, however has the following comments that should be considered before the Planning Inspectorate issues its Scoping Opinion.

#### 3.1 Nature Conservation

3.1.1. The MMO defers to Natural England as the Statutory Nature Conservation Body (SNCB) on the suitability of the scope of the assessment with regards to Marine Protected Areas (MPAs).

#### 3.2 Benthic Ecology

3.2.1. A range of geophysical data are being collected to characterise the physical nature of the seabed within the windfarm array and ECC. These data will provide important information on the potential presence of sensitive benthic habitats such as biogenic reefs. However, the exact spatial extent of these surveys is unclear based on the information provided. The MMO considers it necessary that geophysical data be collected anywhere that the seabed would be physically disturbed by the Project, and for these data to be used to inform the micro-siting/micro-routing where appropriate and practicable.

3.2.2. The range of sampling procedures applied is appropriate and the MMO supports the use of geophysical data to inform the selection of sample stations. However, without seeing how the sample stations are distributed in relation to the study area and the habitats within it (and any other contemporary data that will be used to inform the benthic ecology baseline), the MMO cannot say whether project-specific surveys are sufficient.

3.2.3. No information is provided other than a statement that phase 1 and phase 2 intertidal surveys will be conducted in 2022. The MMO cannot therefore comment on whether the resulting data are sufficient or whether the sampling methods are appropriate. We presume more details about the intertidal surveys will be available after the landfall site for the ECC has been confirmed, at which point the MMO can provide further comments.

3.2.4. The MMO supports the use of data from a range of sources to help provide a comprehensive characterisation of the benthic ecology baseline. However, the baseline should be characterised using data that are less than ten years old, unless a strong justification can be provided for using older data.

3.2.5. All potential impacts expected from the Project have been considered and identified in Tables 7.3.3 and 7.3.4. However, the MMO requires changes in physical

processes (e.g., scour, current regimes) and the spread of invasive non-native species (INNS) associated with the installation of offshore windfarm (OWF) subsea infrastructure to be scoped in and assessed. While changes to physical processes may affect less than 5% of the array area, this equates to an area of 15 km<sup>2</sup> for an array that will cover 300 km<sup>2</sup>, and some of this area may contain sensitive benthic habitats or species. Regarding INNS, although measures can be implemented to prevent their introduction, it remains a possibility that any installed hard surfaces will act as stepping stones for their spread, particularly if infrastructure is installed at a location where hard surfaces are currently rare or absent.

- 3.2.6. The embedded mitigation measures proposed for benthic ecology receptors are appropriate. The MMO notes that the windfarm array site has been chosen to avoid overlap with designated sites to protect benthic habitat features, and that one of the next steps is to refine the ECC in reference to designated sites for the protection of benthic features. The MMO advises that the ECC is routed to avoid designated sites that protect benthic features. If this is not feasible, then impacts on the protected benthic features within these sites should be minimised.

### **3.3 Coastal Processes**

- 3.3.1. The data sources as described in Table 7.1.1 are wide ranging and seem sufficient to inform the marine physical processes. There is a large number of desk-based studies which will provide information on Metocean data and morphology, and there is mention of geophysical and geotechnical surveys to be carried out which are important and needed. The MMO also agrees that the pathways, receptors and potential impacts that have been provided in Table 7.1.2 are appropriate.
- 3.3.2. Whilst the scoping remains at a high level and appears to be comprehensive, the details of the collected data to be used are not fully provided which makes it difficult to comment on more detail. Furthermore, the details for the geophysical and geotechnical data to be collected are unclear. Table 7.1.1 refers to a spatial coverage area as either full or partial coverage. The MMO has assumed the 'full coverage' is equal to the Physical Processes Study Area in Figures 7.1.1 and 7.1.2, but request that this is confirmed. The data should be collected on a footprint of anywhere that the seabed would be physically altered or disturbed by construction or operation of ODOW. This should also apply to cabling to help determine the best cabling routes.
- 3.3.3. In Table 7.1.3, the two impacts proposed to be scoped out are seabed scouring and cumulative moderations to wave and tidal scheme. The report has also scoped out transboundary impacts. Whilst there is no specific reason to dispute this, the MMO considers that these decisions should be supported with reference to evidence. For example, that wider hydrodynamic effects will not arise from the expansion of OWF sites (and the gradual accumulation of local impacts).
- 3.3.4. The methods used to determine the impacts of those scoped in are sufficient. The method of determining effect signature from receptor sensitivity and impact magnitude, as described in Section 5.7, is appropriate. The assessment will also be determined on the Maximum Design Scenario (MDS), where the project design

scenario with the greatest impact shall be used. This will be determined within the ES and should provide a robust assessment.

- 3.3.5. The two types of mitigation mentioned are scour protection and cable protection which are typical measures undertaken for OWF projects. Table 7.1.41 notes that further information is to be included at the Preliminary Environmental Information Report (PEIR) and ES. This should go into significantly more detail as to quantities and volumes, and their expected (or, if not possible, then worst-case) locations in respect of the significant coastal systems and processes.
- 3.3.6. Section 7.1.40 states '*a numerical model will be developed to factor in project specific surveys and a range of representative baseline conditions. The model will be applied to investigate the source-pathway-receptor relationship for those issues scoped in (Table 7.1.2) and based upon the realistic MDS, as provided in Section 3*'. The MMO has no specific requirements at this stage, only that full detail of the methodology is to be provided. This should include any assumptions, the parameters, data sources and any calibration/validation against previous models. Any consideration to cumulative impacts from other projects should also be stated.

### **3.4 Fish Ecology and Fisheries**

- 3.4.1. Table 7.4.1. outlines the list of existing data sources and literature that will be used to inform the fish ecology baseline. The sources are generally appropriate to characterise the study area, however, please note comments 3.4.2-3.4.4 below.
- 3.4.2. The PEIR and ES should recognise the limitations of the data collected for fish characterisation surveys (e.g., Lynn, Inner Dowsing and Lincs OWFs, Hornsea Zonal Characterisation, and Triton Knoll OWF) which are now in excess of 10 years old. These surveys were carried out prior to the placement and operation of OWF infrastructure. Factors such as loss of habitat, introduction of hard substrates, and temporal and natural variations in fish assemblages may have changed over this period.
- 3.4.3. When using any fisheries data collected from past surveys, it is important that the data are interpreted and presented appropriately and that all survey limitations are acknowledged. Any catch data should be presented in the PEIR and ES in standardised units, e.g., Catch Per Unit Effort (CPUE). The survey methods, timings and limitations of survey and gear types as well as gear selectivity should be discussed or acknowledged within the PEIR and ES, especially with regard to the influence on species and life stages captured by individual gear types/sampling methods. For example, a 2 m epibenthic beam trawl will not adequately target large/adult fish, or pelagic fish; otter trawls and epibenthic beam trawls will not adequately target sandeels; and the season in which a survey is undertaken may influence species abundance in that particular area.
- 3.4.4. Despite the age of some data sources, the MMO is generally content that there is no requirement for new fish characterisation surveys to be undertaken, as the various sources of data proposed to inform the desk-based assessment will be adequate to provide a general description of the fish species typically found in the Project study

area. We note that a site-specific benthic survey of the study area will be undertaken which will include grab sampling of seabed sediments which will be used for particle size analysis (PSA). PSA data can then be used to determine sandeel habitat suitability and herring spawning habitat suitability.

- 3.4.5. The MMO agrees with the potential impacts that have been identified and scoped in for fish ecology and fisheries receptors in relation to construction, operation and maintenance (O&M), decommissioning and cumulative impacts. Given the location of the project in relation to the nearest international boundaries, the MMO agrees that transboundary impacts can be scoped out for further assessment.
- 3.4.6. Impacts arising from accidental pollution during the construction, O&M and decommissioning phases have been scoped out of further assessment, on the basis that a Project Environmental Management and Monitoring Plan (PEMMP) will be implemented to manage and mitigate any pollution events. The MMO does not support the scoping out of impacts arising from direct disturbance resulting from O&M activities. The justification that the impacts will be limited in spatial extent and length of time cannot be supported until the spatial extent of the impacts in relation to specific species and/or habitats has been assessed.
- 3.4.7. The MMO has no objection to impacts on fishing pressure due to displacement being scoped out during all phases of the Project Construction, O&M, and Decommissioning, in relation to Fish Ecology. However, this impact should be scoped into the assessment for Commercial Fisheries in the PEIR and ES.
- 3.4.8. The scoping report recognises that there are a number of herring spawning grounds in the vicinity of the study area. However, it is unclear how many years of International Herring Larvae Survey (IHLS) data were used to provide the larvae heat map shown in Figure 7.4.2. This should be clearly stated in the PEIR and ES. An assessment of herring potential spawning habitat should be undertaken to inform the EIA, using the method described in Marine Space (2013a). The assessment should be supported by 10 years of IHLS data (up to 2021 data are available). The applicant is intending to undertake a programme of geophysical and benthic sampling across the Project study area in order to characterise the seabed. PSA data from these surveys can be used to inform the potential herring spawning habitat assessment following the MarineSpace (2013a) method.
- 3.4.9. The commercial and ecological importance of sandeel as prey for fish, birds and marine mammals has been recognised in the scoping report and it is acknowledged that the study area overlaps with sandeel habitat. Sandeel spawn in the same areas that they inhabit, show site fidelity to defined areas of seabed and do not tend to travel to other locations to spawn. As with herring, an assessment of sandeel habitat suitability should be undertaken to inform the Environmental Impact Assessment (EIA), using the method described in MarineSpace (2013b) using site-specific PSA data that will be collected during the benthic surveys. Any catches of sandeel observed in benthic grabs can provide anecdotal evidence of their presence in the array and export cable route areas.

- 3.4.10. The Scoping Report states a cable burial risk assessment will be undertaken for cable protection and states that all cables will be buried where possible to reduce the risk of electromagnetic field (EMF) impacts on sensitive receptors. The MMO supports these embedded mitigation measures and recommend that all cables are buried to a minimum depth of 1.5 m (subject to local geology and obstructions) to minimise the effects of EMF, as recommended in the Department of Energy and Climate Change report (2011).
- 3.4.11. The MMO supports the use of soft-start procedures on commencement of piling. A 20-minute soft-start in accordance with Joint Nature Conservation Committee (JNCC) protocol for minimising the risk to injury to marine mammals and other fauna from piling noise (JNCC, 2010). Should piling cease for a period greater than 10 minutes, then the soft-start procedure must be repeated.
- 3.4.12. The MMO notes that the applicant is proposing to undertake underwater noise modelling. We recommend that fish are treated as stationary receptors in any modelling used to make predictions for noise propagation on fish spawning and nursery grounds. The MMO does not support the use of a fleeing animal model for fish due to the reasons outlined below, in paragraph 3.4.13:
- 3.4.13. Fish respond to loud noise and vibration, through observed reactions including: schooling more closely; moving to the bottom of the water column; swimming away; and burying in substrate (Popper et al., 2014). However, this is not the same as fleeing, which would require a fish to flee directly away from the source over the distance shown in the modelling. We are not aware of scientific or empirical evidence to support the assumption that fish will flee in this manner. The assumption that a fish will flee from the source of noise is overly simplistic as it overlooks factors such as fish size and mobility, biological drivers, and philopatric behaviour which may cause an animal to remain/return to the area of impacts. This is of particular relevance to herring, as they are benthic spawners which spawn in a specific location due to its substrate composition.
- 3.4.14. Eggs and larvae have little to no mobility, which makes them vulnerable to barotrauma and developmental effects. Accordingly, they should also be assessed and modelled as a stationary receptor, as per the Popper et al., (2014) criteria.
- 3.4.15. It should be clearly stated in the ES (and PEIR if applicable) whether simultaneous piling is proposed to be undertaken, i.e., the installation of more than one pile at a time, for the installation of WTGs or other offshore platform structures. If simultaneous piling is proposed, then underwater noise modelling for impacts to fish must be based on this scenario.
- 3.4.16. For the assessment of potential impacts to herring, 10 years of IHLS data (2011–2021) should be presented in the form of a ‘heat map’ which should be overlaid with the mapped noise contours from the modelling. This will provide a better understanding of the likely extent of noise propagation into herring spawning grounds and allow for a more robust assessment of impacts to be made.

### 3.5 Shellfish

- 3.5.1. As stated above, the PEIR and ES should recognise the limitations of the data collected for fish characterisation surveys (e.g., Lynn, Inner Dowsing and Lincs OWFs, Hornsea Zonal Characterisation, and Triton Knoll OWF) which are now in excess of 10 years old. Further to this point, some cephalopods, such as squids, have shown expanding spatial ranges through the North Sea in recent years (van der Kooij et al., 2016). Given the timeliness of the data sources, it is unlikely that such shellfish groups will be identified in the surveys listed, though it is noted that commercial landings data have been used, which does provide recent data of squids, and 'mixed squids and octopi' grouped together.
- 3.5.2. Some surveys listed in Table 7.4.1 (such as the Hornsea One Benthic Subtidal Survey, and the Hornsea Project One Array Survey) uses epibenthic beam trawls. Whilst beam trawls may be suitable for capturing cuttlefish (typically *Sepia officinalis*), the gear type is unsuitable for capture of other shellfish (whelks *Buccinum undatum* are caught using specialised whelk pots, crabs *Cancer pagurus* and lobster *Homarus gammarus* are caught using pots, scampi/Norway lobster/langoustine/Dublin prawn *Nephrops norvegicus* are caught using otter trawls etc.). As such, any shellfish caught using the epibenthic beam trawls should be considered as indicative of presence/absence only, rather than abundance in the area.
- 3.5.3. It is appropriate for impacts arising from accidental pollution during the construction, O&M, and decommissioning phases be scoped out of further assessment, on the basis that a PEMMP will be implemented to manage and mitigation any pollution events. However, the scoping out of impacts arising from direct disturbance resulting from O&M activities would be premature at this stage. The justification that the impact/s will be limited in spatial extent and length of time cannot be supported until the spatial extent of the impact/s in relation to specific species and/or habitats has been assessed.
- 3.5.4. Given literature on detrimental effects of underwater noise to various squid species (Jones et al., 2020), the use of soft-start procedures is supported on commencement of piling. A 20-minute soft-start is recommended in accordance with JNCC's protocol for minimising the risk of injury to marine mammals and other fauna from piling noise (JNCC, 2010). Should piling cease for a period greater than 10 minutes, then the soft-start procedure must be repeated.

### 3.6 Marine Mammals

- 3.6.1. The MMO has provided comments on impacts on marine mammals from underwater noise below. The MMO defers to Natural England as the SNCB in relation to all other potential impacts to marine mammals.

### 3.7 Underwater noise

- 3.7.1. The primary potential impacts in relation to underwater noise have been adequately identified for marine mammals and the methods described are sufficient to inform a robust impact assessment.

- 3.7.2. The MMO considers it appropriate that the thresholds presented in Southall et al. (2019) will be used in the impact assessment. However, it is worth noting that the noise exposure criteria will evolve over time, so the assessment should use the most current, peer-reviewed guidance available. It is also appropriate that both the instantaneous peak Sound Pressure Level ( $SPL_{peak}$ ) and cumulative Sound Exposure Level ( $SEL_{cum}$ ) over 24 hours will be assessed.
- 3.7.3. With reference to paragraph 7.5.40 of the Scoping Report, the MMO, in consultation with Cefas, does not agree that there should be no requirement to assess the potential significance of Temporary Threshold Shift (TTS). Although TTS is by definition both recoverable and temporary, it is nevertheless an injury to the sensory capability of the animal which has the potential for serious consequences. As agreed with other projects, as a minimum, the TTS impact ranges and the number of animals predicted to be at risk should be presented. Therefore, the MMO recommends including both the TTS effect ranges and number of animals predicted to be at risk.
- 3.7.4. Furthermore, it is not appropriate to use the TTS-onset thresholds as a proxy for disturbance. TTS occurs at much higher sound exposure, and so will underestimate the risk of disturbance. The 26 km Effective Deterrence Range (EDR) for other species should be used or evidence should be presented for review to support a different distance on the basis of behavioural response studies. The Unexploded Ordnance (UXO) blast signal (for high-order detonation) is a particularly loud signal, so applying caution is necessary in this case. It could be argued that the harbour porpoise EDRs are likely to be conservative because porpoise are sensitive to noise, so they are a good starting point and a reasonable option in the absence of other data.
- 3.7.5. Embedded mitigation measures are listed in paragraph 7.5.50 of the Scoping Report and include the development of, and adherence to, a Vessel Management Plan, implementation of a Marine Mammal Mitigation Protocol (MMMP) for piling, UXO geophysical survey work, as well as a decommissioning MMMP. These measures are in keeping with other wind farm developments and can provide a suitable means for managing and mitigating potential effects of the Project. The MMO expects details of the MMMPs, and specific mitigation measures will be discussed and agreed with the MMO and SNCBs, once project parameters have been defined, and the noise modelling has been undertaken.
- 3.7.6. The underwater noise assessment should include full details of the noise modelling methodology and model parameters and assumptions, including:
- Acoustic source level spectra and how they were derived (e.g., conversion from hammer strike energy, backpropagation from measurements).
  - Specifications of the propagation model, including equations if appropriate, or references to the peer-reviewed scientific literature in which they are contained.
  - The environmental conditions (local area bathymetry, seabed and water column properties) and how these have been parameterised in the model.
  - Any assumptions or simplifications such as averaging in depth, space or time.
  - The parameters of a fleeing model.



### **3.8 Seascape / Landscape**

3.8.1. The MMO defers to Historic England, Natural England (as the SNCB) and relevant local planning authorities on the suitability of the scope of the assessment with regards to Seascape and Landscape.

### **3.9 Archaeology / Cultural Heritage**

3.9.1. The MMO defers to Historic England on the suitability of the scope of the assessment with regards to Archaeology and Cultural Heritage impacts.

### **3.10 Navigation / Other Users of the Sea**

3.9.10. The MMO notes that the works may cause disruption i.e., to vessel traffic and navigation in the surrounding area. The MMO defers to the Maritime Coastguard Agency (MCA) and Trinity House on the suitability of the scope of the assessment with regards to navigation of vessels.

### **3.11 Water Quality**

3.11.1. The MMO defers to the Environment Agency on the suitability of the scope of the assessment with regards to water quality.

### **3.12 Dredging and Disposal**

3.12.1. The data sources listed in Table 7.2.1 comprise a comprehensive range of existing information. "Project-specific benthic surveys" are also described which state that up to 60 sample stations will be analysed for trace metals, organotins, polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCs), and particle size analysis (PSA). These are appropriate, however the PSA analysis should be conducted before the contaminant analysis, if possible, as any samples which are  $\geq 50\%$  gravel (defined as 2 mm diameter or greater) will not require contaminant analysis.

3.12.2. The MMO would expect to see justification as to why polybrominated diphenyl ethers (PBDEs) will have not been tested for when contaminants with similar sources and pathways (i.e., PCBs) have been tested for. The MMO cannot identify any justification in the scoping report as to why this is the case. PBDEs are listed on the Stockholm Convention for Persistent Organic Pollutants in Annex A, compared to PCBs listed in Annex C. Annex A denotes chemicals which should be eliminated, whilst Annex C denotes chemicals for which the unintentional production should be controlled.

3.12.3. The MMO agrees that trace metals and PAHs should be tested for, as both are ubiquitous in UK marine sediments. PCBs, PBDEs and OCs are not ubiquitous to the same extent, however we would consider it appropriate that these are tested for given the undisturbed nature of the sediment to be disturbed. Comparatively, we do not consider organotins to be necessary for analysis. Prior to their universal banning, dibutyltin and tributyltin were used as anti-fouling paints for vessels. This led to there being a notable presence of both contaminants in harbours and berthing

areas around the UK. However, evidence is beginning to show a decline in organotin concentrations in UK marine sediments (Langston et al., 2015), and most elevation of organotins above Cefas Action Level 1 are observed in localised hotspots in ports and harbours in marine licence applications.

- 3.12.4. The data collection and analysis must be in line with MMO guidelines, in that only laboratories which have been validated by the MMO are selected for their respective analyses, to ensure the reliability of the data presented. Appropriate PAH and PCB congeners should be tested for, as it is sometimes the case that developers will only test for the US Environmental Protection Agency (EPA) list of 16 priority PAH congeners, rather than the 21 PAH congeners recommended, and only the ICES list of 7 priority congeners, rather than the 25 PCB congeners recommended. All such detail can be found in the [MMO guidelines](#) (MMO, 2022).
- 3.12.5. The project area comprises a large offshore area off the Lincolnshire coast and due to the distance of the proposed inshore and offshore areas from the Humber, the MMO considers it unlikely that any point-source pollution from this river would pose a major risk to the area in question. However, some such contaminants may be present in the area through the offshore transport of contaminated sediments. The lack of major rivers in the area also reduces the likelihood of the presence of agricultural run-off being at concerning levels. Likely point-source pollution in the offshore area would come from pollution events associated with licensed offshore activities, notably through the use of chemicals in other OWFs in the area and any oil and gas infrastructure. The MMO Pollution Team or the Maritime and Coastguard Agency should be consulted (as regulatory bodies for pollution incidents) with regards to any recent pollution events in the area. Whilst point-source pollution is a key concern, diffuse pollution is a key pathway for contaminants to enter the marine environment, for example through atmospheric deposition.

### **3.13 Population and Human Health**

- 3.13.1. The MMO defers to the Local Authority and Public Health England on the suitability of the scope of the assessment with regards to population and human health impacts.

### **3.14 Cumulative Impacts & In-Combination Impacts**

- 3.14.1. Temporary increases in suspended sediment concentration and associated deposition have correctly been identified for inclusion in the cumulative effects assessment. However, benthic invertebrate larvae can disperse over distances of tens of kilometres to more than a hundred kilometres, therefore the MMO would expect the spread of INNS to be included in the cumulative effects assessment.

### **3.15 Other**

- 3.15.1. The baseline Vessel Monitoring System (VMS) data used is from 2015–2019 and there may have been significant changes to the marine environment in the nearby area during this period, namely the construction and installation of wind farm projects Hornsea One and Two. This may have changed fishing patterns during the various phases of construction.

- 3.15.2. The Fisheries Liaison Officer and any local fisheries groups should be utilised in order to engage with the fishing industry as much as possible. It should also be noted that there are a number of under 10 m inshore fishing vessels along the Lincolnshire coastline, who are less likely to fish within Outer Dowsing cable array area but may have some gear, or knowledge of lost gear, in the vicinity of the cable corridor. These may not show up on survey statistics as they may not have Automatic Identification System (AIS) or VMS on board their vessels.
- 3.15.3. The inclusion of a highly protected marine area within Silver Pits may cause some significant displacement in the fishing fleets, already being displaced by previous wind farm projects and should be considered when looking at displacement due to construction of the Outer Dowsing Wind Farm.
- 3.15.4. The applicant has correctly identified that the proposed development is within the East Marine Plan area and the MMO welcomes the applicant's commitment to produce a marine plan conformance assessment. East Marine Plan policies can be accessed using Explore Marine Plans: <https://www.gov.uk/guidance/explore-marine-plans>

## 4. Conclusion

The MMO has reviewed the Scoping Report and has provided both advice for the applicant, noted corrections to be made, but also included comments that the MMO would expect to be addressed in the ES.

This consultation response, however, should not necessarily be seen as a definitive list of all EIA requirements. Given the scale and programme of the proposed development, other work may prove necessary.

Yours Sincerely



Emma Shore  
Marine Licensing Case Officer



## 5. References

JNCC (2010) Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise August 2010. [Online] Available at: [http://jncc.defra.gov.uk/pdf/JNCC\\_Piling%20protocol\\_August\\_2010.pdf](http://jncc.defra.gov.uk/pdf/JNCC_Piling%20protocol_August_2010.pdf) (Accessed 12<sup>th</sup> August 2022)

Jones, I.T., Stanley, J.A. and Mooney, T.A. (2020). Impulsive pile driving noise elicits alarm responses in squid (*Doryteuthis pealeii*), *Marine Pollution Bulletin*, 150: <https://doi.org/10.1016/j.marpolbul.2019.110792>

Langston, W.J., Pope, N.D., Davey, M., Langston, K.M., O'Hara, S.C.M., Gibbs, P.E. and Pascoe, P.L., 2015. Recovery from TBT pollution in English Channel environments: a problem solved?. *Marine pollution bulletin*, 95(2), pp.551-564.

MarineSpace Ltd, ABPmer Ltd, ERM Ltd, Fugro EMU Ltd and Marine Ecological Surveys Ltd, (2013a). Environmental Effect Pathways between Marine Aggregate Application Areas and Atlantic Herring Potential Spawning Habitat: Regional Cumulative Impact Assessments. Version 1.0. A report for the British Marine Aggregates Producers Association.

MarineSpace Ltd, ABPmer Ltd, ERM Ltd, Fugro EMU Ltd and Marine Ecological Surveys Ltd, 2013b. Environmental Effect Pathways between Marine Aggregate Application Areas and Sandeel Habitat: Regional Cumulative Impact Assessments and Case Study Environmental Impact Assessments. A report for BMAPA.

MMO, 2014. Marine Licensing sediment analysis and sample plan, July 2022. Available at: <https://www.gov.uk/guidance/marine-licensing-sediment-analysis-and-sample-plans> (Accessed 25<sup>th</sup> August 2022).

Popper, A.N., Hawkins, A.D., Fay, R.R., Mann, D.A., Bartol, S., Carlson, T.J., Coombs, S., Ellison, W.T., Gentry, R.L., Halvorsen, M.B., Løkkeborg, S., Rogers, P.H., Southall, B., Zeddies, D.G. & Tavalga, W.N. (2014). Asa S3/Sc1.4 Tr-2014 Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report Prepared by ANSI-Accredited Standards Committee S3/Sc1 a (Springerbriefs in Oceanography).

van der Kooij, J., Engelard, G.H. and Righton, D.A. (2016). Climate change and squid range expansion in the North Sea, *Journey of Biogeography*, 43: 2285-2298.

Southall, B., J. J. Finneran, C. Reichmuth, P. E. Nachtigall, D. R. Ketten, A. E. Bowles, W. T. Ellison, D. Nowacek, and P. Tyack. (2019). Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. *Aquatic Mammals* 45:125-232



Maritime &  
Coastguard  
Agency

**Marie Shoemith**

The Planning Inspectorate  
Environmental Services  
Central Operations  
Temple Quay House  
2 The Square  
Bristol, BS1 6PN  
By email to:

[outerdowsingoffshorewind@planninginspectorate.gov.uk](mailto:outerdowsingoffshorewind@planninginspectorate.gov.uk)

Dear Ms Shoemith

**Application by GTR4 Limited, trading as Outer Dowsing Offshore Wind (the Applicant) for an Order granting Development Consent for the Outer Dowsing Offshore Wind (the Proposed Development)**

**Scoping Report Consultation**

Thank you for your letter dated 2 August 2022 requesting comments on the scoping report provided by Outer Dowsing Offshore Wind Limited. The MCA welcomes the opportunity to provide comments under the above Environmental Impact Assessment Regulations, and we would comment as follows:

The Environmental Impact Report should supply detail on the possible impact on navigational issues for both commercial and recreational craft, specifically:

- Collision Risk
- Navigational Safety
- Visual intrusion and noise
- Risk Management and Emergency response
- Marking and lighting of site and information to mariners
- Effect on small craft navigational and communication equipment
- The risk to drifting recreational craft in adverse weather or tidal conditions
- The likely squeeze of small craft into the routes of larger commercial vessels.

The development area carries a moderate amount of traffic with several important commercial shipping routes to/from UK ports, particularly passenger vessels, oil and gas support vessels and cargo ships including tankers. Attention needs to be paid to routing, particularly in heavy weather routing so that vessels can continue to make safe passage without large-scale deviations. The likely cumulative and in combination effects on shipping routes should be considered which will be an important issue going forward. It should consider the proximity to other windfarm developments, particularly with the construction of Hornsea 2 and 3 and proposed extension to Dudgeon offshore wind farm, other infrastructure, and the impact on safe navigable sea room.

It is noted that a Navigational Risk Assessment will be submitted in accordance with MGN 654. This should be accompanied by a detailed MGN 654 Checklist which can be found at:

<https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping>

A vessel traffic survey must be undertaken to the standard of MGN 654 which will consist of a minimum of 28 days of seasonal data (two x 14-day surveys) collected from a vessel-based survey

**Nick Salter**  
Maritime and Coastguard Agency  
UK Technical Services – Navigation  
105 Commercial Road  
Southampton  
SO15 1EG  
[www.gov.uk/mca](http://www.gov.uk/mca)

Your ref: EN010130-000032-220802

26 August 2022

using AIS, radar and visual observations to capture all vessels navigating in the study area. We would expect the details of these consultations to be included within the NRA. Kindly note for all OREI developments, subject to the planning process, the traffic survey must be undertaken within 24 months prior to submission of the DCO application. If the EIA Report is not submitted within 24 months an additional 14-day continuation survey data may be required for each subsequent 12-month period. Should there be a break in the continuation surveys, a new full traffic survey may be required, and the time period starts from the completion of the initial 28-day survey period.

The proximity to other offshore windfarms will need to be fully considered, with an appropriate assessment of the distances between OREI boundaries and shipping routes as per MGN 654. The cumulative impacts of other windfarms in close proximity, in particular the Hornsea 3 and Dudgeon Extension developments will change routing, particularly those that transect the western and northern sections of the site. Attention must be paid for ensuring the established shipping routes within the area can continue safely without unacceptable deviations. Particular attention should also be given to the oil and gas activity within the area.

The turbine layout design will require MCA approval prior to construction to minimise the risks to surface vessels, including rescue boats, and Search and Rescue (SAR) aircraft operating within the site. Any additional navigation safety and/or Search and Rescue requirements, as per MGN 654 Annex 5, will be agreed at the approval stage.

Attention should be paid to cabling routes and where appropriate burial depth for which a Burial Protection Index study should be completed and subject to the traffic volumes, an anchor penetration study may be necessary. If cable protection measures are required e.g. rock bags or concrete mattresses, the MCA would be willing to accept a 5% reduction in surrounding depths referenced to Chart Datum. This will be particularly relevant where depths are decreasing towards shore and potential impacts on navigable water increase, such as at the HDD location.

Particular consideration will need to be given to the implications of the site size and location on SAR resources and Emergency Response Co-operation Plans (ERCoP). The report must recognise the level of radar surveillance, AIS and shore-based VHF radio coverage and give due consideration for appropriate mitigation such as radar, AIS receivers and in-field, Marine Band VHF radio communications aerial(s) (VHF voice with Digital Selective Calling (DSC)) that can cover the entire wind farm sites and their surrounding areas. A SAR checklist will also need to be completed in consultation with MCA, as per MGN 654 Annex 5 SAR requirements.

MGN 654 Annex 4 requires that hydrographic surveys should fulfil the requirements of the International Hydrographic Organisation (IHO) Order 1a standard, with the final data supplied as a digital full density data set, and survey report to the MCA Hydrography Manager. Failure to report the survey or conduct it to Order 1a might invalidate the Navigational Risk Assessment if it was deemed not fit for purpose.

On the understanding that the Shipping and Navigation aspects are undertaken in accordance with MGN 654 and its annexes, along with a completed MGN checklist, MCA is likely to be content with the approach.

Yours sincerely,

Nick Salter



Offshore Renewables Lead  
UK Technical Services - Navigation

## Complex Land Rights

Ellie Laycock  
Development Liaison Officer  
UK Land and Property

www.nationalgrid.com

SUBMITTED ELECTRONICALLY:

[OuterDowsingOffshoreWind@planninginspectorate.gov.uk](mailto:OuterDowsingOffshoreWind@planninginspectorate.gov.uk)

15 August 2022

Dear Sir/Madam

### **APPLICATION BY GTR4 LIMITED, TRADING AS OUTER DOWSING OFFSHORE WIND (THE APPLICANT) FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE OUTER DOWSING OFFSHORE WIND (THE PROPOSED DEVELOPMENT)**

#### **SCOPING CONSULATION REPONSE**

I refer to your letter dated 2<sup>nd</sup> August 2022 in relation to the above proposed application. This is a response on behalf of National Grid Electricity Transmission PLC (NGET). Having reviewed the scoping report, I would like to make the following comments regarding NGET infrastructure within or in close proximity to the current red line boundary.

NGET has high voltage electricity overhead transmission lines within the scoping area. The overhead lines form an essential part of the electricity transmission network in England and Wales.

#### Overhead Lines

|               |                                                                       |
|---------------|-----------------------------------------------------------------------|
| 4ZM 400kV OHL | SPALDING NORTH – WALPOLE<br>BICKER FEN - WALPOLE - WEST BURTON        |
| 2WS 400kV OHL | BICKER FEN - SPALDING NORTH - WEST BURTON<br>SPALDING NORTH – WALPOLE |

I enclose a plan showing the location of NGET's apparatus in the scoping area.

## Specific Comments – Electricity Infrastructure:

- NGET's Overhead Line/s is protected by a Deed of Easement/Wayleave Agreement which provides full right of access to retain, maintain, repair and inspect our asset
- Statutory electrical safety clearances must be maintained at all times. Any proposed buildings must not be closer than 5.3m to the lowest conductor. NGET recommends that no permanent structures are built directly beneath overhead lines. These distances are set out in EN 43 – 8 Technical Specification for “overhead line clearances Issue 3 (2004)”.
- If any changes in ground levels are proposed either beneath or in close proximity to our existing overhead lines then this would serve to reduce the safety clearances for such overhead lines. Safe clearances for existing overhead lines must be maintained in all circumstances.
- The relevant guidance in relation to working safely near to existing overhead lines is contained within the Health and Safety Executive's ([www.hse.gov.uk](http://www.hse.gov.uk)) Guidance Note GS 6 “Avoidance of Danger from Overhead Electric Lines” and all relevant site staff should make sure that they are both aware of and understand this guidance.
- Plant, machinery, equipment, buildings or scaffolding should not encroach within 5.3 metres of any of our high voltage conductors when those conductors are under their worse conditions of maximum “sag” and “swing” and overhead line profile (maximum “sag” and “swing”) drawings should be obtained using the contact details above.
- If a landscaping scheme is proposed as part of the proposal, we request that only slow and low growing species of trees and shrubs are planted beneath and adjacent to the existing overhead line to reduce the risk of growth to a height which compromises statutory safety clearances.
- Drilling or excavation works should not be undertaken if they have the potential to disturb or adversely affect the foundations or “pillars of support” of any existing tower. These foundations always extend beyond the base area of the existing tower and foundation (“pillar of support”) drawings can be obtained using the contact details above.
- NGET high voltage underground cables are protected by a Deed of Grant; Easement; Wayleave Agreement or the provisions of the New Roads and Street Works Act. These provisions provide NGET full right of access to retain, maintain, repair and inspect our assets. Hence we require that no permanent / temporary structures are to be built over our cables or within the easement strip. Any such proposals should be discussed and agreed with NGET prior to any works taking place.
- Ground levels above our cables must not be altered in any way. Any alterations to the depth of our cables will subsequently alter the rating of the circuit and can compromise the reliability, efficiency and safety of our electricity network and requires consultation with National Grid prior to any such changes in both level and construction being implemented.



To download a copy of the HSE Guidance HS(G)47, please use the following link:  
<http://www.hse.gov.uk/pubns/books/hsg47.htm>

## **Further Advice**

**We would request that the potential impact of the proposed scheme on NGET's existing assets as set out above and including any proposed diversions is considered in any subsequent reports, including in the Environmental Statement, and as part of any subsequent application.**

**Where any diversion of apparatus may be required to facilitate a scheme, NGET is unable to give any certainty with the regard to diversions until such time as adequate conceptual design studies have been undertaken by NGET. Further information relating to this can be obtained by contacting the email address below.**

**Where the promoter intends to acquire land, extinguish rights, or interfere with any of NGET apparatus, protective provisions will be required in a form acceptable to it to be included within the DCO.**

NGET requests to be consulted at the earliest stages to ensure that the most appropriate protective provisions are included within the DCO application to safeguard the integrity of our apparatus and to remove the requirement for objection. All consultations should be sent to the following email address: [box.landandacquisitions@nationalgrid.com](mailto:box.landandacquisitions@nationalgrid.com)

I hope the above information is useful. If you require any further information, please do not hesitate to contact me.

The information in this letter is provided notwithstanding any discussions taking place in relation to connections with electricity customer services.

Yours faithfully

*E Laycock*

**Ellie Laycock  
Development Liaison Officer, Complex Land Rights**

Vicky Cashman  
DCO Liaison Officer

www.nationalgrid.com

SUBMITTED ELECTRONICALLY:  
OuterDowsingOffshoreWind@planninginspectorate.gov.uk

30 August 2022

Dear Sir/Madam

## **APPLICATION BY GTR4 LIMITED FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE OUTER DOWSING OFFSHORE WIND FARM**

### **SCOPING CONSULATION REPNSE**

I refer to the above proposed application. This is a response on behalf of National Grid Gas Transmission (NGG). Having reviewed the scoping report, I would like to make the following comments regarding NGG infrastructure within or in close proximity to the current red line boundary.

NGG has high pressure gas transmission pipelines located within the proposed development area and EIA Assessment area, as follows:

- Feeder 7
- Feeder 8
- Feeder 17

These transmission pipelines form an essential part of the gas transmission network in England, Wales and Scotland.

I enclose a plan showing the location of NGG's high pressure transmission pipelines.

### **SPECIFIC COMMENTS**

The following points should be taken into consideration:

- NGG has a Deed of Grant of Easement for each pipeline, which prevents the erection of permanent / temporary buildings, or structures, change to existing ground levels, storage of materials etc.

## Pipeline Crossings:

- Where existing roads cannot be used, construction traffic should ONLY cross the pipeline at previously agreed locations.
- The pipeline shall be protected, at the crossing points, by temporary rafts constructed at ground level. The third party shall review ground conditions, vehicle types and crossing frequencies to determine the type and construction of the raft required.
- The type of raft shall be agreed with NGG prior to installation.
- No protective measures including the installation of concrete slab protection shall be installed over or near to the NGG pipeline without the prior permission of NGG.
- NGG will need to agree the material, the dimensions and method of installation of the proposed protective measure.
- The method of installation shall be confirmed through the submission of a formal written method statement from the contractor to NGG.
- Please be aware that written permission is required before any works commence within the NGG easement strip.
- An NGG representative shall monitor any works within close proximity to the pipeline to comply with NGG's specification T/SP/SSW22.
- A Deed of Consent is required for any crossing of the easement.

## Cable Crossings:

- Cables may cross the pipeline at perpendicular angle to the pipeline i.e. 90 degrees.
- An NGG representative shall supervise any cable crossing of a pipeline.
- Clearance must be at least 600mm above or below the pipeline.
- Impact protection slab should be laid between the cable and pipeline if cable crossing is above the pipeline.
- A Deed of Consent is required for any cable crossing the easement.
- Where a new service is to cross over the pipeline a clearance distance of 0.6 metres between the crown of the pipeline and underside of the service should be maintained. If this cannot be achieved the service shall cross below the pipeline with a clearance distance of 0.6 metres.

## General Notes on Pipeline Safety:

- You should be aware of the Health and Safety Executives guidance document HS(G) 47 "Avoiding Danger from Underground Services", and NGG's specification for Safe Working in

the Vicinity of National Grid High Pressure gas pipelines and associated installations - requirements for third parties T/SP/SSW22.

- NGG will also need to ensure that our pipelines access is maintained during and after construction.
- Our pipelines are normally buried to a depth cover of 1.1 metres however; actual depth and position must be confirmed on site by trial hole investigation under the supervision of a NGG representative. Ground cover above our pipelines should not be reduced or increased.
- If any excavations are planned within 3 metres of NGG High Pressure Pipeline or, within 10 metres of an AGI (Above Ground Installation), or if any embankment or dredging works are proposed then the actual position and depth of the pipeline must be established on site in the presence of an NGG representative. A safe working method agreed prior to any work taking place in order to minimise the risk of damage and ensure the final depth of cover does not affect the integrity of the pipeline.
- Excavation works may take place unsupervised no closer than 3 metres from the pipeline once the actual depth and position has been confirmed on site under the supervision of an NGG representative. Similarly, excavation with hand held power tools is not permitted within 1.5 metres from our apparatus and the work is undertaken with NG supervision and guidance.

To view the SSW22 Document, please use the link below:

<https://www.nationalgrid.com/uk/gas-transmission/land-and-assets/working-near-our-assets>

To download a copy of the HSE Guidance HS(G)47, please use the following link:

<http://www.hse.gov.uk/pubns/books/hsg47.htm>

## **Further Advice**

**We would request that the potential impact of the proposed scheme on NGG's existing assets as set out above and including any proposed diversions is considered in any subsequent reports, including in the Environmental Statement, and as part of any subsequent application.**

**Where any diversion of apparatus may be required to facilitate a scheme, NGG is unable to give any certainty with the regard to diversions until such time as adequate conceptual design studies have been undertaken by NGG. Further information relating to this can be obtained by contacting the email address below.**

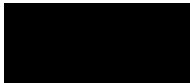
**Where the promoter intends to acquire land, extinguish rights, or interfere with any of NGG's apparatus, protective provisions will be required in a form acceptable to it to be included within the DCO.**

**NGG requests to be consulted at the earliest stages to ensure that the most appropriate protective provisions are included within the DCO application to safeguard the integrity of our apparatus and to remove the requirement for objection. All consultations should be sent to the following email address: [box.landandacquisitions@nationalgrid.com](mailto:box.landandacquisitions@nationalgrid.com)**

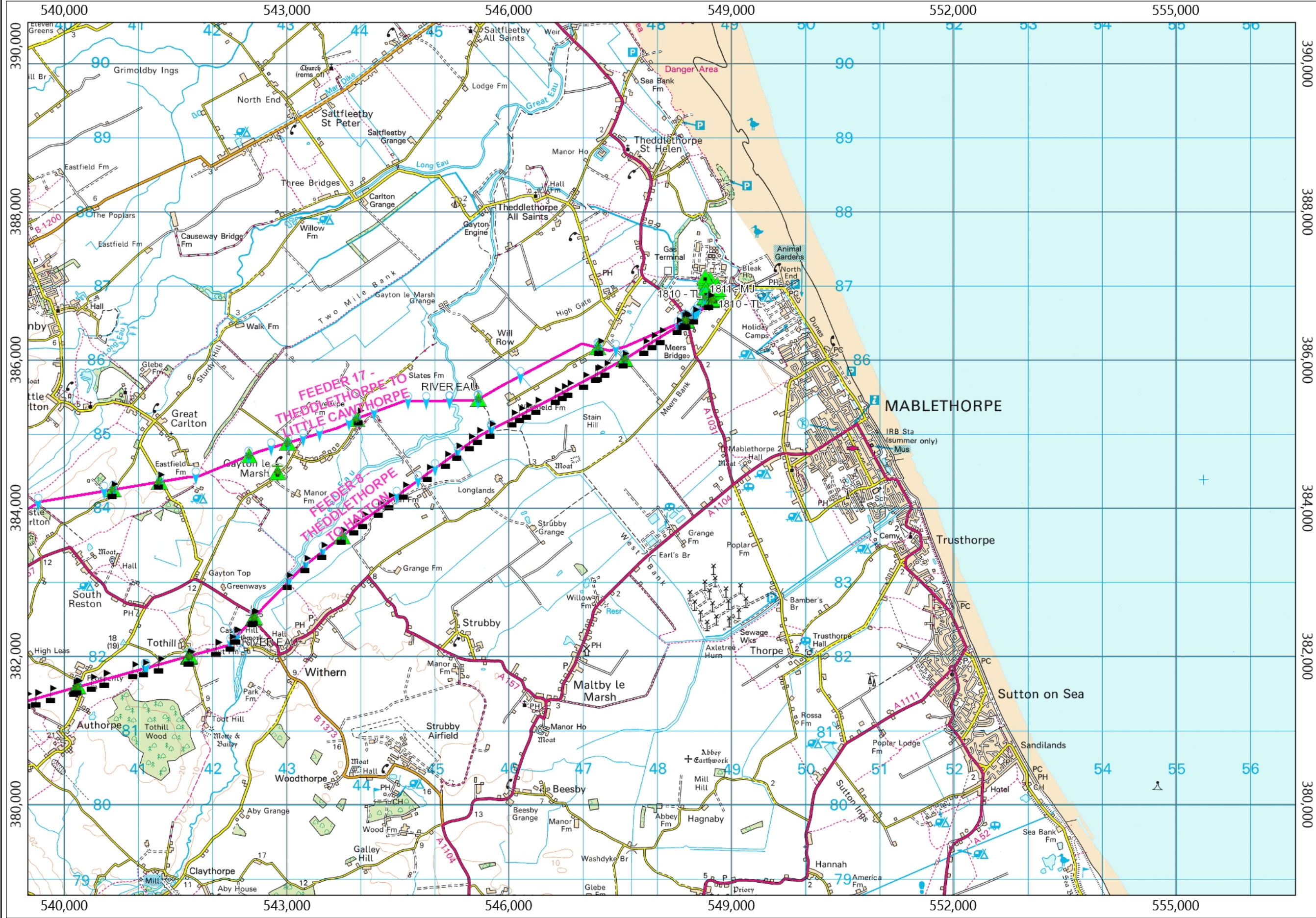
I hope the above is useful. If you require any further information please do not hesitate to contact me.

The information in this letter is provided notwithstanding any discussions taking place in relation to connections with gas customer services.

Yours faithfully

A solid black rectangular box used to redact the signature of Vicky Cashman.

**Vicky Cashman**  
**Consultant DCO Liaison Officer**



**Legend:**

- Gas Operational Boundary
- Gas Site Boundary
- Trial Hole
- Vantage Point
- Aerial Marker Post
- Pipe Crossing Point
- ▲ CP Test Post
- Transformer Rectifier
- Pipeline Crossing
- Sleeve
- Nitrogen Sleeve
- Other Sleeves
- Pipe Line Control Point
- Named Pipeline Section
- River Crossings

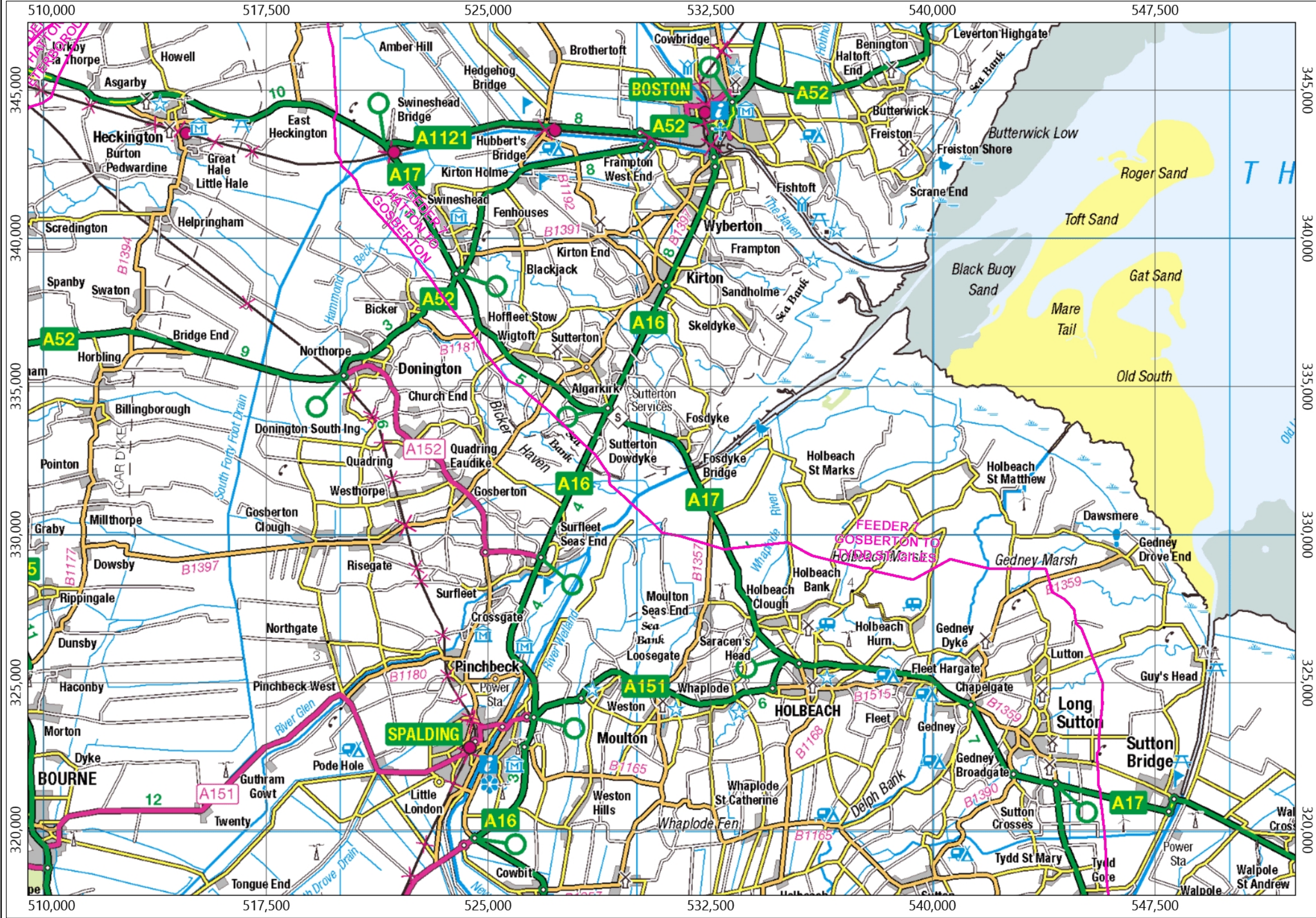
**Notes:**  
Outer Dowsing Offshore Wind NGG Plan 1

0 1.27 2.5 Kilometers  
OS Disclaimer: Background Mapping information has been reproduced from the Ordnance Survey map by permission of Ordnance Survey on behalf of The controller of Her Majesty's Stationery Office. ©Crown Copyright Ordnance Survey National Grid UK Ltd -0100059731

Date: 18/08/2022 Page size: A3 Landscape Scale: 1: 50,000  
Time: 11:57:52 Print by: Laycock, Ellie

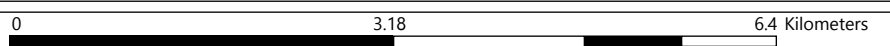


NG Disclaimer: National Grid UK Transmission. The asset position information represented on this map is the intellectual property of National Grid PLC (Warwick Technology Park, Warwick, CV346DA) and should not be used without prior authority of National Grid.  
Note: Any sketches on the map are approximate and not captured to any particular level of precision.



Legend:  
- Named Pipeline Section

Notes:  
Outer Dowsing Offshore Wind NGG Plan 2



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Date: 18/08/2022  
Time: 11:56:53  
Page size: A3 Landscape  
Print by: Laycock, Ellie  
Scale: 1: 125,000



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Note: Any sketches on the map are approximate and not captured to any particular level of precision.

**From:** [Freek, Steve](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** EN010130 - Outer Dowsing Offshore Wind - EIA Scoping Notification and Consultation  
**Date:** 10 August 2022 12:40:19  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[~WRD0000.jpg](#)  
[EN010130-Statutory-consultation-letter.pdf](#)

---

FAO Marie Shoemith

Hi Marie,

I refer to the above referenced EIA Scoping Notice and attached consultation document. The consultation relates to a proposed offshore wind farm off the coast of Lincolnshire.

Having briefly reviewed the consultation document it is noted that any onshore ancillary equipment will be located 20 – 30 miles distant from the nearest link to the Strategic Road Network, namely the A1 and A46 to the west and M180 to the north. As such the SRN will simply become a conduit for vehicular movements to/from the onshore sites/construction compounds.

With this in mind it is unlikely that the proposal will have any adverse impact on the safe operation of the SRN, the biggest impacts being experienced on the local road network (LRN) which is managed and maintained by the Local Highway Authority (LHA).

However, to fully understand the potential impact on the SRN we would wish to see a CTMP submitted as part of any future application. I note from the consultation document that you are intending to develop and adhere to, a Construction Traffic Management Plan (CTMP), an outline CTMP (OCTMP) is to be prepared at PEIR and ES stages as part of the DCO application.

National Highways welcomes the development of a CTMP to which we will provide further commentary when the document becomes available. At this stage we have no further comments to make.

Regards

**Steve Freek**

**Assistant Spatial Planner**

National Highways (Area 7), Stirling House, Lakeside Court, Osier Drive,  
Sherwood Business Park Nottingham NG15 0DS





**From:** [NATS Safeguarding](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** RE: EN010130 - Outer Dowsing Offshore Wind - EIA Scoping Notification and Consultation [SG33815]  
**Date:** 25 August 2022 11:55:27  
**Attachments:** [~WRD0001.jpg](#)  
[image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)  
[image010.png](#)  
[image011.png](#)

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Our Ref: SG33815

Dear Sir/ Madam

We refer to the application above. The proposed development has been examined by our technical safeguarding teams. In the timeframe given to us we have been unable to thoroughly investigate the effects of the proposed development on our Operations, however, the relevant teams are being consulted.

Based on our preliminary technical findings, the proposed development does conflict with our safeguarding criteria. Accordingly, NATS (En Route) plc objects to the proposal. We will notify you within 4-6 weeks of the results of our operational assessment. Only if this assessment shows the impact to be acceptable will we be able to withdraw our objection.

We would like to take this opportunity to draw your attention to the legal obligation of local authorities to consult NATS before granting planning permission for a wind farm. The obligation to consult arises in respect of certain applications that would affect a technical site operated by or on behalf of NATS (such sites being identified by safeguarding plans that are issued to local planning authorities).

In the event that any recommendations made by NATS are not accepted, local authorities are further obliged to notify both NATS and the Civil Aviation Authority ("CAA") of that fact (which may lead to the decision made being subject to review whether by the CAA referring the matter for further scrutiny or by appropriate action being taken in the courts).

As this further notification is intended to allow the CAA sufficient time to consider whether further scrutiny is required, we understand that the notification should be provided prior to any granting of permission. You should be aware that a failure to consult NATS, or to take into account NATS's comments when deciding whether to approve a planning application, could cause serious safety risks for air traffic.

If you have any queries regarding this matter you can contact us using the details as below.

Yours faithfully



NATS Safeguarding

E: [natssafeguarding@nats.co.uk](mailto:natssafeguarding@nats.co.uk)

4000 Parkway, Whiteley,  
Fareham, Hants PO15 7FL  
[www.nats.co.uk](http://www.nats.co.uk)

Date: 30 August 2022  
Our ref: Case 17783 Consultation 402283  
Your ref: EN010130



Marie Shoesmith  
The Planning Inspectorate  
Environmental Services  
Central Operations  
Temple Quay House  
2 The Square  
Bristol, BS1 6PN

Customer Services  
Hornbeam House  
Crewe Business Park  
Electra Way  
Crewe  
Cheshire  
CW1 6GJ

T 0300 060 3900

**BY EMAIL ONLY**

Dear Marie,

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11**

**Application by GTR4 Limited, trading as Outer Dowsing Offshore Wind (the Applicant) for an Order granting Development Consent for the Outer Dowsing Offshore Wind (the Proposed Development)**

**Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested**

Thank you for your letter dated 2<sup>nd</sup> August 2022 consulting Natural England on the Outer Dowsing Offshore Wind (ODOW) Environmental Impact Assessment (EIA) Scoping Report. The following constitutes Natural England's formal statutory response; however, this is without prejudice to any comments we may wish to make in light of further submissions on the presentation of additional information.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

The advice contained within this letter is provided by Natural England, which is the statutory nature conservation body within English territorial waters (0-12 nautical miles). As the application is located partially outside English territorial waters, it should be noted that pursuant to an authorisation made on the 9th of December 2013 by the JNCC under paragraph 17(c) of Schedule 4 to the Natural Environment and Rural Communities Act 2006, Natural England is authorised to exercise the Joint Nature Conservation Committee's (JNCC) functions as a statutory consultee in respect of applications for offshore renewable energy installations in offshore waters (0-200 nm) adjacent to England. This application was included in that authorisation and therefore Natural England will be providing statutory advice in respect of that delegated authority.

Case law<sup>1</sup> and guidance<sup>2</sup> has stressed the need for a full set of environmental information to be available for consideration prior to a decision being taken on whether or not to grant planning permission. Annex A to this letter provides Natural England's advice on the scope of the Environmental Impact Assessment (EIA) for this development.

## Summary of Main Points

### 1. Approach to EIA scoping

It must be noted that the scoping report produced is extremely high level and based on a large area of search. The rationale for the inclusion of these large boundaries is due to substantial components of the projects remaining undetermined at the point of scoping, in particular, regarding the location of the grid connection but also other aspects including incomplete data collection. Thereby, the EIA scoping report is extremely high level, especially when compared to non-OWF NSIPs.

This makes it difficult to provide targeted advice on the scope of the EIA at this stage and given the EIA scoping opinion from PINS is binding as regards the scope of the Environmental Statement (ES), this creates consenting risks further down the line with identifying and resolving environmental impacts/concerns.

Additionally, we highlight that because we are unable to confirm with a high level of confidence that the data collection proposed will be sufficient to inform the ES/areas of search, we are also unable to advise on the potential scale and level of risk this project may pose to nature conservation receptors. Without having this understanding, it is unclear to Natural England how this project will now progress towards submission and ensure that there is sufficient time in the pre-application phase to identify and address all of the potential environmental concerns.

There is a risk with premature EIA scoping, and submission of the Preliminary Environmental Information Report (PEIR) prior to the completion of the data collection and analysis, that consenting issues are identified late in the day and are not resolved in advance through pre-application discussions or data collection, and that Examinations are then unable to resolve these issues. This runs counter to the increased emphasis on 'front-loading' issues in the NSIP process, and the ambition of the British Energy Security Strategy as regards speeding up the consenting process.

In addition, Natural England highlight the risk that any additional data analysis has the potential to change the conclusions of the ES from those set out in the PEIR, which could cause potential delays to the project both during consenting and/or in the pre-construction phase. More generally, Natural England advises that 24 months of survey effort is the minimum expected evidence standard for bird and marine mammal data, to have any certainty to draw conclusions from and inform requirements for mitigation measures.

### 2. Focus of the EIA Scoping Report

Natural England notes the length of the EIA scoping document compared to other recent OWF EIA scoping consultations, which seems exceptionally long. This could be a result of ECC Area of Search still requiring refinement and/or inclusion of some preliminary data.

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<sup>1</sup> *Harrison, J in R. v. Cornwall County Council ex parte Hardy (2001)*

<sup>2</sup> *Note on Environmental Impact Assessment Directive for Local Planning Authorities Office of the Deputy Prime Minister (April 2004) available from <http://webarchive.nationalarchives.gov.uk/+/http://www.communities.gov.uk/planningandbuilding/planning/sustainabilityenvironmental/environmentalimpactassessment/noteenvironmental/>*

Going forwards in similar scenarios we would anticipate the focus of the EIA consultation to be on the characterisation survey methodology and approach to the assessment as there is insufficient evidence presented to enable us to agree impacts being scoped out

### 3. Transmission assets

Natural England notes that the Applicant acknowledges that the scoping report only considers the transmission infrastructure required for the Project's grid connection, and not any interconnectivity that may be required as a result of the recommended coordinated approach for the East Coast Region outlined in the National Grid Electricity System Operator (ESO)'s Holistic Network Design (HND). However, if circumstances should change and a more coordinated/joined up approach for energy transmission for multiple NSIP projects is taken forward; we advise that thorough consideration will need to be given to consenting implications from infrastructure and DCO/dML interdependency and assessing in-combination/cumulative impacts. All of which may have implications for project timelines.

### 4. Derogations

Natural England notes that the Crown Estate's plan level Habitat Regulations Assessment (HRA) has now concluded. The Round 4 plan level HRA could not rule out adverse effects on integrity (AEol) for the Flamborough and Filey Coast Special Protection Area (SPA) and the impacts of this project will therefore need to be fully compensated for. In addition, the Round 4 plan level HRA could only exclude an AEol for Inner Dowsing, Race Bank and North Ridge Special Area of Conservation (SAC) if the site was to be avoided. Because the project's preferred landfall location is likely to result in a cable route through this SAC impacts from this project on IDRBNR SAC will also need to be fully compensated for. Given the planned submission timescales for this project and potential known requirements for further compensatory measures, Natural England highlights that there is a reasonable risk that it will not be possible for robust derogations cases to be developed by the point of application.

### 5. Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards

Natural England has been leading the 'Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards' project, funded by Defra's Offshore Wind Enabling Actions Programme (OWEAP).

The project is providing up-front best practice advice on the way data and evidence is used to support offshore wind farm development and consenting in English waters, focussing on the key ecological receptors which pose a consenting risk for projects, namely seabirds, marine mammals, seafloor habitats and species and fish.

The project aims to facilitate the sustainable development of low impact offshore wind by increasing clarity for industry, regulators and other stakeholders over data and evidence requirements at each stage of offshore wind development, from pre-application through to post-consent.

The advice documents are currently stored on a SharePoint Online site, access to the SharePoint site needs to be requested from [neoffshorewindstrategicsolutions@naturalengland.org.uk](mailto:neoffshorewindstrategicsolutions@naturalengland.org.uk). Please allow up to three working days for requests to access the site to be granted. Natural England is currently reviewing ways of making the advice more accessible and open access.

The ES should be fully informed by the recommendations in the Best Practice Advice, and we will increasingly be appraising ESs with respect to the extent to which the guidance has been followed.

Please see **Annex A** for guidance on EIA requirements. In **Annex B** we provide detailed comments on the project-specific aspects of the scoping report.

Further guidance is set out in Planning Practice Guidance on [environmental assessment, natural environment and climate change](#).

In accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again if the proposal is amended in any way which significantly affects its impact on the natural environment.


Please note that Natural England must be consulted on Environmental Statements.

Please send any new consultations or further information on this consultation to [consultations@naturalengland.org.uk](mailto:consultations@naturalengland.org.uk).

For any queries relating to the specific advice in this letter please contact me using the details below.

Yours sincerely,

Deanna Atkins  
Marine Lead Adviser  
West Anglia Team



## Annex A – Advice related to EIA Scoping Requirements

### 1. General Principles

Schedule 4 of the Town & Country Planning (Environmental Impact Assessment) Regulations 2017 / Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (Regulation 10) sets out the necessary information to assess impacts on the natural environment to be included in an Environmental Statement (ES), specifically:

- A description of the development – including physical characteristics and the full marine use requirements of the site during construction and operational phases.
- Expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc.) resulting from the operation of the proposed development.
- An assessment of alternatives and clear reasoning as to why the preferred option has been chosen.
- A description of the aspects of the environment likely to be significantly affected by the development, including population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape/seascape, and the interrelationship between the above factors.
- A description of the likely significant effects of the development on the environment – this should cover direct effects but also any indirect, secondary, cumulative, short, medium, and long term, permanent and temporary, positive, and negative effects. Effects should relate to the existence of the development, the use of natural resources and the emissions from pollutants. This should also include a description of the forecasting methods to predict the likely effects on the environment.
- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.
- A non-technical summary of the information.
- An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals and a thorough assessment of the ‘in combination’ effects of the proposed development with any existing developments and current applications. A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure and activities should be included within the assessment.

Natural England’s advice on the scope and content of the Environmental Statement is given in accordance with the National Infrastructure Planning Advice Notes:

<https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

### 2. Biodiversity and Geology

#### 2.1 Ecological Aspects of an Environmental Statement

Natural England advises that the potential impact of the proposal upon features of nature conservation interest and opportunities for habitat creation/enhancement should be included within this assessment in accordance with appropriate guidance on such matters. [Guidelines](#) for Ecological Impact Assessment (EclA) have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM) and are available on their website.

EclA is the process of identifying, quantifying, and evaluating the potential impacts of defined actions on ecosystems or their components. EclA may be carried out as part of the EIA process or to support other forms of environmental assessment or appraisal.

The [National Planning Policy Framework \(NPPF\)](#) sets out guidance in S.174-177 on how to take account of biodiversity interests in planning decisions and the framework that the responsible authority should provide to assist developers. Further guidance is set out in Planning Practice Guidance on the [natural environment](#).

## **2.2 Designated Sites – Special Protection Areas (SPAs) and Special Areas of Conservations (SACs)**

The ES should thoroughly assess the potential for the proposal to affect designated sites. Internationally designated sites (e.g., designated Special Areas of Conservation (SAC) and Special Protection Areas (SPA)) fall within the scope of the Conservation of Habitats and Species Regulations 2017 (as amended). In addition, paragraph 181 of the National Planning Policy Framework requires that potential Special Protection Areas, possible Special Areas of Conservation, listed or proposed Ramsar sites, and any site identified as being necessary to compensate for adverse impacts on classified, potential, or possible SPAs, SACs and Ramsar sites be treated in the same way as classified sites. (NB. sites falling within the scope of regulation 8 of the Conservation of Habitats and Species Regulations 2017 are defined as 'habitats sites' in the NPPF).

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) and Regulation 28 of the Conservation of Offshore Habitats and Species Regulations 2017 (as amended) an appropriate assessment needs to be undertaken in respect of any plan or project which is (a) likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and (b) not directly connected with or necessary to the management of the site.

Further information on the special interest features, their conservation objectives, and any relevant conservation advice packages for designated sites is available on our website <https://designatedsites.naturalengland.org.uk/> ; and the JNCC website.

The Generation assets of the Project partially fall within the following designated conservation sites:

- Southern North Sea SAC

The Generation assets of the Project fall outside, but may have the potential to impact the following designated sites:

- Flamborough and Filey Coast SPA
- The Greater Wash SPA
- Humber Estuary SPA
- North Norfolk Coast SPA

The offshore export cable corridor (ECC) area of search overlaps with the following designated nature conservation sites:

- Inner Dowsing, Race Bank and North Ridge Special Area of Conservation (SAC)
- The Greater Wash SPA
- The Humber Estuary SPA
- Inner Silver Pit South Candidate Highly Protected Marine Area (HPMA)

The transmission assets of the Project fall outside, but may have the potential to impact the following designated sites:

- Gibraltar Point SPA
- North Norfolk Coast SPA
- The Wash SPA

**Please note:** As the cable corridor is currently an area of search, at this stage we are unable to provide a more definitive list of sites relevant to the Transmission assets.

The ES should include a full assessment of the direct and indirect effects of the development on the features of special interest within these sites and should identify such mitigation measures as may be required in order to avoid, minimise, or reduce any adverse significant effects.

Internationally designated site conservation objectives are available on our internet site: <http://publications.naturalengland.org.uk/category/6490068894089216>

### **2.3 Habitats Regulations Assessment**

If the proposal outlined within the scoping document has the potential to significantly affect features of the designated sites and the activity is not directly connected to the management of any designated site it should be assessed under regulation 63 the Conservation of Species and Habitats Regulations (2017)/ regulation 28 of the Conservation of Offshore Species and Habitats regulations (2017). Should a Likely Significant Effect on an Internationally designated site be identified or be uncertain, the competent authority (e.g., the Marine Management Organisation or Local Planning Authority or Government Department) may need to prepare an Appropriate Assessment, in addition to consideration of impacts through the EIA process.

If during the EIA process the potential for a Likely Significant Effect on the conservation objectives of the sites cannot be ruled out the competent authority for the licence/consent (MMO / Government Department) should undertake an Appropriate Assessment of the implications for the site in view of its conservation objectives. Noting recent case law (*People Over Wind*<sup>3</sup>) measures intended to avoid and/or reduce the likely harmful effects on an internationally designated sites cannot be taken into account when determining whether or not a plan or project is likely to have a significant effect on a site, therefore consideration is required at Appropriate Assessment. Natural England wishes to be consulted on the scope of the Habitats Regulations Assessment and the information that will be produced to support it and should be formally consulted on any Appropriate Assessment provided for the proposal (Regulation 63).

The consideration of Likely Significant Effects should include any functionally linked habitat outside the designated site. These areas may provide important habitat for mobile species populations that are qualifying features of the site, for example birds and bats. This can also include areas which have a critical function to a habitat feature within a designated site, for example by being linked hydrologically or geomorphologically. Further guidance is set out in Planning Practice Guidance on appropriate assessment here: <https://www.gov.uk/guidance/appropriate-assessment>

Further information on the special interest features, their conservation objectives, and any relevant conservation advice packages for designated sites is available on our website <https://designatedsites.naturalengland.org.uk/> ; and the Joint Nature Conservation Committee (JNCC) website [About Marine Protected Areas | JNCC - Adviser to Government on Nature Conservation](#).

### **2.4 Highly Protected Marine Areas (HPMAs), Sites of Special Scientific Interest (SSSI) and Marine Conservation Zones (MCZ's)**

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<sup>3</sup> *People Over Wind and Sweetman vs Coillte Teoranta* (ref: C 323/17).



*i) Generation assets*

The Generation assets of the Project do not fall within or adjacent to any nationally designated sites.

*ii) Transmission assets*

**Please note:** As there is only an area of search for the cable corridor at this stage, we are unable to provide an definitive list of sites relevant to the Transmission assets, but these should be identified and fully considered within an Environmental Statement (ES).

### **Highly Protected Marine Areas (HPMAs)**

The marine element of the export cable area of search may overlap with part of the Inner Silver Pit South HPMA.

Further information on the location of potential HPMAs including Inner Silver Pit South candidate HPMA can be found at <https://consult.defra.gov.uk/hpma/consultation-on-highly-protected-marine-areas/> . The ES should include a full assessment of the direct and indirect effects of the development on the features of any candidate HPMA and should identify such mitigation measures as may be required in order to avoid, minimise, or reduce any adverse significant effects

### **Sites of Special Scientific Interest (SSSIs)**

Further information on the location of SSSIs and their special interest features can be found at [www.magic.gov.uk](http://www.magic.gov.uk) . The ES should include a full assessment of the direct and indirect effects of the development on the features of special scientific interest and should identify such mitigation measures as may be required in order to avoid, minimise, or reduce any adverse significant effects.

- Flamborough Head SSSI
- The Wash SSSI
- Gibraltar Point SSSI
- Chapel Point – Wolla Bank SSSI
- Saltfleetby – Theddlethorpe Dunes SSSI
- Humber Estuary SSSI
- Sea Bank Clay Pits SSSI

### **Marine Conservation Zones**

Marine Conservation Zones are areas that protect a range of nationally important, rare, or threatened habitats and species. You can see where MCZs are located and their special interest features on [www.magic.gov.uk](http://www.magic.gov.uk) . Factsheets that establish the purpose of designation and conservation objectives for each of the MCZ's are available at <https://www.gov.uk/government/collections/marine-conservation-zone-designations-in-england>

The Offshore Transmission assets of the development are adjacent to the following Marine Conservation Zones:

- Holderness Offshore MCZ

The ES should consider including information on the impacts of this development on MCZ interest features, to inform the assessment of impacts on habitats and species of principle importance for this location. Further information on MCZs is available via the following link: <http://publications.naturalengland.org.uk/category/1723382>

Further information on the special interest features, the conservation objectives, and relevant conservation advice packages for designated sites is available on our website <https://designatedsites.naturalengland.org.uk/>

## **2.5 Regionally and Locally Important Sites**

The EIA will need to consider any impacts upon local wildlife and geological sites. Local Sites are identified by the local wildlife trust, geoconservation group or a local forum established for the purposes of identifying and selecting local sites. They are of county importance for wildlife or geodiversity. The ES should therefore include an assessment of the likely impacts on the wildlife and geodiversity interests of such sites. The assessment should include proposals for mitigation of any impacts and if appropriate, compensation measures. Contact the local wildlife trust(s), geoconservation group(s) or local sites body in onshore areas of search for further information.

## **2.6 Protected Species - Species protected by the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 (as amended)**

The ES should assess the impact of all phases of the proposal on protected species (including, for example, pinnipeds (seals), cetaceans (including dolphins, porpoises, and whales), fish (including seahorses, sharks, and skates), marine turtles, birds, marine invertebrates, bats, etc.). Information on the relevant legislation protecting these species can be reviewed on the following link <https://www.gov.uk/government/publications/protected-marine-species> . Natural England does not hold comprehensive information regarding the locations of species protected by law but advises on the procedures and legislation relevant to such species. Records of protected species should be sought from appropriate local biological record centres, nature conservation organisations, [NBN Atlas](#), groups, and individuals; and consideration should be given to the wider context of the site for example in terms of habitat linkages and protected species populations in the wider area, to assist in the impact assessment.

The conservation of species protected by law is explained in Part IV and Annex A of Government Circular 06/2005 [Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System](#). The area likely to be affected by the proposal should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES.

In order to provide this information, there may be a requirement for a survey at a particular time of year. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and where necessary, licensed, consultants. **For Land Based Impacts:** Natural England has adopted [standing advice](#) for protected species which includes links to guidance on survey and mitigation.

## **2.7 Habitats and Species of Principal Importance**

The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List, published under the requirements of S41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act 2006 places a general duty on all public authorities, including local planning authorities, to conserve and enhance biodiversity. Further information on this duty is available here <https://www.gov.uk/guidance/biodiversity-duty-public-authority-duty-to-have-regard-to-conserving-biodiversity> .

Government Circular 06/2005 states that Biodiversity Action Plan (BAP) species and habitats, 'are capable of being a material consideration...in the making of planning

decisions'. Natural England therefore advises that survey, impact assessment and mitigation proposals for Habitats and Species of Principal Importance should be included in the ES. Consideration should also be given to those species and habitats included in the relevant Local BAP.

### **For Developments with a Land based element**

Natural England advises that a habitat survey (equivalent to Phase 2) is carried out on the site, in order to identify any important habitats, present. In addition, ornithological, botanical, and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present. The Environmental Statement should include details of:

- Any historical data for the site affected by the proposal (e.g., from previous surveys);
- Additional surveys carried out as part of this proposal;
- The habitats and species present;
- The status of these habitats and species (e.g., whether priority species or habitat);
- The direct and indirect effects of the development upon those habitats and species;
- Full details of any mitigation or compensation that might be required.

The development should seek, if possible, to avoid adverse impact on sensitive areas for wildlife within the site, and if possible, provide opportunities for overall wildlife gain.

The record centre for the relevant Local Authorities should be able to provide the relevant information on the location and type of priority habitat for the area under consideration.

## **2.8 Contacts for Local Records**

Natural England does not hold local information on local sites, local landscape character and local or national biodiversity priority habitats and species. We recommend that you seek further information from the appropriate bodies (which may include the local records centre, the local wildlife trust, local geoconservation group or other recording society and a local landscape characterisation document).

## **3. Designated Landscapes and Landscape/Seascape Character**

### **3.1 Nationally Designated Landscapes**

Consideration should be given to any potential direct or indirect impacts to designated landscapes.

**Please note:** As there is only an area of search for the cable corridor at this stage, we are unable to provide definitive advice on specific designated landscapes at this time. However, we note that the settings of the Lincolnshire Wolds Area of Outstanding Natural Beauty may require further consideration once the final cable corridor is confirmed

### **3.2 Landscape/Seascape and visual impacts**

Natural England would wish to see details of local landscape character areas mapped at a scale appropriate to the development site, as well as any relevant management plans or strategies pertaining to the area. The EIA should include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography.

The EIA should include a full assessment of the potential impacts of the development on local landscape character using [landscape/seascape assessment methodologies](#). We encourage the use of Landscape and Seascape Character Assessment (LCA/SCA), based

on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA/SCA provides a sound basis for guiding, informing, and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character, as detailed proposals are developed.

Natural England supports the publication *Guidelines for Landscape and Visual Impact Assessment*, produced by the Landscape Institute and the Institute of Environmental Assessment and Management in 2013 (3rd edition). The methodology set out is almost universally used for landscape and visual impact assessment. For National Parks and Areas of Outstanding Natural Beauty (AONBs), we advise that the assessment also includes effects on the 'special qualities' of the designated landscape, as set out in the statutory management plan for the area. These identify the particular landscape and related characteristics which underpin the natural beauty of the area and its designation status.

In order to foster high quality development that respects, maintains, or enhances, local landscape / seascape character and distinctiveness, Natural England encourages all new development to consider the character and distinctiveness of the area, with the siting and design of the proposed development reflecting local design characteristics and, wherever possible, using local materials. The Environmental Impact Assessment process should detail the measures to be taken to ensure the building design will be of a high standard, as well as detail of layout alternatives together with justification of the selected option in terms of landscape impact and benefit.

The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. In this context Natural England advises that the cumulative impact assessment should include other proposals currently at Scoping stage. Due to the overlapping timescale of their progress through the planning system, cumulative impact of the proposed development with those proposals currently at Scoping stage would be likely to be a material consideration at the time of determination of the planning application.

The assessment should refer to the relevant [National Character Areas](#) which can be found on our website. Links for Landscape / Seascape Character Assessment at a local level are also available on the same page.

<https://www.gov.uk/government/publications/seascape-assessments-for-north-east-north-west-south-east-south-west-marine-plan-areas-mmo1134>

<https://data.gov.uk/dataset/3fed3362-2279-4645-8aaf-c6b431c94485/mmo1037-marine-character-areas>

#### **4. Access and Recreation**

Natural England encourages any proposal to incorporate measures to help encourage people to access the countryside for quiet enjoyment. Measures such as reinstating existing footpaths together with the creation of new footpaths and bridleways are to be encouraged. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green/blue infrastructure. Relevant aspects of local authority green/blue infrastructure strategies should be incorporated where appropriate.

##### **4.1 England Coast Path**

The England Coast Path (ECP) is a new National Trail that will extend around all of England's coast with an associated margin of land predominantly seawards of this, for the public to access and enjoy. Natural England takes great care in considering the interests of both landowners/occupiers and users of the England Coast Path, aiming to strike a fair balance when working to open a new stretch. We follow an approach set out in the approved

Coastal Access Scheme and all proposals must be approved by the Secretary of State. We would encourage any proposed development to include appropriate provision for the England Coast Path to maximise the benefits this can bring to the area. We suggest that the development includes provision for a walking or multi-user route, where practicable and safe. This should not be to the detriment of nature conservation, historic environment, landscape character or affect natural coastal change. Consideration for how best this could be achieved should be made within the Environmental Statement.

As part of the development of the ECP a 'coastal margin' is being identified. The margin includes all land between the trail and the sea. It may also extend inland from the trail if:

- it's a type of coastal land identified in the Countryside and Rights of Way Act 2000 (CROW Act), such as beach, dune, or cliff
- there are existing access rights under section 15 of the CROW Act
- Natural England and the landowner agree to follow a clear physical feature landward of the trail

Maps for sections of the ECP and further proposals for adoption are available here:

<https://www.gov.uk/government/collections/england-coast-path-improving-public-access-to-the-coast>

#### **4.2 Rights of Way, Access land, Coastal access, and National Trails**

The EIA should consider potential impacts on access land, public open land, rights of way and coastal access routes in the vicinity of the development. Consideration should also be given to the potential impacts on the adjacent/nearby National Trail. The National Trails website [www.nationaltrail.co.uk](http://www.nationaltrail.co.uk) provides information including contact details for the National Trail Officer. Appropriate mitigation measures should be incorporated for any adverse impacts. We also recommend reference to the relevant Right of Way Improvement Plans (ROWIP) to identify public rights of way within or adjacent to the proposed site that should be maintained or enhanced.

#### **5. Water Quality**

Increases in suspended sediment concentrations (SSC) during construction and operation (e.g., future dredging works) have the potential to smother sensitive habitats. The ES should include information on the sediment quality and potential for any effects on water quality through suspension of contaminated sediments. The EIA should also consider whether increased suspended sediment concentrations resulting are likely to impact upon the interest features and supporting habitats of the designated sites as listed above.

The ES should consider whether there will be an increase in the pollution risk as a result of the construction or operation of the development.

For activities in the marine environment up to 1 nautical mile out at sea, a Water Framework Directive (WFD) assessment is required as part of any application. The ES should draw upon and report on the WFD assessment considering the impact the proposed activity may have on the immediate water body and any linked water bodies. Further guidance on WFD assessments is available here: <https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters>

#### **6. Air Quality**

Air quality in the UK has improved over recent decades but air pollution remains a significant issue; for example, over 97% of sensitive habitat area in England is predicted to exceed the critical loads for ecosystem protection from atmospheric nitrogen deposition ([England Biodiversity Strategy](#), Defra 2011). A priority action in the England Biodiversity Strategy is to reduce air pollution impacts on biodiversity. The planning system plays a key role in

determining the location of developments which may give rise to pollution, either directly or from traffic generation, and hence planning decisions can have a significant impact on the quality of air, water, and land. The assessment should take account of the risks of air pollution and how these can be managed or reduced. Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System ([www.apis.ac.uk](http://www.apis.ac.uk)). Further information on air pollution modelling and assessment can be found on the Environment Agency website.

## **7. Climate Change Adaptation**

The [England Biodiversity Strategy](#) published by Defra establishes principles for the consideration of biodiversity and the effects of climate change. The ES should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained. The NPPF requires that the planning system should contribute to the enhancement of the natural environment 'by establishing coherent ecological networks that are more resilient to current and future pressures' (NPPF Para 174), which should be demonstrated through the ES.

Further information is available from the [Committee on Climate Change's \(CCC\) Independent Assessment of UK Climate Risk](#), the [National Adaptation Programme \(NAP\)](#), the [Climate Change Impacts Report Cards](#) (biodiversity, infrastructure, water etc.) and the [UKCP18 climate projections](#).

## **8. Contribution to local environmental initiatives and priorities**

Due to the lack of detail available at this stage, Natural England is unable to provide any information on how this development first with local initiatives and priorities such as the delivery of green/blue infrastructure, biodiversity opportunity areas or biodiversity enhancements.

## **9. Cumulative and in-combination effects**

It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals and a thorough assessment of the 'in combination' effects of the proposed development with any existing developments and current applications. A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure and activities should be included within the assessment.

The ES should include an impact assessment to identify, describe and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment, (subject to available information):

- a. existing completed projects;
- b. approved but uncompleted projects;
- c. ongoing activities;
- d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
- e. plans and projects which are reasonably foreseeable, i.e., projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

Natural England's advice on the scope and content of the Environmental Statement is given in accordance with the National Infrastructure Planning Advice Notes:

<https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>



## Annex B – Detailed comments

### General Comments

**Rochdale Envelope** - Natural England recognises the need to use a Rochdale Envelope approach to allow flexibility in project design to ensure that changes in available technologies and project economics can be considered post consent. However, Natural England has concerns over the extent to which uncertainty in ground conditions is driving the extent of the project envelope, and that the Rochdale Envelope approach is resulting in the provision of insufficient baseline information to inform both project design and assessment of impacts. The lack of understanding of the ground conditions results in the use of Maximum Design Scenarios (MDSs) that are conservative enough to make up for that lack of understanding and allow for all eventualities. This in turn translates into a vast number of variables, causing difficulties in assessment, as it is difficult to identify and assess a realistic worst-case scenario for each of the relevant receptors with any certainty, which in turn necessitates precautionary assessments given this uncertainty. That presents challenges when it comes to identifying appropriate mitigation measures.

**Scoping Timing** – Due to the capacious scoping envelope for offshore and especially the onshore ECC, it is challenging to scope impacts out at this stage and therefore difficult for Natural England to comment meaningfully. Further consideration is likely needed in relation to the cable corridor and need for further scoping or ongoing discussions.

**Natural England Best Practice Guidance** – Natural England is increasingly utilising the best practice guidance to provide information to developers on the expected methodologies and then to appraise their robustness, rather than give detailed advice on alternative methodologies that a developer/consultant wishes to use instead.

**EIA Matrices** – Natural England notes that the approach to the EIA assessment is proposed to align with other OWF NSIPs. This matrix approach has been used throughout ESs to date to support the assessment of the magnitude and significance of impacts. Natural England notes numerous instances where significance has been presented as a range (i.e., slight, or moderate, or large) and it is nearly always the lower value that has been taken forward. Indeed, to date no offshore windfarm has identified ecological impacts that are assessed as significant in EIA terms, either cumulatively or in-combination which is surprising. In the absence of evidence to support the use of the lower value in a range, Natural England's view is that the higher value should always be assessed in order to ensure that impacts on features are not incorrectly screened out of further assessment. This is in line with the principles of the Rochdale envelope approach.



### Structure/Framework for Natural England advice in relation to risk and potential to resolve -

- **Red:** Natural England considers these issues to be showstoppers i.e., unless baseline data; significant design changes; and/or significant mitigation is provided, then we advise that a lasting and significant adverse effect on protected sites, species, landscape/seascape, or the wider environment cannot be ruled out meaning the EIA will have significant unresolved challenges.
- **Amber:** Natural England considers that if these are not addressed/resolved then they would have the potential to become a RED risk as set out above. Likely to relate to fundamental issues with assessment methodology which could be rectified, preferably before examination.
- **Yellow:** These are issues/comments where NE doesn't agree with the Applicant's position and/approach. Unless otherwise stated, we are satisfied for this particular project that it will not make a material difference to our advice or the outcome of the decision-making process. However, it should be noted that this may not be the case for other projects.
- **Green:** Natural England support for something the Applicant has done, and we would possibly encourage others to do similar.
- **Grey:** Flagging issues that are outside of NE remit and/or NE has no further comment on unless further evidence is presented.

### Section 2 Need, Policy and Legislative Context

| Point No. | Section | Para    | Topic                 | Comments                                                                                                                                                                                                                 | RAG | Recommendations |
|-----------|---------|---------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------|
| 1.        | 2.3     | General | Biodiversity Net Gain | Natural England agrees with the legislation details noted and welcomes the statement that ' <i>biodiversity net gain in the marine environment will be a material consideration for the project's DCO application</i> '. |     | N/A             |

### Section 3 Description of the Project

| Point No. | Section | Para | Topic        | Comments                                                                        | RAG | Recommendations                                                |
|-----------|---------|------|--------------|---------------------------------------------------------------------------------|-----|----------------------------------------------------------------|
| 2.        | 3.4     | 1    | Wind Turbine | No minimum air gap/draught height is currently provided within the Wind Turbine |     | NE seeks clarification of the proposed minimum draught height. |

|  |  |  |                   |                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                         |
|--|--|--|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------|
|  |  |  | Generators (WTGs) | <p>Generators (WTG) indicative key design parameters in Table 3.4.1 or elsewhere in the Scoping Report.</p> <p>Previous detailed advice has been given in NE's response to the Scope of Works under the heading <b>Project preliminary draught height/air gap (height of lower rotor tip above sea surface)</b> regarding increasing the draught height as much as possible above 22m to reduce collision risk.</p> |  | NE strongly advises that draught height should be raised as much as possible above 22m. |
|--|--|--|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------|

#### Section 4 Site Selection and Consideration of Alternatives

| Point No. | Section | Para    | Topic                  | Comments                                                                                                                                                                                                                  | RAG | Recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|---------|---------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.        | 4.2     | General | General                | Natural England highlights Inner Silver Pit South candidate HPMA is out for public consultation, and it is therefore a material consideration in planning, especially as the ECC search area overlaps with candidate HPMA |     | We encourage the applicant to review consultation documentation relating to the Inner Silver Pit candidate HPMA <a href="https://consult.defra.gov.uk/hpma/consultation-on-highly-protected-marine-areas/">https://consult.defra.gov.uk/hpma/consultation-on-highly-protected-marine-areas/</a> . The ES should include a full assessment of the direct and indirect effects of the development on the features of any candidate HPMA and should identify such mitigation measures as may be required in order to avoid, minimise, or reduce any adverse significant effects |
| 4.        | 4.2     | 6       | Project array boundary | We support that "The distance from adjacent coastlines and in particular areas subject to landscape designations" was used to define the project array area                                                               |     | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|    |     |   |                                                     |                                                                                         |  |                                                                                                                                                                                                   |
|----|-----|---|-----------------------------------------------------|-----------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |     |   |                                                     | (i.e., the “site boundary” shown on Image 1.5.1).                                       |  |                                                                                                                                                                                                   |
| 5. | 4.5 | 6 | Area of Search (AoS) and Preliminary Site Selection | The Area of Search (AoS) within which cable landfall options will be evaluated is wide. |  | We are unable to make detailed comments on the landfall and offshore export cable corridor (OECC) at this stage owing to the width of the Area of Search (AoS), and lack of detailed information. |

### Section 5 EIA Methodology

Natural England advises that agreement on the EIA Scope is unlikely to be achieved at this current stage due to the width of the Area of Search (AoS) and the subsequent lack of detailed information. With this in mind, when allocating significance of an effect, Natural England would find it useful to have an additional section that determines the confidence level (high/medium/low) of the assessment of potential impacts to help us understand the developer’s judgement. Additionally, we advise that minor impacts should be included in the assessment of cumulative impacts. Natural England look forward to being consulted on this matter again once the grid connection location is confirmed and the study area more clearly defined.

| Point No. | Section | Para | Topic                       | Comments                                                                                                                                                                                                                                      | RAG | Recommendations                                                                                                                                    |
|-----------|---------|------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.        | 5.3     | 1    | EIA Best Practice           | Although the NE OWEAP guidance has been referred to in other places within the EIA Scoping Report, it isn’t listed in section 5.3.1.                                                                                                          |     | Natural England encourages the applicant to add the NE OWEAP guidance to this list.                                                                |
| 7.        | 5.5     | 1    | Overview of the EIA Process | Figure 5.5.1 – Natural England would like to note that the first step: ‘ <i>Scoping - Identification of Sensitive Environmental Receptors &amp; Agreement on EIA Scope</i> ’, is unlikely to be fully achieved through this scoping exercise. |     | Please see comments above for 4.5.6 regarding the Area of Search, in addition to the general comments provided above regarding the Scoping Timing. |
| 8.        | 5.7     | 12   | The Proposed EIA            | The plan here is to screen out Minor – Not Significant categories from Figure 5.7.1. But there is no mention here or in 5.8 in relation                                                                                                       |     | It would be useful in this Section (Section 5.7) to have an extra heading below 5.7.13 that determines the confidence level of the                 |

|     |     |    |                                                        |                                                                                                                                                                             |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----|-----|----|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |     |    | Methodology - Allocating Significance                  | to cumulative Minor Effects from the Project's risk matrix acting in combination with each other to produce significant effects                                             |  | assessment of potential impacts to help us understand the developer's judgement. This could be undertaken on a simple scale of high-medium-low, where high confidence assessments are made on the basis of robust evidence, with lower confidence assessments being based on extrapolation or use of proxies. Please see the Dogger Bank South scoping report for an example.                                                                                                                                                                                                                                                    |
| 9.  | 5.7 | 13 | The Proposed EIA Methodology - Allocating Significance | The Scoping Report states that impacts assessed to be 'Minor adverse' will not be considered significant in EIA terms.                                                      |  | Natural England advises that minor impacts should be included in the assessment of cumulative impacts where there is a possibility, they may interact with other impacts from this or other projects.                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 10. | 5.8 | 2  | Cumulative Effects                                     | It is stated that "Projects that are built and operational at the time that any baseline survey data were collected will be classified as part of the baseline conditions". |  | Please clarify what is meant by this statement with regards to projects that will be included in the cumulative impact assessment. As advised for Sheringham and Dudgeon Extension projects, Natural England does not consider projects to be 'part of the baseline' in terms of cumulative or in-combination effects, unless the data under-pinning the designation of a site (e.g., distribution, population size, survival rate) were all collected subsequent to the construction or operation of projects. Furthermore, any projects with ongoing impacts should be considered as part of the cumulative impact assessment. |
| 11. | 5.8 | 2  | Cumulative Effects                                     | It is stated that "The most up to date details for all other plans/projects will be used as                                                                                 |  | We recommend that for the offshore ornithology assessments the consented                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|     |     |   |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                            |
|-----|-----|---|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |     |   |                                 | the basis of the CEA including for those projects already implemented, the final 'as built' details". If this includes updating CRM estimates from other OWFs with 'as-built' parameters, NE require proof that new collision figures are 'legally secured' i.e., there is no way that any remaining consented capacity could be constructed in the future thus invalidating the modelling. Furthermore, any CRM parameters etc. need to be agreed with NE. Currently there is no legal mechanism for this, although there are ongoing discussions between NE and BEIS in order to achieve this. |  | collision predictions should be used for projects included within the cumulative/in-combination collision assessments. We recommend ODOW consider our advice regarding as built vs consented scenarios provided during the recent Norfolk Boreas examination <sup>45</sup> and on Non-Material Changes (NMCs) during the East Anglia One North/East Anglia Two examinations <sup>6</sup> . |
| 12. | 5.8 | 4 | The Longlisting and Shortlistin | This paragraph (5.8.4) states that plans and projects will be screened based on their proximity to the Project but also the range over which receptors may be cumulatively                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Natural England believe that at this stage of the development, it is too early to be screening out any potential impacts until further work has been done. What is the                                                                                                                                                                                                                     |

<sup>4</sup> Natural England (2020) Norfolk Boreas Offshore Wind Farm: Deadline 6 –Natural England’s comments on Norfolk Boreas approach to as-built vs consented turbine numbers and headroom in cumulative/in-combination collision assessments.

Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-001760-DL6%20-%20NE%20-%20Comments%20on%20Headroom.pdf>

<sup>5</sup> Natural England (2020) Norfolk Boreas Offshore Wind Farm: Deadline 7 –Natural England’s Updated Ornithology Advice.

Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-001965-DL7%20-%20NE%20-%20Updated%20Ornithology%20advice.pdf>

<sup>6</sup> Natural England (2021) Appendix A22 to the Natural England Deadline 11 Submission Natural England’s Representation to East Anglia ONE (EA1) Non-Material Change to DCO Application.

Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-005285-DL11%20-%20Natural%20England%20EA1N%20Appendix%20A22%20NE%20Representation%20to%20East%20Anglia%20ONE%20Non-Material%20Change%20to%20DCO.pdf>

|  |  |  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                                                                                                                                                                                                 |
|--|--|--|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | g Process - Transboundary Effects | <p>affected e.g., for marine mammals and birds.</p> <p>Then in section 5.10.6/7 it is stated that “transboundary impacts have been screened out for offshore aspects, except in relation to the following topics ...”.</p> <p>The screening out of transboundary effects arising from the onshore aspects of the Project (section 5.10.6) may fail to highlight effects arising from migratory bird species using the onshore area of the development.</p> |  | <p>purpose of screening out ‘transboundary effects’ for certain receptors at this stage? It would seem more sensible to assess the impacts, understand their magnitude and extent and then determine whether there was the potential for these impacts to cross boundaries.</p> |
|--|--|--|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Section 7 Offshore Environment

### 7.1 Marine Physical Processes

Natural England advises the mitigation hierarchy is applied, with particular focus to the avoidance of MPAs in the first instance. In relation to this, and given the overlap with the ECC search area, we encourage the applicant to review consultation documentation relating to the Inner Silver Pit candidate HPMA. Careful consideration should be given to potential impacts over all stages of the project lifetime (construction, operation, maintenance, and decommissioning) for seabed features and mobility, as well as coastal form. The assessment should also consider changes to the hydrodynamic regime, tidal currents, and water depth within and adjacent to the proposed development. Natural England has provided suggestions below of other mitigation measures that should be considered in addition to those already proposed within the EIA Scoping Report. We refer the Applicant to our Cabling Lessons Learnt guidance in relation to the decommissioning cable protection, as well as the Benthic Subtidal and Intertidal chapter of the EIA Scoping Report. Once landfall is known, we advise recent coastal frontage survey data should be gathered to better inform baseline characterisation.

| Point No. | Section | Para    | Topic                     | Comments                                                                                                                                             | RAG | Recommendations                                                                                                                                                    |
|-----------|---------|---------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13.       | 7.1     | General | Marine Physical Processes | This section makes some links with other ES chapters but not offshore ornithology, which needs looking at given likely foraging of FFC SPA seabirds. |     | Natural England recommend that offshore ornithology is linked to the Marine Physical Processes chapter, with particular focus to the foraging of FFC SPA seabirds. |

|     |     |    |                                           |                                                                                                                                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                             |
|-----|-----|----|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14. | 7.1 | 11 | Baseline Environment-Geology              | Geology                                                                                                                                                                                                                                                                                 |  | We advise including a map showing the regional geology across the study area.                                                                                                                                                                                                                                               |
| 15. | 7.1 | 13 | Baseline Environment-Seabed Features      | There are a number of sandbanks, sandbank systems and other notable seabed features (including the potential HPMA Inner Silver Pit) within or close to the array and/or offshore ECC. These could be impacted by changes to waves, hydrodynamics, sediment transport and/or morphology. |  | We advise that careful consideration be given to the potential impacts due to construction, operation, and maintenance, and decommissioning over the lifetime of the project to these seabed features, for Outer Dowsing OWF alone and in combination with other projects.                                                  |
| 16. | 7.1 | 14 | Baseline Environment-Coastal Form         | Currently the AoS within which the cable landfall options will be evaluated extends along the Lincolnshire Coast between Saltfleetby All Saints and Chapel St Leonards. This is a wide AoS which limits our ability to comment in detail on the requirements of the EIA.                |  | We would advise that the Applicant should consider how the coast at landfall may alter throughout the lifetime of the project, both in terms of vertical change in beach profile and coastal retreat. In other words, how will cable burial and siting of infrastructure be managed throughout the lifespan of the project? |
| 17. | 7.1 | 15 | Baseline Environment - Sediment Transport | Seabed mobility should also be considered.                                                                                                                                                                                                                                              |  | We advise that the spatial variation in seabed mobility across the study area should also be considered and assessed specifically in relation to its effect on cable burial and the likely levels of introduced rock or hard substrate that will be required for cable and turbine base scour protection.                   |
| 18. | 7.1 | 22 | Baseline Environment - Hydrodyn           | The principal flow is stated to be <i>along the north-west to south-west axis</i> . Should this be north-west to south-east axis (as shown in Figure 7.1.6)?                                                                                                                            |  | Natural England requests that the applicant provide clarification on this point.                                                                                                                                                                                                                                            |

|     |     |    |                                              |                                                                                                                                                                                                                                                        |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----|-----|----|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |     |    | amics,<br>Tides                              |                                                                                                                                                                                                                                                        |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 19. | 7.1 | 31 | Baseline Environment - Waves, Future Changes | A key element of the baseline characterisation process will be establishing both historic and more recent trends in coastal morphological change, in order to understand how the coast may evolve naturally over the lifetime of the project.          |  | Once the landfall area is known, we advise that historic and more recent coastal frontage survey data should be gathered, including coverage of the intertidal, in order to inform the baseline characterisation.                                                                                                                                                                                                                                                                                                                                                                                |
| 20. | 7.1 | 32 | Designated Sites and Protected Species       | We welcome the list of designated sites and protected species. However, our advice with regard to MPAs, is to apply the mitigation hierarchy, of which the first step is avoidance of MPAs in their entirety to reduce impacts on the network of MPAs. |  | We advise that the mitigation hierarchy should be applied (avoid-reduce-mitigate). Where it is not possible to avoid MPAs in their entirety, the next step is to avoid designated features and areas where the capacity of the feature or site to withstand impacts may be reduced. Furthermore, we advise avoiding areas where there are existing cumulative impacts on sensitive features of MPAs. For example, sandbanks that may have the potential to recover relatively quickly but are already subject to anthropogenic pressures over a considerable amount of their occurrence in MPAs. |
| 21. | 7.1 | 35 | Designated Sites and Protected Species       | Natural England highlights Inner Silver Pit South candidate HPMA, is out for public consultation, and it is therefore a material consideration in planning, especially as the ECC search area overlaps with candidate HPMA                             |  | We encourage the applicant to review consultation documentation relating to the Inner Silver Pit candidate HPMA.<br><br>It should be noted that Natural England have a 'without prejudice' view that avoidance is likely to be the best approach to managing impacts given the high level of protection envisaged.                                                                                                                                                                                                                                                                               |



|     |     |    |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                        |
|-----|-----|----|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 22. | 7.1 | 41 | Relevant Embedded Mitigation Measures | The relevant embedded mitigation measures relevant to marine physical processes that are being considered focus on scour and cable protection. There are a number of mitigation measures that have not been considered such as: micro-siting, minimising the number of cables, selection of cable protection materials to match the receiving environment, avoiding sandwave clearance/levelling where possible in an MPA etc. |  | We advise that other mitigation measures should also be considered.                                                                                                                                                                                                                                                                    |
| 23. | 7.1 | 42 | Potential Impacts Scoped In           | Table 7.1.2, Construction Row 1, Column 3 - It states that the 'RWC (in terms of plume extent, concentration and sediment deposition) will be assessed.' It would be helpful if these numerical model results could be presented on maps.                                                                                                                                                                                      |  | We advise that, if possible, maps be provided showing the spatial extent of sediment plumes, suspended sediment concentration, and deposition thickness in/near the array, and at representative locations along the offshore export cable corridor. (It would also be helpful if designated sites could be identified on these maps). |
| 24. | 7.1 | 42 | Potential Impacts Scoped In           | Table 7.1.2 - The effects on the hydrodynamic regime due to the presence of engineering and installation equipment (e.g., jack-up rigs or cable-laying vessels), or ancillary infrastructure (e.g., cofferdams) should also be considered.                                                                                                                                                                                     |  | We advise that the assessment needs to consider the effects on the hydrodynamic regime due to the presence of engineering and installation equipment such as jack-up rigs, cable-laying vessels, and cofferdams etc.                                                                                                                   |
| 25. | 7.1 | 42 | Potential Impacts Scoped In           | Table 7.1.2 - Construction related changes to the beach profile and/or cliff stability due to access ramps, construction vehicle traffic etc should also be considered and assessed                                                                                                                                                                                                                                            |  | We advise that the assessment needs to consider the potential impact of beach access ramps and/or construction vehicle traffic on beach profile change or cliff erosion.                                                                                                                                                               |

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| 26. | 7.1 | 42 | Potential Impacts Scoped In  | Table 7.1.2 - Operation and Maintenance. Only changes to tidal currents are discussed, but changes to water levels should also be included. |  | We advise that changes to tidal currents and water levels within and adjacent to the proposed development need to be considered.                                                                                                                                                                                                                                                                                                                                    |
| 27. | 7.1 | 45 | Potential Impacts Scoped In  | Natural England suggests that further potential receptors are considered                                                                    |  | Water column features such as the Flamborough Front could also be included in this list (although we note it is quite distant from the array). In addition to the sandbank and sandwave areas, channels/pits could also be considered. We advise that supra-tidal features (e.g., sand dunes) be considered along the coastal frontage, including any designated sites above MHWS that might be affected indirectly by the development (e.g., SSSIs, Ramsar Sites). |
| 28. | 7.1 | 46 | Potential Impacts Scoped Out | Table 7.1.3 – Decommissioning                                                                                                               |  | To allow a full assessment of potential impacts to the marine environment, decommissioning of the cable should be based on present day techniques/legislation.<br><br>With regards to cabling, Natural England would like to refer the applicant to our <a href="#">Cabling Lessons Learnt guidance</a> for this chapter, in addition to the Benthic Chapter of the EIA Scoping Report.                                                                             |
| 29. | 7.1 | 46 | Potential Impacts Scoped Out | This comment is made with reference to both paragraph (46) and the Table (7.1.3), with regard to Operation and Maintenance.                 |  | Natural England would advise that considerations need to be made for the potential for secondary scour to develop which is outside the considerations made within the scoping report e.g., the                                                                                                                                                                                                                                                                      |

|     |     |    |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|     |     |    |                                             | <p>It states that “<i>wind farm infrastructure has the potential to cause localised seabed scouring, resulting in bathymetric changes and localised alterations to sediment transport patterns</i>”. Seabed scouring during operation has therefore been scoped out on the basis of using scour protection where it is required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | <p>development of scour pits extending away from the edge of any rock protection. Further it is noted that even if scour during operation is scoped out, there will still be a need to provide details on estimates of scour so that consideration of the impact from deployment of scour protection can be assessed.</p>                                                                                                                                                                                                                                                                                                 |
| 30. | 7.1 | 46 | <p>Potential Impacts Scoped Out</p>         | <p>This comment is made with reference to both paragraph (46) and the Table (7.1.3), with regard to Operation and Maintenance.</p> <p>The Applicant proposes that cumulative modifications to the wave and tidal regime and associated potential impacts to the sediment transport regime, be scoped out. However, there are a number of other projects in the vicinity of the proposed development which could have a cumulative effect on the wave climate in terms of blockage and wave energy transmission. Furthermore, until the foundation design and array layout are refined, the maximum design scenario is not yet known. This, in turn, leads to greater uncertainty regarding the potential for array-scale blockage effects on waves and flows which could act cumulatively with other nearby projects.</p> |  | <p>We advise that this impact should be considered and assessed further, alternatively this consideration could provide a robust rationale for scoping it out at a later stage. It may also be necessary to consider including nearby OWFs in the numerical modelling to understand any cumulative wave blockage or transmission effects.</p> <p>It would also be helpful to include a map showing the location of other offshore wind farms (built, planned, and consented) in the vicinity of ODOW and the area of predicted wave and tidal flow changes expected from these windfarms in relation to that of ODOW.</p> |
| 31. | 7.1 | 55 | <p>Further Consideration for Consultees</p> | <p><i>Q: Do you agree that the data sources identified, including project specific surveys, are sufficient to inform the marine physical processes baseline for the PEIR and ES?</i></p> <p>Natural England are broadly in agreement with the data sources identified, however, we would advise that regional geology and sediment mobility should also be considered. Furthermore, once</p>                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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|     |     |    |                                      | the landfall area has been identified, we advise that historic and more recent coastal frontage survey data should be gathered, including coverage of the intertidal, in order to inform the baseline characterisation and to understand trends.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 32. | 7.1 | 55 | Further Consideration for Consultees | <p><i>Q: Do you agree that all the pathways, receptors and potential impacts have been identified for marine physical processes?</i></p> <p>Natural England are also broadly in agreement with the identification of marine physical process receptors and pathways.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 33. | 7.1 | 55 | Further Consideration for Consultees | <p><i>Q: Do you agree that the impacts described in Table 7.1.3 can be scoped out for marine physical processes?</i></p> <p>Natural England advises that there are a number of other projects in the vicinity of the proposed development which could have a cumulative effect on the wave climate in terms of blockage and wave energy transmission. Furthermore, until the foundation design and array layout are refined, the maximum design scenario is not yet known. Which, in turn, leads to greater uncertainty regarding the potential for array-scale blockage effects on waves and flows which could act cumulatively with other nearby projects. Therefore, we advise that this impact should be considered and assessed further in order to provide supporting evidence to justify scoping it out.</p> |
| 34. | 7.1 | 55 | Further Consideration for Consultees | <p><i>Q: For those impacts scoped in (Table 7.1.2) do you agree that the methods described are sufficient to inform a robust impact assessment?</i></p> <p>We are broadly in agreement with the methods described, however, until the landfall area and OECC are refined, we cannot fully agree owing to the wide Area of Search (AoS) and lack of detailed information.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 35. | 7.1 | 55 | Further Consideration for Consultees | <p><i>Q: Do you agree that the embedded mitigation measures described provide a suitable means for managing and mitigating the potential effects of the Project on the marine physical process receptors?</i></p> <p>Natural England advise that there are a number of mitigation measures that have not been considered such as: micro-siting, minimising the number of cables, selection of cable protection</p>                                                                                                                                                                                                                                                                                                                                                                                                  |

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|     |     |    |                                      | materials to match the receiving environment, and avoiding sandwave clearance/levelling where possible in an MPA.                                                                                                                                                                                                                                                                                     |
| 36. | 7.1 | 55 | Further Consideration for Consultees | <p><i>Q: Do you have any specific requirements for the marine physical processes modelling methodology?</i></p> <p>Please see our comment above regarding cumulative interaction between arrays. We advise that the marine physical processes modelling may need to consider potential changes to waves due to the proposed development alone, and in combination with other nearby developments.</p> |

## 7.2 Marine Water and Sediment Quality

Natural England refers to Cefas guidance for the assessment of heavy metals, which states that material with contaminant levels between AL1 and AL2 may require further consideration before a decision can be made. We refer the applicant to Natural England's best practice guidance for data, as the majority of sources listed are over five years old, and therefore shouldn't be relied upon without ground truthing. We therefore welcome the site-specific data, as this is needed to inform potential impacts. Further details required as to when these more detailed assessment for Marine Water and Sediment Quality will be conducted and how these will inform the PEIR and submission. Natural England wish to be reconsulted following the survey completion. Natural England welcomes that a Project Environment Management Plan (PEMP) including a Marine Pollution Contingency Plan (MPCP) will be produced and advise that an Outline plan/s is provided to support application submission.

| Point No. | Section | Para    | Topic   | Comments                                                                                                                                   | RAG | Recommendations                                                                                                                                                       |
|-----------|---------|---------|---------|--------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 37.       | 7.2     | General | General | Assessment of heavy metals Arsenic and mercury levels between AL1 and AL2 in 5 out of 6 samples collected within the offshore ECC in 2019. |     | <i>Natural England advises that, as per Cefas guidance on disposal of material offshore, material with contaminant levels between AL1 and AL2 may require further</i> |

|     |     |   |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|     |     |   |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | <p><i>consideration before a decision can be made.</i></p> <p><i>Therefore, assessment of impacts from the disposal of potentially contaminated sediment, or the potential for works to release contamination into the water column should be undertaken as part of the environmental assessment process.</i></p>                                                                                                                                                              |
| 38. | 7.2 | 4 | Marine Water and Sediment Quality – Study Area           | It is stated that MW&SQ may be further refined following detailed assessments of tidal excursions and specifically sediment transport pathways to allow a definition of the Zol.                                                                                                                                                                                                                                                                             |  | Please can further information be provided as to when these more detailed assessments will be conducted and how will the data inform the PEIr and submission?                                                                                                                                                                                                                                                                                                                  |
| 39. | 7.2 | 5 | Marine Water and Sediment Quality – Baseline Environment | <p>Natural England’s comments refer both to the text within section 7.2.5 and Table 7.2.1.</p> <p>It is noted that the majority of source data listed offers ‘partial’ spatial coverage. The ‘Project specific benthic surveys (2022)’ are anticipated to provide ‘full coverage’.</p> <p>Additionally, several of the other ES for OWFs referenced here are over the 5 years of age specified within Natural England’s best practice guidance for data.</p> |  | <p>Can you confirm that the data will inform the PEIr?</p> <p>Natural England notes that these survey results will be vital in filling in spatial gaps in previous data referenced. Further, it should be noted that due to the potential for change in the marine environment data older than the 5 years shouldn’t be relied on without appropriate ground truthing, NB: Our Best Practice guidance highlights the age of data should ideally be no older than two years</p> |
| 40. | 7.2 | 8 | Water Quality - Physical Characteristics                 | Data referenced here was collected between 1998 to 2015 – please see best practice guidance in relation to age of data.                                                                                                                                                                                                                                                                                                                                      |  | Please see recommendation above.                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| 41. | 7.2 | 28      | Sediment Quality                       | Old data referenced e.g., 1999                                                                                                                                                                                                                                                                                                                                                       |  | Please see recommendation above regarding the age of previous data being relied upon.                                                                                                                                |
| 42. | 7.2 | 38      | Relevant Embedded Mitigation Measures  | Natural England welcomes that a Project Environment Management Plan (PEMP) including a Marine Pollution Contingency Plan (MPCP) will be produced.                                                                                                                                                                                                                                    |  | We advise that an Outline plan is provided to support application submission                                                                                                                                         |
| 43. | 7.2 | 40 & 41 | Potential Impacts Scoped In            | Natural England welcomes that WM&SQ pathways inform other EIA topic assessments such as benthic ecology and intertidal ecology, fish and shellfish ecology, marine mammals, and commercial fisheries.                                                                                                                                                                                |  | Natural England would also like to highlight there is a potential for indirect impact to ornithology. Therefore, we advise that this should be added to the list in section 7.2.41 and considered in the assessment. |
| 44. | 7.2 | 43.     | Potential Impacts Scoped Out – General | With reference to the written text and Table 7.2.6 within this section - At this current stage Natural England believes that the accidental risks of spills and contamination from chemicals and materials cannot be scoped out as it is not clear how the project will be constructed, what chemicals or methods could be used and how the PEMP will hope to deal with such events. |  | Please refer to comments above regarding reliability of data.<br><br>Consideration will need to be given to an Outline PEMP before this is possible.                                                                 |
| 45. | 7.2 | 49      | Summary of Next Steps                  | It is stated that <i>'Additional site-specific geophysical surveys, sediment sampling and sediment analysis are planned to help fill data gaps that currently exist across the MW&amp;SQ study area. Surveys will identify the potential areas of sediment contamination and quantify contamination levels within the study area'</i> .                                              |  | Natural England welcome the site-specific data, which is needed to inform potential impacts and wishes to be re-consulted following survey completion and hope that it will inform the PEI.                          |

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| 46. | 7.2 | 50 | Further Considerations for Consultees | <p><i>Q: Do you agree that the data sources identified, including project specific surveys (see Project Specific benthic surveys (2022) in Table 7.2.1), are sufficient to inform the offshore and intertidal MW&amp;SQ baseline for the PEIR and ES?</i></p> <p>Natural England is broadly content with the approach with data sources identified, however, in promoting best practice we advise caution when using datasets that are older than five years and/or designed for other nearby OWFs, due to limited relevance. Robust justification would need to be provided to demonstrate that non project specific data sets are/remain fit for purpose for this project.</p> <p>Additionally, the sources identified only cover 'partial' spatial coverage. The project-specific data is therefore needed to strengthen the baseline data, allowing potential impacts to be accurately assessed.</p> <p>Ideally, simultaneous records of SSC, water levels, currents and waves should be obtained to help form a better understanding of the process controls on sediment mobilisation events and subsequent transport across the project study area.</p> <p>Numerical sediment Plume modelling would also be useful when assessing if impacts should be scoped in/out</p> <p>Natural England look forward to being re-consulted following site-specific survey completion</p> |
| 47. | 7.2 | 50 | Further Considerations for Consultees | <p><i>Q: Are you aware of any point sources of contaminants within the study area which may be of concern? If so, are any data available for these?</i></p> <p>Natural England is not aware of any point sources of contaminants within the study area which may be of concern.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 48. | 7.2 | 50 | Further Considerations for Consultees | <p><i>Q: Have all potential impacts resulting from the Project been identified for marine water quality receptors?</i></p> <p>Overall Natural England is content that the potential impacts on marine water quality have been identified, subject to the comments we have raised above being addressed and dependent on comments from the Environment Agency.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |



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| 49. | 7.2 | 50 | Further Considerations for Consultees | <p><i>Q: Have all potential impacts resulting from the Project been identified for marine sediment quality receptors?</i></p> <p>Overall Natural England is content that the potential impacts on marine sediment have been identified, subject to the comments we have raised above being addressed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 50. | 7.2 | 50 | Further Considerations for Consultees | <p><i>Q: Do you agree that the most appropriate guidance for the WFD compliance assessment is the EA's 'WFD assessment: estuarine and coastal waters' (Clearing the Waters for All) and the Inspectorate Advice Note 18?</i></p> <p>Natural England defers to the advice of the Environment Agency with regard to this question.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 51. | 7.2 | 50 | Further Considerations for Consultees | <p><i>Q: Do you agree that the impacts described in Table 7.2.6 can be scoped out?</i></p> <p>Natural England believe that further data is required before the impacts in Table 7.2.6 can be scoped out. E.g., numerical modelling of sediment plume required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 52. | 7.2 | 50 | Further Considerations for Consultees | <p><i>Q: For those impacts scoped in (see Table 7.2.5), do you agree that the methods described are sufficient to inform a robust impact assessment?</i></p> <p>Overall Natural England is content with the methods described, subject to the comments we have raised above and dependent on comments from the Environment Agency</p>                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 53. | 7.2 | 50 | Further Considerations for Consultees | <p><i>Q: Do you agree that the embedded mitigation measures described provide a suitable means for managing and mitigating the potential effects of the project on MW&amp;SQ pathways and receptors?</i></p> <p>Natural England welcome the implementation of a Project Environment Management Plan (PEMP) including a Marine Pollution Contingency Plan (MPCP), as well as a Construction Method Statement (CMS). We advise that Outline documents are provided with the Application Regarding Scour Protection and Cable Protection – Natural England propose a Cable Burial Risk Assessment and Scour Assessment will also be required. We advise that Outline documents are provided with the Application and the details of these documents are used to inform the EIA.</p> |

### 7.3 Benthic Subtidal and Intertidal Ecology

Natural England notes that the proposed ECC AoS includes designated sites. Of particular concern is potential impacts to Inner Dowsing Race Bank and North Ridge SAC which is already in unfavourable condition from ongoing anthropogenic activities. In addition, Natural England's position provided for Hornsea Project Three, Norfolk Vanguard and Norfolk Boreas in relation to Adverse Effects on Integrity from the placement of cable protection remains unchanged and therefore cable protection within this site should be avoided and where that is possible every effort should be made to mitigate the impacts. In order to achieve this, we advise that a cable burial risk assessment is undertaken as part of the application process informed by comprehensive geotechnical and geophysical surveys. If cable protection is required options that have the greatest success of removal with least impact to interest features should be taken forward. A site integrity plan could then be used to determine the risk to the conservation objectives for the site and determine the requirements for any compensation measures.

| <b>Point No.</b> | <b>Section</b> | <b>Para</b> | <b>Topic</b>                                    | <b>Comments</b>                                                                                                                                                                                          | <b>RAG</b> | <b>Recommendations</b>                                                                                                                                                                                                                                                                                         |
|------------------|----------------|-------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 54.              | 7.3            | 1           | Introduction                                    | Natural England notes that the ECC includes several designated sites in the marine and coastal environment and depending on installation methodology impact pathways to sites features can't be excluded |            | Thorough assessment is required and continuation of progress on identifying mitigation and where required compensation measures                                                                                                                                                                                |
| 55.              | 7.3            | 6           | Overview of data sources                        | Project specific data sets                                                                                                                                                                               |            | Until project specific data is presented, we are unable to provide more technical advice on the scale and significance of potential impacts and ecological merits of mitigation and were required compensation measures.<br><br>Natural England to review project specific data and assessment when available. |
| 56.              | 7.3            | Table 7.3.1 | Key sources of information for benthic subtidal | Data Sources both existing and project specific                                                                                                                                                          |            | The onus is the Applicant to ensure that sufficient project specific data is collected to ensure the site can be appropriately characterised.                                                                                                                                                                  |

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|     |     |                        | and intertidal ecology for the Project.                                                 |                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 57. | 7.3 | Table 7.3.1            | Key sources of information for benthic subtidal and intertidal ecology for the Project. | Existing data sets                   |  | Natural England advises that there are other pre and post consent data for the offshore wind farms and inter connectors that could be taken into account, though the limitations from the age and proximity of existing data should be taken account of.                                                                                                                                                                      |
| 58. | 7.3 | 20                     | Overview of baseline environment - landfall                                             | Presence of coastal designated sites |  | Natural England advises that landfall should avoid designated coastal sites and where that is not possible extensive mitigation measures will be required                                                                                                                                                                                                                                                                     |
| 59. | 7.3 | Figure 7.3.3 and 7.3.4 | Predicted Habitat Types                                                                 | Cable burial risks                   |  | Natural England advises that cable installation in this region within mix and coarse sediment has proved challenging for adjacent projects and therefore a cable burial risk assessment, informed by geotechnical investigations as part of the application is required to determine the likelihood of cable protection being required and potential impacts to priority/Annex I reef habitats associated with mixed sediment |

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|     |     |             |                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                        |
| 60. | 7.3 | 28          | Relevant embedded mitigation measures                                                       | Natural England advises the provision of a plan is not embedded mitigation and the commitments within the plans will be key. As we have not seen the plans, we are unable to advise if impacts have been adequately addressed.                                                                                                                                                                                                                                                                                                               |  | Natural England advises that outline plans including any mitigation measures should be provided at the time of Application                                                             |
| 61. | 7.3 | Table 7.3.4 | Impacts proposed to be scoped out of assessment for benthic subtidal and intertidal ecology | As set out for physical processes and other sections information is still to be provided in the application including assurances that appropriate measures will and can be adopted to ensure environmental risks will be appropriately managed for marine pollution, INNS<br>Natural England advises that no information is present to support the scoping out of subsea impacts and EMF.                                                                                                                                                    |  | Natural England advises that outline documents and/or assessment will need to be included in the Application to ensure that all impacts have been considered and appropriately managed |
| 62. | 7.3 | 32          | Summary of Next Steps                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | Natural England refers Applicant to comments on the EIA approach                                                                                                                       |
| 63. | 7.3 | 7.3.38      | Further Considerations for Consultees                                                       | <p><i>Q: Do you agree that the data sources identified, including the project specific geophysical and benthic surveys, are sufficient to inform the benthic subtidal and intertidal ecology baseline for the PEIR and ES?</i></p> <p>Natural England broadly agrees with the approach to evidence gathering to inform the site characterisation.</p> <p>However, until we have seen a full assessment, we are unable to confirm if the data sources will be sufficient.</p> <p>Please see previous comments on additional data sources.</p> |  |                                                                                                                                                                                        |

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| 64. | 7.3 | 7.3.38 | Further Considerations for Consultees | <p><i>Q: Have all potential impacts resulting from the Project been identified for benthic subtidal and intertidal receptors?</i></p> <p>Based on current inform we believe that that the potential impacts have been identified, but reserve the right to comment when more is known about potential impact pathways</p>                                                                                                                         |
| 65. | 7.3 | 7.3.38 | Further Considerations for Consultees | <p><i>Q: Do you agree that the impacts described in Table 7.3.4 can be scoped out?</i></p> <p>No Natural England is not in agreement that the impacts can be scoped out. - see previous comments</p>                                                                                                                                                                                                                                              |
| 66. | 7.3 | 7.3.38 | Further Considerations for Consultees | <p><i>Q: For those impacts scoped in (Table 7.3.3), do you agree that the methods described are sufficient to inform a robust impact assessment?</i></p> <p>Natural England broadly agrees with the approach to the impact assessment. however, please see comments on EIA section.</p>                                                                                                                                                           |
| 67. | 7.3 | 7.3.38 | Further Considerations for Consultees | <p><i>Q: Do you agree that the embedded mitigation measures described provide a suitable means for managing and mitigating the potential effects of the Project on benthic subtidal and intertidal ecology receptors?</i></p> <p>Natural England agrees the provision of outline plans will enable mitigation measures to be secured in the application. But we are currently unable to comment on mitigation measures embedded or otherwise.</p> |

#### 7.4 Fish and Shellfish Ecology

| Point No. | Section | Topic   | Para               | Comment                                                                                    | RAG | Recommendation                                                                                                                |
|-----------|---------|---------|--------------------|--------------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------|
| 68.       | 7.4     | General | Fish and Shellfish | Natural England defers to the expertise of Cefas on matters of fish and shellfish ecology. |     | Natural England advises Cefas is consulted to review and comment on the Fish and Shellfish section of the EIA Scoping Report. |

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|     |     |    | Ecology – General                             | <p>Therefore, Cefas is best to answer the questions listed within the ‘Further Consideration for Consultees’ section</p> <p>Additionally, better links could be made between this section and other chapters, e.g., marine mammals, offshore ornithology.</p> <p>Natural England would also like to note that herring spawning has been an unresolved issue within the Hornsea four examination, as there are ongoing disagreements between Defra bodies (NE, MMO, Cefas) and the applicant. Given the proximity of this project to Hornsea 4 we would advise similar mitigations may be warranted.</p> |  | <p>Please insert information within this section referencing links to other chapters of the report, such as marine mammals and offshore ornithology</p> <p>Natural England would like to emphasise the need for discussion and consideration for appropriate seasonal restrictions to reduce impacts to commercially/ecologically important fish species within the assessment.</p> |
| 69. | 7.4 | 34 | Fish and Shellfish Ecology – Designated Sites | <p>Natural England are concerned that there is no mention of potential impacts to prey availability for the Greater Wash (GW) and Flamborough &amp; Filey Coast (F&amp;FC) SPAs. Whilst this may be covered in other sections, it is important this is included within this chapter also.</p>                                                                                                                                                                                                                                                                                                           |  | <p>Natural England advise that designated sites including F&amp;FC and GW SPAs should be scoped in and the impacts on prey availability referred to/signposted in the Designated Sites section of the report.</p>                                                                                                                                                                   |

### 7.5 Marine Mammals

Natural England are broadly satisfied with the key datasets listed to inform the marine mammal baseline; however, we have suggested some additional references to be considered and included. Natural England advises that the applicant provide more evidence on the vessel movement and ports during the phases of development, to allow us to consider whether disturbance to seal haul outs requires assessment or if it can be scoped out. Following the analysis of the site-specific surveys, Natural England advise that a further review of the list of receptors is required.

| Point No. | Section | Topic | Para                        | Comment                                                                                                                                                                                                                                                                                                                                                 | RAG | Recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| 70.       | 7.5     | 2 & 3 | Marine Mammals - Study Area | Natural England agrees with the proposed Management Units (MUs) for marine mammals but suggest that the latest version of the IAMMWG reports is used (March 2022) and that the reference for seal MUs is included in the future.                                                                                                                        |     | Suggested references to be included in the future documents: <ul style="list-style-type: none"> <li>- <i>IAMMWG. 2022. Updated abundance estimates for cetacean Management Units in UK waters (Revised 2022)</i><br/><a href="https://hub.incc.gov.uk/assets/3a401204-aa46-43c8-85b8-5ae42cdd7ff3">https://hub.incc.gov.uk/assets/3a401204-aa46-43c8-85b8-5ae42cdd7ff3</a></li> <li>- <i>Scientific Advice on Matters Related to the Management of Seal Populations: 2021</i><br/><a href="http://www.smru.st-andrews.ac.uk/files/2022/08/SCOS-2021.pdf">http://www.smru.st-andrews.ac.uk/files/2022/08/SCOS-2021.pdf</a></li> </ul> |
| 71.       | 7.5     | 5     | Baseline Data Sources       | Table 7.5.1 - Natural England are broadly satisfied with the key datasets listed to inform the marine mammal baseline. Carter <i>et al.</i> (2022) should be used, as the peer-reviewed and slightly amended version of Carter <i>et al.</i> (2020). Consideration should be given to inclusion of data from other nearby windfarms e.g., Hornsea zone. |     | Suggested reference to be included in the future documents: <ul style="list-style-type: none"> <li>- <i>Carter et al. (2022)</i><br/><a href="https://www.frontiersin.org/articles/10.3389/fmars.2022.875869/full">https://www.frontiersin.org/articles/10.3389/fmars.2022.875869/full</a></li> </ul> <i>Outputs from site-specific surveys of the Hornsea Zone</i><br><br>Natural England advise that further review of the list of receptors will be required once the full results of the site-specific surveys have been analysed.                                                                                               |
| 72.       | 7.5     | 37    | Designated Sites and        | Table 7.5.2 - Natural England considers that most of the relevant marine mammal protected areas have been identified. The only site in a relevant MU that has been                                                                                                                                                                                      |     | Natural England recommends that the applicant reference the Sea of the Hebrides (NC)MPA, which lists minke whale as a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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|     |     |    | Protected Species                                                   | omitted is Sea of the Hebrides (NC)MPA for minke whale.                                                                                                                                                  |  | protected feature and include due consideration within the assessment.<br><br>Also, for reference, the full name is The Wash and North Norfolk Coast SAC.                                            |
| 73. | 7.5 | 38 | Proposed Approach to the Environmental Impact Assessment - Guidance | The list of guidance document is comprehensive and relevant for the marine mammal assessment.                                                                                                            |  | Natural England advises that an additional document that could be considered is “JNCC and Natural England Suggested Tiers for Cumulative Impact Assessment”, which can be provided upon request.     |
| 74. | 7.5 | 41 | Assessment of Disturbance – UXO                                     | For reference, Natural England considers that there is insufficient evidence to demonstrate noise reduction from ‘low yield’ clearance of UXOs.                                                          |  | Further information is required before Natural England can provide further comments on what is considered to be low yield.                                                                           |
| 75. | 7.5 | 42 | Assessment of Disturbance – UXO                                     | Natural England do not agree that the TTS-onset thresholds should be used as a proxy for disturbance given that TTS occurs at higher sound exposures, and so will underestimate the risk of disturbance. |  | Natural England advises that the applicant review the evidence base to determine an appropriate approach to assessing disturbance from UXO clearance and other activities.                           |
| 76. | 7.5 | 43 | Assessment of Disturbance – UXO                                     | The 5km EDR referenced here is only applicable for harbour porpoises. If it is to be applied to other species, further evidence is required.                                                             |  | Natural England refers the applicant to section 6.5.2 of the Best Practice: Phase III document in relation to the Soloway & Dahl (2014) methodology for assessment of impact ranges of UXO disposal. |
| 77. | 7.5 | 50 | Relevant Embedded                                                   | Natural England agrees that the listed embedded mitigation protocols are relevant to the marine mammal assessment,                                                                                       |  | The ES will need to demonstrate that the necessary plans and safeguards are built into the construction programme to account                                                                         |



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|     |     |    | Mitigation Measures         | however we advise that more measures may be required to manage disturbance in the SNS SAC in the event that construction takes place simultaneously with other OWF construction or noisy activities in the SAC. These plans and contingencies will need to be outlined in detail as part of the ES. Furthermore, a Site Integrity Plan (SIP) will need to be produced which will specify exactly how these plans will be implemented as part of marine licence. We reserve the right to comment on the suitability of these documents in mitigating impacts when they are submitted as part of the consultation process. |  | for project alone and multiple in-combination piling events. Natural England advise the applicant also produces an outline Site Integrity Plan (SIP) to be submitted with the application |
| 78. | 7.5 | 51 | Potential Impacts Scoped In | Table 7.5.3 - Natural England agrees with the proposed impacts scoped into the assessment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | Please note that the Table reference number is missing here. For future documents please add reference numbers for ease of reading the document.                                          |
| 79. | 7.5 | 51 | Potential Impacts Scoped In | Table 7.5.3 - Underwater noise from UXO clearance and other construction activities:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Please refer to our comments above in regard to TTS onset as a proxy for disturbance and 5km EDR range for low order detonation for other species                                         |
| 80. | 7.5 | 51 | Potential Impacts Scoped In | Table 7.5.3 - Vessel collision and disturbance:<br>Although not of concern, we found the proposed approach for assessment unclear thus we welcome further details on this at future EWG.                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | Natural England advises that further details on the vessel collision and disturbance assessment approach would be appreciated.                                                            |
| 81. | 7.5 | 51 | Potential Impacts Scoped In | Table 7.5.3 - We agree with the Applicant's earlier statement (Paragraph 7.5.48) that the final list of impacts scoped into the CEA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | We support the proposal by the applicant to review the list of impacts in the CEA after the project-alone assessment is complete.                                                         |

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|     |     |         |                                      | cannot be determined at the Scoping stage. As such we do not advise that any impacts are scoped out at this stage e.g., indirect impacts.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                              |
| 82. | 7.5 | 52      | Impacts Proposed to be Scoped Out    | Table 7.5.4 - Natural England agrees that accidental pollution, barrier effects (operation) and EMF should be scoped out of assessment. However, we do not agree that the disturbance at haul-outs can be scoped out at this stage without knowledge of vessel movements and ports during the various phases. The Vessel Management Plan should consider measures to reduce disturbance to marine mammals including hauled out seals.                                                                                                                                                           | Natural England advises that the applicant provide more evidence on the vessel movement and ports during the phases of development. This further information will allow us to consider whether disturbance to seal haul outs requires assessment or if it can be scoped out. |
| 83. | 7.5 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that the data sources identified are sufficient to inform the marine mammal baseline for the PEIR and ES?</i></p> <p>Natural England are broadly satisfied with the key datasets listed to inform the marine mammal baseline; however, we have provided several references above to be included in future documents.</p>                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                              |
| 84. | 7.5 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that all the marine mammal protected areas within the study area have been identified?</i></p> <p>Natural England considers that most of the relevant marine mammal protected areas have been identified, however, we recommend that the applicant also reference and include due consideration within the assessment to the Sea of the Hebrides (NC)MPA, which lists minke whale as a protected feature. Natural England advise that further review of the list of receptors will be required once the full results of the site-specific surveys have been analysed.</p> |                                                                                                                                                                                                                                                                              |
| 85. | 7.5 | General | Further Consideration                | <p><i>Q: Have all potential impacts resulting from the Project been identified for marine mammal receptors?</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                              |

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|     |     |         | tion for Consultees                  | Natural England believes that all of the likely impact pathways have been identified. However, we reserve the right to amend our advice once more information is provided                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 86. | 7.5 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that the impacts described in Table 7.5.4 can be scoped out?</i></p> <p>Natural England agrees that barrier effects (operation) and EMF should be scoped out of assessment. However, we do not agree that accidental pollution and disturbance at haul-outs can be scoped out at this stage without knowledge of vessel movements and ports during the various phases and mitigations measures put in place for pollution incidents are secured. The Vessel Management Plan should consider measures to reduce disturbance to marine mammals including hauled out seals.</p>                                                                                                                                                                                                                             |
| 87. | 7.5 | General | Further Consideration for Consultees | <p><i>Q: For those impacts scoped in (Table 7.5.3), do you agree that the methods described are sufficient to inform a robust impact assessment?</i></p> <p>Please refer to our comments above in regard to TTS onset as a proxy for disturbance and 5km EDR range for low order detonation for other species.</p> <p>Vessel collision and disturbance: Although not of concern, we found the proposed approach for assessment unclear thus we welcome further details on this at future EWG.</p> <p>We support the proposal by the applicant to review the list of impacts in the CEA after the project-alone assessment is complete.</p>                                                                                                                                                                                     |
| 88. | 7.5 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that the embedded mitigation measures described provide a suitable means for managing and mitigating the potential effects of the Project on marine mammal receptors?</i></p> <p>Natural England agrees that the listed embedded mitigation protocols are relevant to the marine mammal assessment, however more measures will be required to manage disturbance in the event that there are multiple pilling programmes underway in the Southern North Sea SAC and these need to be outlined in in the ES, we also advise including a Site Integrity Plan (SIP) to the list of documents to be included as part of the Application.</p> <p>We reserve the right to comment on the suitability of these documents in mitigating impacts when they are submitted as part of the consultation process.</p> |

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| 89. | 7.5 | General | Further Consideration for Consultees | <p><i>Q: Do you have any additional specific requirements for the underwater noise modelling and assessment methodology?</i></p> <p>Natural England do not agree that the TTS-onset thresholds should be used as a proxy for disturbance given that TTS occurs at higher sound exposures, and so will underestimate the risk of disturbance. We advise that the applicant review the evidence base to determine an appropriate approach to assessing disturbance from UXO clearance and other activities.</p> <p>The 5km EDR referenced is only applicable for harbour porpoises, so if it is to be applied to other species, further evidence is required. Natural England refers the applicant to section 6.5.2 of the Best Practice: Phase III document in relation to the Soloway &amp; Dahl (2014) methodology for assessment of impact ranges of UXO disposal.</p> |
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### 7.6 Intertidal and Offshore Ornithology

Natural England agrees with the approach as described, however we note that detailed descriptions of the methods to be used to assess impacts are not presented in this report and that, as such, we cannot comment on them at this stage. However, we welcome the Applicant's stated commitment to further engagement with Natural England on these methods during later stages of the process. We request that the Applicant includes North Norfolk Coast SPA in the list of key designated sites for ornithology. Natural England request that every effort is made to identify birds to at least species group and this data presented, to reduce the current large number of birds within the 'No ID' category and advises that the list of receptors should be reviewed once the full results of the site-specific surveys have been analysed. We welcome the inclusion of additional species to be considered at this stage, such as puffin, sandwich tern, common tern, great black-backed gull, common scoter, common gull, and little gull. There is increasing concern surrounding disturbance and/or displacement of red-throated divers, and as such Natural England has detailed best practice guidance below relating to operation and maintenance activities.

| Point No. | Section | Topic | Para                 | Comment                                                                                                                                 | RAG | Recommendation                                                                                                                                                                                                                                                                                                    |
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| 90.       | 7.6     | 1     | Baseline Environment | Natural England advises the list of receptors should be reviewed once the full results of the site-specific surveys have been analysed. |     | Natural England requests that the applicant considers the possible future need to analyse data (for certain species or months) from additional cameras at a later stage if, following completion of 2 years baseline survey data collection, the data suggests that 16.7% does not represent sufficient coverage. |

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| 91. | 7.6 | 4  | Baseline Environment | Natural England note that the table number (7.6.1) is missing here in the text (and in several other instances in the report).                                                                                                                                                                                                                           |  | Natural England requests that the applicant insert relevant table numbers in text for clarity in future documents.                                                                                                                |
| 92. | 7.6 | 2  | Baseline Environment | Natural England note that the table title does not make the survey areas clear, and the description of the table in 7.6.10 is also unclear,<br><br>I.e., is the data presented in Table 7.6.2 for the array area plus 4km buffer?                                                                                                                        |  | Natural England request that the table title be amended to make the survey area clear in future documents.                                                                                                                        |
| 93. | 7.6 | 2  | Baseline Environment | Natural England note the large numbers of birds in the 'No ID' category.                                                                                                                                                                                                                                                                                 |  | Natural England request that every effort be made to identify birds to at least species group and this data presented.                                                                                                            |
| 94. | 7.6 | 11 | Baseline Environment | Natural England welcome the applicant's willingness to add other IOFs as more survey data becomes available                                                                                                                                                                                                                                              |  | N/A                                                                                                                                                                                                                               |
| 95. | 7.6 | 13 | Baseline Environment | Table 7.6.3 - Natural England note that common tern, common gull, and little gull are not included in this as key IOFs                                                                                                                                                                                                                                   |  | Natural England advises the inclusion of common tern, common gull, and little gull in the list of IOFs.                                                                                                                           |
| 96. | 7.6 | 20 | Designated Sites     | The list of key designated sites identified in relation to ornithological interest does not include North Norfolk Coast SPA. Due to the fact that breeding sandwich tern are a feature of the NNC SPA, and that Outer Dowsing array area is within mean max + 1SD foraging range of sandwich tern, we believe NNC should not be discounted at this stage |  | Natural England requests that the Applicant includes North Norfolk Coast SPA in the list of key designated sites for ornithology. This has been previously raised during ETGs as a likely relevant site for migratory waterbirds. |

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| 97. | 7.6 | 21 | Summary of Key Issues           | <p>The wording of this statement relating to the key species of focus for EIA (and HRA) is ambiguous. It would be better to state the full list of proposed key species here.</p> <p>Natural England note that this list does not include puffin, sandwich tern, common tern, great black-backed gull, common gull, or little gull.</p>                                                                                                                                                                                                                                                                                                                                                                              |  | <p>In addition to gannet, kittiwake, red-throated diver, razorbill and guillemot, Natural England would like to see puffin, sandwich tern, common tern, great black-backed gull, common gull, and little gull included for consideration as key species at this stage. We believe these species should be included at this stage due to the potential connectivity of the project areas with relevant designated sites where these species are features, and the preliminary survey data as presented in Table 7.6.2.</p> |
| 98. | 7.6 | 22 | Summary of Key Issues           | <p>Natural England note that common scoter is also a potentially sensitive feature of the Greater Wash SPA and would like to see it included for consideration as a key species for the ECC AoS.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | <p>In addition to red-throated diver, Natural England would like to see common scoter considered as a key species for the ECC AoS.</p>                                                                                                                                                                                                                                                                                                                                                                                    |
| 99. | 7.6 | 27 | Proposed Assessment Methodology | <p>It is stated that "Site-specific flight height data will be reported from the DAS and will be considered as well as that from the generic flight height data (Johnston <i>et al.</i>, 2014a; 2014b) for use in collision risk modelling following consultation with relevant stakeholders." Natural England acknowledge the need to update the current generic flight height distributions. However, at present we do not have sufficient confidence in the estimation of heights of individual seabirds using DAS techniques, due largely to insufficient validation of the methodologies. Therefore, our present advice regarding flight heights derived from digital aerial surveys is that assessments of</p> |  | <p>Natural England advises that further detail and engagement required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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|      |     |    |                                 | collision risk should present the proportions of birds at potential collision risk height (%PCH) for a project's turbine specifications based on both the 'generic' (i.e., Johnston et al. 2014a & b) and the site-specific data, and therefore welcome ODOW's proposal to do so. We would welcome working with all Round 4 developers to improve the knowledge base on flight height either at a project specific or generic level and encourage further engagement on this. |  |                                                                                                                                                                            |
| 100. | 7.6 | 29 | Proposed Assessment Methodology | Natural England note that the text here is not exactly the same as the text regarding CRM in Table 7.6.5. We welcome the applicant's commitment to further engagement with us as a stakeholder on CRM methods and parameters as stated in Table 7.6.5.                                                                                                                                                                                                                        |  | Further consultation with Natural England on CRM methods and parameters is required. We welcome the applicant's stated willingness to engage in this further consultation. |
| 101. | 7.6 | 31 | Proposed Assessment Methodology | Natural England note that there has not been sufficient detail provided on methods or parameters for displacement assessment, apportionment or PVA modelling for NE to be able to comment at this stage. However, NE welcomes the applicant's stated commitment to further engagement with NE as a stakeholder on methods of assessment and parameters to be used.                                                                                                            |  | Natural England welcomes the applicant's commitment to further engage with Natural England as a stakeholder on assessment methods and parameters                           |
| 102. | 7.6 | 33 | Proposed Assessment             | Natural England note that the approach to seasonality (bioseasons) will need to be agreed with Natural England for all species assessed, not just those that are omitted                                                                                                                                                                                                                                                                                                      |  | We request to be consulted on the approach to seasonality and bioseasons for all species assessed.                                                                         |

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|      |     |    | Methodology                           | from Furness (2015). Bespoke approaches to seasonality may be required for some species depending on site-specific characteristics or new evidence.                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                             |
| 103. | 7.6 | 35 | Relevant Embedded Mitigation Measures | Natural England requests that this section includes information to ensure the 'air gap' between the sea surface and the rotor swept area is such that collision risk is reduced as much as is possible.                                                                                                                                                                                                                           |  | Natural England requests that further detail is provided within any assessment to confirm how the project is going to reduce collision risk.                                                                                                                                                                                                                                |
| 104. | 7.6 | 35 | Relevant Embedded Mitigation Measures | Natural England requests further detail as to how disturbance to red-throated diver will be avoided during construction and maintenance activities. See comment below on Table 7.6.6                                                                                                                                                                                                                                              |  | Natural England requests that further detail as to how disturbance to red-throated diver will be avoided during construction and maintenance activities be provided within any assessment. See comment below on Table 7.6.6                                                                                                                                                 |
| 105. | 7.6 | 36 | Potential Impacts to be Scoped In     | It states that ' <i>A range of potential impacts on intertidal and offshore ornithology have been identified which may occur during the construction, O&amp;M, and decommissioning phases of the Project.</i>                                                                                                                                                                                                                     |  | Natural England would like to note that advice on construction phase displacement effects is to treat it as 50% of operational phase displacement effects for the years in which the construction occurs                                                                                                                                                                    |
| 106. | 7.6 | 37 | Impacts Proposed to be Scoped Out     | Table 7.6.6 - Disturbance & Displacement: Intertidal ECC during the Operation and Maintenance phase has been scoped out due to the fact that it is "highly localised and episodic (i.e., limited to any maintenance or repair of the export cables)". Natural England is not only concerned about the additional displacement from turbines on the distribution of red-throated divers within the Greater Wash SPA, but also from |  | Natural England highlights our increasing concerns in relation to disturbance and/or displacement of red-throated divers features from the more persistent presence of offshore wind farm and oil and gas related vessel activity which could make a meaningful contribution to in-combination effects to the Greater Wash SPA and indeed the adjacent Outer Thames Estuary |



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|  |  |  |  | <p>associated activities, and welcomes the following embedded mitigation for RTD: “Construction and operational maintenance vessels will follow a route from their home port that avoids high concentrations of red-throated diver (a species known to be sensitive to disturbance by boat traffic).”</p> |  | <p>SPA depending on the transit route. As such, we advise appropriate consideration of both seasonal timing of construction and O&amp;M works and vessel transit route is included within the application.</p> <p>Natural England recommends that where possible, any construction and O&amp;M activities avoid the months of November to March inclusive. Vessel transit routes outside of existing navigation routes through the Greater Wash SPA and Outer Thames Estuary, depending on the port of origin, should also be avoided during these winter months. Natural England advises as minimum use of best practice measures between 1st November and 31st March to mitigate and therefore minimise disturbance to red-throated diver namely:</p> <ul style="list-style-type: none"> <li>• Selecting routes (when transiting to site) that avoid aggregations of red-throated diver and common scoter, where practicable.</li> <li>• Restricting (to the extent possible) vessel movements when transiting to the site to existing navigation routes (where the densities of divers</li> </ul> |
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|      |     |         |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>are typically relatively low).</p> <ul style="list-style-type: none"> <li>• Avoidance of over-revving of engines (to minimise noise disturbance); and</li> <li>• Briefing of vessel crew on the purpose and implications of these vessel management practices (through, for example, tool-box talks).</li> </ul> <p>Although, we do highlight that dependent on the level of proposed activity across the designated site the best practice protocol as set out above still may not minimise the in-combination impacts to an acceptable level.</p> |
| 107. | 7.6 | 37      | Impacts Proposed to be Scoped Out    | <p>Table 7.6.6. – Whilst the landfall area of search still includes waterbird SPAs like the Humber, Natural England think it is premature to scope out intertidal cable operations and maintenance at this stage.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Natural England advises this is scoped in at this stage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 108. | 7.6 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that the data sources identified are sufficient to inform the offshore and intertidal ornithological baseline for the PEIR and ES?</i></p> <p>The data sources presented in Table 7.6.1 appear to be comprehensive. Natural England welcomes the inclusion of 24 months of survey data, of monthly surveys year-round and two surveys per month during the period between March and August 2022. We agree that 22 transects with 16.7% coverage is likely to be sufficient for baseline characterisation. However, we note that, should the analysis of the survey data show that coverage is insufficient, it may be necessary to increase this coverage by further analysing the survey data from the two additional DAS survey cameras.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| 109. | 7.6 | General | Further Consideration for Consultees | <p><i>Q: Do you agree with the seabird data collection method i.e., 24 months of DAS of the array area plus a 4km buffer?</i></p> <p>Natural England welcome the inclusion of 24 months of survey data, of monthly surveys year-round and two surveys per month during the period between March and August 2022. We agree with the use of a 4km buffer for none RTD species. NB: that displacement impacts from turbines are likely to be greater than 10km as set out in EA1N and EA2 written representations. We agree that 22 transects with 16.7% coverage is likely to be sufficient for initial baseline characterisation. However, we note that, should the analysis of the survey data show that coverage is insufficient, it may be necessary to increase this coverage by further analysing the survey data from the two additional DAS survey cameras. It should be noted that developing the baseline characterisation is an iterative process, and that these initial survey outputs may identify the need for further data collection or analysis. We expect this to be a key topic for discussion as part of the evidence plan process.</p> <p>We note that there has not been much detail presented in this report regarding the methods of analysis of the survey data or how abundance and density estimates will be made. We cannot therefore provide comments on these methods at this stage, and we note that we would welcome and encourage early engagement with the applicant on these methods. We note that the species data presented in Table 7.6.2. includes large numbers of birds in a 'No ID' category. We would encourage that every attempt should be made to at least identify birds to species group where species-specific ID is not possible, and that this data be presented. We also note that there have been previous discussions regarding methods of estimating abundance and density, and we refer the applicant to our comments on the Scope of Works. These state that while we encourage the use of model-based estimates, we would require evidence of the suitability of any novel modelling method. We would also require that design-based outputs are presented alongside model-based outputs, along with distribution maps of the raw survey data.</p> |
| 110. | 7.6 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that all potential impacts resulting from the Project have been identified for offshore and intertidal ornithological receptors?</i></p> <p>Natural England agree with the list of potential impacts described and welcome the comprehensiveness of the list, particularly the inclusion of disturbance and displacement impacts during construction. We would, however, welcome the inclusion of the North Norfolk Coast SPA</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|      |     |         |                                      | <p>within the designated sites, as we consider this site to have potential connectivity with the project area for sandwich tern.</p> <p>We consider that more detail is required considering the location, frequency, timing and duration of the operation and maintenance activities scoped out due to being localised and episodic. We also consider that more detail is required regarding the embedded mitigation proposals for reducing the impacts of construction and operational maintenance vessels.</p> <p>We note also that impacts of low significance (defined in the report as ‘minor adverse’) should be included in the cumulative impact assessment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 111. | 7.6 | General | Further Consideration for Consultees | <p><i>Q: Do you agree with the proposed approach to the assessment for the impacts proposed in Table 7.6.5?</i></p> <p>Natural England agree with the approach as described, however we note that detailed descriptions of the methods to be used to assess impacts are not presented in this report and that, as such, we cannot comment on them at this stage. However, we welcome the applicant’s stated commitment to further engagement with Natural England as a stakeholder on these methods during later stages of the process.</p> <p>We note that insufficient detail has been provided regarding the approach to collision risk modelling or the parameters used to be able to comment on it at this stage, but we welcome the applicant’s statement that they will engage with Natural England as a relevant stakeholder regarding the approach taken to collision risk modelling and the parameters to be used.</p> <p>We welcome the applicant’s statement that they will consider both site-specific DAS flight height data and generic ‘Johnston &amp; Cook’ flight height data, as per previous discussions relating to the scope of works, although we consider that this issue should be included in the further, more detailed consultations about the collision risk approach that the applicant has stated they will engage with Natural England in.</p> <p>Natural England note that insufficient detail has been provided in this report regarding the specific methods or parameter to be used in the assessment of displacement impacts, apportionment, and PVA modelling for us to be able to comment on these at this stage. However, we welcome the applicant’s stated commitment to further engagement with NE as a stakeholder on these methods and parameters during later stages of the process.</p> |

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|      |     |         |                                      | We note that it may be possible to take a site-specific bespoke approach to seasonality ('bioseasons') for some species, and we would welcome consultation with Natural England on the bioseasons to be used for all species, regardless of whether they are included in Furness (2015).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 112. | 7.6 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that those seabird species primarily identified as occurring in greatest numbers in the recent DAS of the array area [linked with nearby breeding colonies (SSSI, SPA &amp; pSPA)] and that may be potentially impacted by the construction and operation of the WTG array should form the focus of the ornithological assessment: gannet, kittiwake, red-throated diver, razorbill, and guillemot?</i></p> <p>Natural England agrees with the inclusion of the species listed (gannet, kittiwake, red-throated diver, razorbill, and guillemot), but we would welcome the additional consideration of puffin, sandwich tern, common tern, great black-backed gull, common gull, and little gull, based on the proximity to relevant designated sites (apart of featured seabird assemblage) and the preliminary survey data results presented in Table 7.6.2</p> |
| 113. | 7.6 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that, for the offshore ECC AoS, the species of interest in relation to the potential impacts of the construction (and maintenance) of the offshore cable and landfall is red-throated diver (which is known to be sensitive to vessel traffic and is an interest feature of the Greater Wash SPA)?</i></p> <p>Natural England agree that red-throated diver is a species of interest with regards to potential impacts of the construction and maintenance of the offshore ECC AoS, but we would welcome the additional inclusion of common scoter, which is also an interest feature of the Greater Wash SPA, with which the ECC AoS overlaps. Once further data is received, we reserve the right to update this advice.</p>                                                                                                                                    |

### 7.8 Commercial Fisheries

| Point No. | Section | Para    | Topic                | Comments                                                                             | RAG | Recommendations                                                                                                                       |
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| 114.      | 7.8     | General | General              | Natural England defers to the expertise of Cefas on matters of commercial fisheries  |     | Natural England advises Cefas is consulted to review and comment on the Commercial Fisheries section of the EIA Scoping Report        |
| 115.      | 7.8     | 22      | Commercial Fisheries | Natural England welcome the reference to fisheries bylaws to prevent impacts to MPAs |     | There is a need for the ES to demonstrate that the development will in no way hinder the implementation of those management measures. |

### 7.11 Seascape, Landscape and Visual

| Point No. | Section | Para                    | Topic                                                        | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | RAG | Recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| 116.      | 7.11    | 9 and 25 (Table 7.11.3) | Radius study area from the offshore RCS<br>And<br>Viewpoints | <p>Without further details on the location and height of the offshore Reactive Compensation Station (RCS) Natural England cannot comment on its impact on the special character of the Heritage Coast, the appropriate study area radius, or any viewpoints that might be required. We note that no minimum distance from the coastline to the RCS has been provided, and no rationale for the suggested 30km study radius has been provided.</p> <p>We also note that the “Scoping Boundaries” detailed on Figure 1.5.1 are not inclusive of the viewpoints proposed within Table 7.11.3 (and that the viewpoints suggested, and</p> |     | <p>Natural England requests that the applicant provide further details on the location and height of the offshore RCS, in addition to the minimum distance from the coastline to the RCS.</p> <p>We further request that rationale for the suggested 30km study radius be provided. Natural England advise that viewpoints from Heritage Coasts and AONBs, dependent upon the location of the RCS, are included within the EIA.</p> <p>Natural England welcome further information surrounding the visibility of the substation from the Lincolnshire Wolds</p> |

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|      |      |         |                                                            | <p>wirelines provided are not the same). However, since the RCS will be located within the Scoping Boundary provided, we do not expect it to interfere with views from or receptors within the North Norfolk Heritage Coast or Norfolk Coast AONB.</p> <p>Finally, there is the possibility that the proposed substation may be visible from the Lincolnshire Wolds AONB.</p>                                                                                                                                                                                                             |  | <p>AONB, and also advise contacting the Lincolnshire Wolds Countryside Service (the AONB partnership) for their detailed comments on this matter.</p> |
| 117. | 7.11 | 18 - 23 | Zone of Theoretical visibility (ZTV)                       | <p>Figure 7.11.2 suggests areas of higher theoretical visibility (ability to see 75 turbines) beyond the 60km study area and within protected landscapes (such as the Lincolnshire Wolds AONB). Although the turbines would have a slightly greater apparent heights (~0.271 degrees) from high points of up to ~100m AOD in the Lincolnshire Wolds (with potentially long views out to sea possible from these locations, see NCA profile 43), from the information provided we consider such apparent heights to also be insignificant, and we agree with the 60km study area used.</p> |  | N/A                                                                                                                                                   |
| 118. | 7.11 | 37      | Table 7.11.4: Landscape designations with relevance to the | <p>To clarify Natural England's role in relation to seascape, landscape, and visual receptors associated with the Heritage Coasts of Spurn Head and North Norfolk and the statutory purpose of the Norfolk Coast and Lincolnshire Wolds AONBs only. However, we would like to make you aware that there are proposals for the creation of a</p>                                                                                                                                                                                                                                           |  | N/A                                                                                                                                                   |

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|      |      |    | SLVIA and the project                     | <p>Heritage Coast north of Mablethorpe, which raises the possibility of an overlap between this and the onshore Scoping Boundary for cable landfall and a grid connection. If approved, this is currently likely to be formally defined in the early part of 2023.</p> <p>Spurn Head Heritage Coast is the closest protected landscape from the proposed project array area. Given 405m high turbines, and a 56.78km distance between the Spurn Point viewpoint and the nearest turbine, the likely apparent height of the nearest Outer Dowsing turbine would be ~0.232 degrees, meaning that its likely effect on the Heritage Coast would be insignificant. Moreover, the nearest proposed Outer Dowsing turbine would be situated more than 56.78km from the North Norfolk Heritage Coast and Norfolk Coast AONB and therefore associated with even smaller apparent heights when viewed from the North Norfolk coast. We note that existing arrays are already present within many views out from this protected coastline.</p> |  |                                                   |
| 119. | 7.12 | 13 | Baseline Environment - Offshore Windfarms | This paragraph states that of the 11 other Offshore Wind Farms only 2 are in planning: Dudgeon and Sheringham Shoal extension projects. However, table 7.12.2 shows 3; Dudgeon, Sheringham extension projects, and the Hornsea 4 OWFs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | Please note and update in any future assessments. |



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| 120. | 7.12 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that the data sources identified in Table 7.11.1 are sufficient to inform the baseline for the Project SLVIA?</i></p> <p>Natural England broadly agrees with the Applicant's approach but until the cable corridor is determined we will continue to work with the Applicant to ensure that all relevant information is included in the Application</p>                                                        |
| 121. | 7.12 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that the seascape, landscape, and visual impact of the array area (located approximately 54 km from the closest point of coast) can be scoped out of the EIA?</i></p> <p>Natural England doesn't agree please see previous comments</p>                                                                                                                                                                        |
| 122. | 7.12 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that the focus of the SLVIA should be on the potential impacts arising from the offshore RCS within the offshore ECC and landfall works in the intertidal area?</i></p> <p>Natural England advises that the onus is on the Applicant to fully assess the SLVIA impacts for all receptors but agree the more significant impacts are likely to be from the RCS within the offshore ECC and intertidal area.</p> |
| 123. | 7.12 | General | Further Consideration for Consultees | <p><i>Q: Do you agree a 30 km radius study area should be used for the SLVIA of the offshore RCS?</i></p> <p>Natural England request that rationale for the suggested 30km study radius be provided.</p>                                                                                                                                                                                                                             |
| 124. | 7.12 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that all the designated areas within the ZTV have been identified?</i></p> <p>Natural England would like to make you aware that there are proposals for the creation of a Heritage Coast north of Mablethorpe, which raises the possibility of an overlap between this and the onshore Scoping Boundary for cable landfall and a grid connection.</p>                                                          |
| 125. | 7.12 | General | Further Consideration for Consultees | <p><i>Q: Do you have any comments on the viewpoints listed in Table 7.11.3 or have any proposed additions or alternatives, particularly in relation to the assessment of the offshore RCS?</i></p> <p>Natural England requests that the applicant provide further details on the location and height of the offshore RCS, in addition to the minimum distance from the coastline to the RCS.</p>                                     |

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|      |      |         |                                      | Natural England advise that viewpoints from Heritage Coasts and AONBs, dependent upon the location of the RCS, are included within the EIA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 126. | 7.12 | General | Further Consideration for Consultees | <p><i>Q: Have all potential impacts resulting from the Project been identified for seascape, landscape, and visual receptors?</i></p> <p>Natural England welcome further information surrounding the visibility of the substation from the Lincolnshire Wolds AONB, and also advise contacting the Lincolnshire Wolds Countryside Service (the AONB partnership) for their detailed comments on this matter.</p>                                                                                                                                                                                                                                                                                                                                                                |
| 127. | 7.12 | General | Further Consideration for Consultees | <p><i>Q: Do you agree that the impacts described in Table 7.11.6 can be scoped out?</i></p> <p>Natural England advises that the presence of a significant number of vessels have an impact pathway during construction and operation and maintenance. With vessels being in an area for months/years further justification will be required to scope these out. The ZTI will need to be determined once the maximum turbine height has been defined and all seascape receptors have been defined and assessed given the impacts from the increased number of turbines in the vicinity</p> <p>However, as LVIA impacts from the onshore cable installation will be considered as part of the LVIA Natural England is content for the Array impacts to LVIA to be scoped out.</p> |
| 128. | 7.12 | General | Further Consideration for Consultees | <p><i>Q: For those impacts scoped in (Table 7.11.5), do you agree that the methods described are sufficient to inform a robust impact assessment?</i></p> <p>Natural England broadly agrees with the Applicant's approach, however until we have review the SLVIA we are unable to comment further</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 129. | 7.12 | General | Further Consideration for Consultees | <p><i>Q: Do you have any specific requirements for the SLVIA methodology and/ or visual representations (photomontages/ ZTVs) to be included in the SLVIA?</i></p> <p>As the LVIA and SLVIA are behind the other thematic ETGs and there is limited information available, we are currently unable to advise further at this time.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Section 8 Onshore Ecology

Natural England notes that at this stage information provided is extremely high-level, which makes it difficult for us to provide meaningful comments. With the PEA being produced at a later date, there is less time to identify and reduce potential risks. Natural England advises that sufficient time should be given to thoroughly assess the survey data, have ETG consultation on and implement actions where necessary prior to submission.

Our standard advice is that two years of survey data is obtained to inform possible mitigation/compensation measures if required.

| <b>Point No.</b> | <b>Section</b> | <b>Para</b> | <b>Topic</b>                | <b>Comments</b>                                                                                                                                         | <b>RAG</b> | <b>Recommendations</b>                                                                                                                                                                                                                                                                                        |
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| 130.             | 8              | General     | Onshore Ecology             | Natural England flags potential impacts on SPA functionally land as a likely risk i.e., geese, golden plover etc. for the cable route.                  |            | Natural England advises that consideration is given to functionally linked land when assessing potential impacts of the onshore cable route. We have provided DAS advise to the Applicant on this.                                                                                                            |
| 131.             |                | General     | Protected Species Licence   | Protected species licences.                                                                                                                             |            | Please contact the Natural England Case Officer and the Licensing team as early in the process as possible regarding information required for a protected species Licence and the possibility of a Letter of No Impediment.                                                                                   |
| 132.             | 8.3            | General     | Potential Impacts Scoped In | OnSS location changes                                                                                                                                   |            | It may be necessary to rescope the survey area if the preferred OnSS locations change. And any studies, surveys and baseline understanding of the onshore aspects of the project may need to be revised. Natural England reserves the right to amend or update our opinion based on the locations once known. |
| 133.             | 8.3            | 6           | Baseline Environment        | Table 8.3.1 - The desk-based search for granted European Protected Species Mitigation (EPSM) licence applications for bats, as available from MAGIC, is |            | Natural England advises that the desk-based search area be increased to 5km for known bat roosts.                                                                                                                                                                                                             |

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|      |     |   |                      | suggested as the 'AoS plus 2 km buffer'. As above, some species of bats will forage and commute up to 6km a night. The search area should therefore be increased to reflect this.                                                         |  |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 134. | 8.3 | 6 | Baseline Environment | Table 8.3.1 - The desk-based study includes data for birds obtained from the BTO for 'selected species only, Wetland and Farmland Birds' for the AoS and a 2km search radius. Birds are mobile species and many forage greater distances. |  | Natural England advises that consideration be given as to whether the desk-based study area should be extended for birds.                                                                                                                                                                                                                                                                       |
| 135. | 8.3 | 6 | Baseline Environment | Table 8.3.1 Bird Data                                                                                                                                                                                                                     |  | Natural England advises that consideration needs to be given to extending the search area based on data obtained from the Wetland Bird Surveys.                                                                                                                                                                                                                                                 |
| 136. | 8.3 | 6 | Baseline Environment | Table 8.3.1 - It is noted that LWS have not been included in the Scoping report but will be considered during the later stages of the assessment.                                                                                         |  | Natural England advises that LWS and candidate LWS be included in further assessments.                                                                                                                                                                                                                                                                                                          |
| 137. | 8.3 | 6 | Baseline Environment | Table 8.3.1 - Data for Protected and Priority Species.                                                                                                                                                                                    |  | Natural England advises that further consideration is needed as to whether the search area needs to be increased for mobile species such as birds and bats. Greater Lincolnshire Nature Partnership, biological records may have further information to inform the project AoS.<br><br>We further advise that, fragmentation and disruption to habitats should also be considered and assessed. |

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| 138. | 8.3 | 6 | Baseline Environment | Table 8.3.1 - It is not clear why the Applicant has chosen an area of AoS plus 15km buffer' for the desk-based study area for designated sites. Birds are a mobile species, and some will forage at greater distances than 15km. |  | Natural England advises that scoping area should be based on the potential for species to be present within the area, the Impact Risk Zone (IRZ) for designated sites as available on Magic, the ecology, i.e., foraging areas of designated species of sites in proximity to the proposed development area.                                                                                                                                                                                                                                                                                                                        |
| 139. | 8.3 | 6 | Baseline Environment | Table 8.3.1 - It is noted that RSPB reserves are located within or adjacent to the scoping area. The Applicant should liaise with RSPB.                                                                                          |  | Natural England suggest the Applicant liaise with RSPB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 140. | 8.3 | 8 | Designated Sites     | Saltfleetby-Theddlethorpe Dunes SSSI, NNR is the most north-easterly breeding site in Britain for Natterjack toad. The site is a strong holding for the species with a significant colony present.                               |  | <p>Surveys for Natterjack toads should be carried out between April-July and should be carried out for where suitable habitat exist that will be impacted upon, directly or indirectly to include consideration of habitat fragmentation and isolation and potential hydrological impacts.</p> <p>Natural England advises consideration of avoidance of impacts to Natterjack toad in the first instance.</p> <p>Further we advise that surveys for Natterjack toads be undertaken where suitable habitat exists that will be impacted upon.</p> <p>Natural England encourages the Applicant to liaise with the Wildlife Trust.</p> |

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| 141. | 8.3 | 21        | Habitats and Ancient Woodland                            | It is noted that many of the priority habitats are likely to be included in the designated habitats.                                                                                                                                                                                   |  | Natural England advises that all habitats within the AoS and suitable buffer area should be mapped, to include priority habitats outside of designated sites.                                                                  |
| 142. | 8.3 | 22        | Habitats and Ancient Woodland                            | It is noted that there are no ancient woodlands within the AoS. However, there are two within 2 km - Within Wood and Hornby/Mother Woods.                                                                                                                                              |  | Natural England advises that ancient woodlands be considered in relation to mobile species and functionally linked land. Fragmentation and disruption to habitats should be considered and assessed.                           |
| 143. | 8.3 | 48 and 49 | Proposed Approach to the Environmental Impact Assessment | Natural England welcomes that the cable route selection will avoid impacts to designated sites and features of conservation importance. Natural England welcome the use of the avoid, reduce, mitigate hierarchy.                                                                      |  | N/A                                                                                                                                                                                                                            |
| 144. | 8.3 | 48        | Proposed Approach to the Environmental Impact Assessment | Whilst we welcome that habitats removed during cable route construction will be reinstated upon completion of works, it should be noted that full impacts cannot be assessed, and therefore correctly mitigated for, without the full survey results.                                  |  | Natural England will advise further once the full data set is available and assessed.                                                                                                                                          |
| 145. | 8.3 | 49        | Relevant Mitigation Measures                             | We welcome that seasonal constraints in relation to specific species will be adhered to where possible. It should be noted that this should be in the first instance and where this is not possible works must be overseen by a suitably experienced Ecological Clerk of Works (ECoW). |  | Natural England advises that avoidance be considered in the first instance, then mitigation.<br><br>Where avoidance is not possible a suitably experienced Ecological Clerk of Works (ECoW) will be required to oversee works. |

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| 146. | 8.3 | 49 | Relevant Mitigation Measures           | We welcome that the storage of chemical/fuel and handling procedures will be developed and implemented. We also welcome that the following will be developed and implemented: A Code of Construction Practice (CoCP), Ecological Management Plan (EcoMP) and a Decommissioning Plan and that the requirement and feasibility of any mitigation measures will be consulted upon with statutory consultees throughout the EIA process. |  | Natural England advises that outline plans are submitted with the Application                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 147. | 8.3 | 51 | Biodiversity Enhancements and Net Gain | Net gain                                                                                                                                                                                                                                                                                                                                                                                                                             |  | <p>Whilst we are currently in the transition period before the requirements for Biodiversity Net Gain (BNG) delivery are mandatory for Nationally Significant Infrastructure Projects (NSIPs), Natural England strongly advises that the project engages with this at an early stage to maximise positive environmental impact and in order to ensure the project is future proofed.</p> <p>We advise that the sooner net gain is implemented, the sooner habitats can establish. BNG calculations should be made using the most recent Metric (Metric 3.1 at present).</p> |
| 148. | 8.3 | 52 | Potential Impacts Scoped In            | Table 8.3.4 - It is understood that desk-based assessment will be carried out for area of affected watercourses and their water quality, followed by surveys, should the potential for significant effects be identified when the preferred landfall, cable route                                                                                                                                                                    |  | <p>Natural England advises that water quality surveys for impacts to designated sites should be undertaken.</p> <p>Further we advise that 'Significant' effects should be defined. Also see other</p>                                                                                                                                                                                                                                                                                                                                                                       |

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|      |     |    |                             | <p>corridor option and OnSS locations are known.</p> <p>However, there is no definition of what constitutes 'significant'.</p>                                                                                                                                         |  | <p>comments relating to HDD and potential for bentonite breakout.</p>                                                                                                                                               |
| 149. | 8.3 | 52 | Potential Impacts Scoped In | <p>Table 8.3.4 - It is noted that it is proposed that <i>'appropriate surveys to determine the location of protected and priority species once the preferred landfall, cable route corridor and OnSS location are known'</i></p>                                       |  | <p>We advise that 1 surveys should be undertaken during optimum survey periods in line with Natural England species guidance.</p>                                                                                   |
| 150. | 8.3 | 52 | Potential Impacts Scoped In | <p>Table 8.3.4. - It is understood that an <i>'air quality assessment will be undertaken, which will include consideration of ecological receptors, and potential effects from changes in air quality will be considered in the cumulative impact assessment.'</i></p> |  | <p>Natural England advises that air quality impacts to designated sites should be considered.</p>                                                                                                                   |
| 151. | 8.3 | 52 | Potential Impacts Scoped In | <p>Table 8.3.4 – Potential impacts to watercourses and aquatic life from the proposed works.</p>                                                                                                                                                                       |  | <p>Natural England advises that an Outline Code of Construction Practice (CoCP)/Ecological Management Plan (EcoMP) is provided at the time of Application to include mitigation measures to minimise Env. risk.</p> |
| 152. | 8.3 | 60 | Summary of Next Steps       | <p>The summary of next steps includes obtaining more detailed biological records and local wildlife site data for the AoS plus the surrounding area,</p>                                                                                                               |  | <p>The surrounding search area for biological records has not been provided. This should be based upon species and habitats present and, in most cases, extend beyond the adjacent habitats.</p>                    |



|      |     |    |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------|-----|----|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 153. | 8.3 | 63 | Summary of Next Steps | Bird survey areas and buffer                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Natural England advises that it is the Applicant's responsibility to determine whether there is sufficient information/evidence to exclude areas from surveys.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 154. | 8.3 | 63 | Summary of Next Steps | <p>It is noted that further surveys are only proposed for structures assessed as having moderate and high potential for roosting bats. Whilst this is standard best practice for trees, where structures are built, i.e., buildings or other artificial structure, best practice guidance is to carry out further surveys to include those with low potential as well as moderate and high potential.</p> <p>The survey area for roosting and foraging/commuting bats has not been detailed.</p> |  | <p>Natural England advises that further survey for structures which are not trees, i.e., buildings that have low potential for roosting bats, in addition to further survey of those with moderate and high potential, where suitable habitats exist.</p> <p>Natural England advises that where structures are assessed as having 'low' or 'moderate' potential for roosting bats, as per best practice guidance (Collins, 2016), additional activity surveys to those recommended (e.g., one survey for structures with 'low' potential) may be required where bat activity is higher than expected. This is to ensure accurate assessment of roost types, species, and access points, which may not be possible with less surveys.</p> <p>As per Natural England's DAS advice - we advise that at least one activity survey should be carried out between May and August. If three surveys are to be carried out, at least two of those should be between May and August. If only one activity survey is required, this should be carried out in June as</p> |

|      |     |    |                       |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|      |     |    |                       |                    | <p>pipistrelle maternity roosts could be missed if only one survey is carried out in May. Surveys must be spread out across the season where more than one is required and must be carried out at least two weeks apart, preferably more, in suitable weather conditions.</p> <p>Natural England advises that surveys of trees/structures that could be potentially indirectly impacted upon, e.g., by illumination, should be considered.</p> <p>Survey area for foraging/commuting bats should take into consideration CSZ and connectivity of the site to roosting and foraging habitats. The requirement of further surveys should be assessed on a case-by-case basis, based on all the evidence available. Some habitats of low suitability for bats may be important for bats at a local level, depending on the availability of other suitable habitat. Any decision made should be recorded and justified within the ecological context of the area. Surveys should aim to cover all habitats represented in the area that may be impacted upon as a result of the proposed development to include direct and indirect impacts.</p> |
| 155. | 8.3 | 63 | Summary of Next Steps | Water Vole surveys | <p>Natural England advises that where suitable adjacent habitat exists along a waterbody it would be beneficial to walk over these habitats noting any signs of water vole.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|      |     |    |                       |                                                                                                                                                                                                                                                                                                                                             |  | It should be noted that further habitat surveys may be required over the course of the breeding season where the habitat suitability may change over time e.g., variations in water levels, changes to habitat management techniques, vegetation growth rates etc., which may impact the suitability of the habitat for water voles. Habitats initially ruled out as unsuitable for water voles could change during the year to become suitable water vole habitat and this needs to be considered to accurately determine water vole presence across the development and surrounding habitat |
| 156. | 8.3 | 63 | Summary of Next Steps | Reptile Surveys                                                                                                                                                                                                                                                                                                                             |  | Natural England advise that 'Moderate or large-scale impacts' need to be defined. Whilst we note that Reasonable Avoidance Measures (RAM) will be employed, we would anticipate a contingency plan should be included within the Outline Landscape and Environment Management plan to account for situations where avoidance is not possible.                                                                                                                                                                                                                                                 |
| 157. | 8.3 | 63 | Summary of Next Steps | It is understood that Habitat Suitability Index (HSI) assessments will be undertaken on all ponds and other potentially suitable water bodies within 250m. However, HSI assessments of waterbodies within 500m of the development may be necessary depending on factors such as scale of the development, habitat connectivity, barriers to |  | We advise that HSI scores can be used as an indication of pond suitability for great crested newts, which help to determine which ponds require further survey. However, ponds should not be excluded from surveys solely based on HSI scores (unless it can be demonstrated that they are totally unsuitable).                                                                                                                                                                                                                                                                               |

|      |     |    |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------|-----|----|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |     |    |                       | <p>dispersal, etc, and should be considered when determining the survey area.</p> <p>It is also understood that eDNA surveys for ponds scoring at least 'Average' suitability will be carried out and that population size assessments will be carried out for all water bodies with GCN within 250m of permanent, or 100m of temporary habitat loss where data does not already exist.</p>                                                                                                                                                                                                                                                                                                                                                                                      |  | <p>Natural England advises that ponds included for further surveys must be assessed on a combination of factors. If ponds are excluded from further survey and/or if only ponds within 250m of the development are surveyed, Natural England would recommend the ecologist retains evidence of their justification for their own records. If there is clear habitat connectivity between ponds within 250m to 500m and the development site, it may be necessary to extend the survey area.</p> |
| 158. | 8.3 | 63 | Summary of Next Steps | <p>It is noted that targeted surveys for protected and notable invertebrates in suitable habitats are proposed for areas that will be affected directly or indirectly by construction activity.</p> <p>Designated sites within the scoping area provide important habitat for invertebrate species. The following sites are of particular interest to invertebrate species:</p> <ul style="list-style-type: none"> <li>- Saltfleetby-Theddlethorpe Dunes NNR, SSSI holds outstanding invertebrate assemblages.</li> <li>- Sea Bank Clay Pits SSSI are known to support a rich aquatic invertebrate fauna, including several nationally scarce species and others new to the County.</li> <li>- Gibraltar Point SSSI is a nationally important site for invertebrates.</li> </ul> |  | <p>Natural England advises that invertebrate surveys should be carried out across all SSSIs within the scoping area along the Lincolnshire Coast plus any linked land around these sites for where habitats/species may be impacted upon. For where LNRs border the SSSIs, these should also be assessed for further survey.</p>                                                                                                                                                                |

|      |     |        |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------|-----|--------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 159. | 8.3 | 8.3.63 | Summary of Next Steps                 | <p>Bullet point 3 on page 454 - It is noted that the following area has been proposed for wintering bird surveys, 'where located within the preferred cable route corridor and OnSS plus 400 m.'</p> <p>There is no set distance from The Wash SPA to determine if surrounding agricultural areas are functionally linked as this is normally informed by project specific surveys. We are aware that the northern area around The Wash is becoming increasingly important for pink footed geese and golden plover.</p>                                                                                                            |  | <p>Natural England advises that it is the Applicant's responsibility to determine whether there is sufficient information/evidence to exclude areas from surveys. As previously commented to the applicant (29<sup>th</sup> July 2022), if it cannot be determined that areas are not functionally linked to a designated sites for passage and over wintering Annex I birds then surveys should be carried out. Our standard advice would be two years of survey data to be obtained to inform possible mitigation measures. Given the proposed submission dates of Autumn 2023 this will be difficult. If less than two years of data is collected, then consideration should be given to extending the 400m buffer area either side of the cable corridor in order to obtain further data to help demonstrate the relative importance of the cable corridor with the surrounding habitats.</p> |
| 160. | 8.3 | 8.3.64 | Further Considerations for Consultees | <p><i>Q: Do you agree that all the statutory and non-statutory designated sites within the potential Zol have been identified?</i></p> <p>Please see Natural England Annex A</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 161. | 8.3 | 8.3.64 | Further Considerations for Consultees | <p><i>Q: Subject to the findings of the PEA, do you agree that the data sources and surveys identified are likely to be sufficient to inform the onshore baseline for the Project PEIR and ES?</i></p> <p>On the information provided it is likely that a baseline characterisation can be formed for the project as long as our advice provided in this response and as part of the ETG is taken into consideration. However, as noted in comments above, Natural England's standard advice would be two years of survey data to be obtained to inform possible mitigation measures for Annex I birds due to annual variation</p> |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|      |     |        |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------|-----|--------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 162. | 8.3 | 8.3.64 | Further Considerations for Consultees | <p><i>Q: Do you have any comments on proposed scope and extent of the further surveys for protected, priority and notable species?</i></p> <p>As per comments provided above. In addition, and as our previous comments to the applicant (29th July 2022):</p> <p>The concern would be the PEIR being submitted before the full suite of surveys have been completed. The full impacts cannot be assessed, and therefore correctly mitigated for, without the full survey results.</p> <p>In addition, with some surveys being undertaken across two years and not in one complete season, robust justification/evidence would need to be presented to demonstrate that the surveys undertaken in the previous year (2022) remain a true representation/characterisation of the species and habitats in 2023.</p> <p>Natural England would always advise that assessments are based on a full set of baseline data, taking account of Natural England's standard advice, as this allows interested parties to provide the most robust advice.</p> <p>Natural England will therefore not have provided formal Statutory Nature Conservation Body (SNCB) advice on the full suite of onshore ecology surveys prior to the application. Whilst the data may not be available at the time of submission, it is advised that the 2022 surveys are repeated in 2023 to provide that certainty into examination.</p> |
| 163. | 8.3 | 8.3.64 | Further Considerations for Consultees | <p><i>Q: Do you agree that the proposed mitigation measures described provide a suitable means for managing and mitigating the potential effects of the Project on important onshore ecological features (insofar as it is possible to identify relevant mitigation requirements at this early stage)?</i></p> <p>As per comments provided above, Natural England is unable to provide comments on the suitability of mitigation measures until the full suite of data has been collected and analysed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 164. | 8.3 | 8.3.64 | Further Considerations for Consultees | <p><i>Q: Do you agree, on the basis that impacts will be temporary, the surveys along the preferred cable route corridor for priority farmland bird species are not required?</i></p> <p>As per comments provided above. Our previous comments we advise that 'Temporary' impacts should be refined in order to advise further on this matter.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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|      |     |        |                                       | <p>Natural England advises that more information is required on the definition of 'temporary' in this instance. Reference should be made to Natural England's standing advice (<a href="http://www.gov.uk">www.gov.uk</a>).</p> <p>We also refer the Applicant to our DAS advice provided as part of the ETG.</p>                                                                           |
| 165. | 8.3 | 8.3.64 | Further Considerations for Consultees | <p><i>Q: Do you agree that all potential impacts have been identified for important onshore ecological features in Table 8.3.4?</i></p> <p>As per comments provided above this will be dependent on the results of the site-specific surveys and final cable corridor. In addition, potential effects of light pollution effects on sensitive ecological receptor should be considered.</p> |

#### 8.4 Geology, Ground Conditions and Land Quality

| Point No. | Section | Topic | Para                                  | Comment                                            | RAG | Recommendation                                                                                                                                                                                                                                                                                                                                                            |
|-----------|---------|-------|---------------------------------------|----------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 166.      | 8.4     | 36    | Relevant Embedded Mitigation Measures | Sensitive surface water and groundwater resources. |     | Natural England advises avoidance of contamination in the first instance, however, potential impacts should be fully assessed and mitigated for with details to be provided in an Outline Code of Construction Practice (CoCP) provided at the time of Application.                                                                                                       |
| 167.      | 8.4     | 39    | Potential Impacts Scoped In           | Agricultural Land However,<br>-                    |     | <p>We advise that impacts from the development should be considered with regards to the Government's policy for the protection of the Best and Most Versatile (BMV) agricultural land as set out in paragraph 170 of the NPPF.</p> <p>We also recommend that soils should be considered in the context of the sustainable use of land and the ecosystem services they</p> |

|      |     |    |                             |                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------|-----|----|-----------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |     |    |                             |                            | <p>provide as a natural resource, as also highlighted in paragraph 170 of the NPPF. The applicant should consider the following as part of the Environmental Statement:</p> <ul style="list-style-type: none"> <li>- The degree to which soils are going to be disturbed/harmed as part of this development and whether 'best and most versatile' agricultural land is involved.</li> </ul> <p>This may require a detailed survey if one is not already available.</p> <ul style="list-style-type: none"> <li>- If required, an agricultural land classification and soil survey of the land should be undertaken.</li> </ul> <p>For further information on the availability of existing agricultural land classification (ALC) information see <a href="http://www.magic.gov.uk">www.magic.gov.uk</a>. Natural England Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land also contains useful background information.</p> <p>Natural England advises that the Environmental Statement should provide details of how any adverse impacts on soils can be minimised. Further guidance is contained in the Defra Construction Code of Practice for the Sustainable Use of Soil on Development Sites.</p> |
| 168. | 8.4 | 40 | Potential Impacts Scoped In | Table 8.4.6 - Contaminants | <p>Natural England advises that avoidance of contamination in the first instance, however, potential impacts should be fully assessed and mitigated for with details to be provided</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



|      |     |    |                             |                                                                                                                                     |  |                                                                                                                                                                       |
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|      |     |    |                             |                                                                                                                                     |  | in an Outline Code of Construction Practice (CoCP)                                                                                                                    |
| 169. | 8.4 | 40 | Potential Impacts Scoped In | Table 8.4.6 - We welcome the use of good working procedures and control measures throughout construction and decommissioning stages |  | Natural England notes that further details are to be provided in the Code of Construction Practice (CoCP), which should provide in outline at the time of Application |

### 8.5 Hydrology, Hydrogeology and Flood Risk

| Point No. | Section | Topic  | Para                                  | Comment                                                                                                                                                                                                                                                                                                                                                                                 | RAG | Recommendation                                                                                                                                                                                                      |
|-----------|---------|--------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 170.      | 8.5     | 8.5.38 | Relevant Embedded Mitigation Measures | <p>We would welcome the use of methods to reduce impacts to designated sites, to include the use of HDD below interest features.</p> <p>It should be noted that there is a risk of a potential bentonite break out where HDD is used beneath water courses, and for where geotechnical investigations are carried out This should be considered, fully assessed, and mitigated for.</p> |     | Natural England advises that a detailed specification be included in EIA of the HDD process and protocols be put in place to prevent break outs or frack-outs from occurring or minimise impacts should this occur. |

### Section 10 Summary and Next Steps

| Point No. | Section | Para | Topic                  | Comments                                                                                                                                                                  | RAG | Recommendations                                                                                                                                                                                                                            |
|-----------|---------|------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 171.      | 10.1    | 4    | Summary and Next Steps | Table 10.1.1 - It is unclear why the impacts for the decommissioning phase traffic movements and other works have been scoped out for the decommissioning stage of works. |     | Natural England requests further clarification and justification for the scoping out of these works during the decommissioning stage, until this information is provided these impacts should be provisionally scoped into the assessment. |

|      |      |   |                        |                                                                                                                                                                                                                                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                        |
|------|------|---|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 172. | 10.1 | 4 | Summary and Next Steps | Table 10.1.1. - It is noted that accidental spillages and leakages of oils, fuel and other polluting substances which could potentially enter the water environment has been scoped out for further consideration for all stages of construction, maintenance, and decommissioning stages. However, there may be potential impacts to designated sites and these need to be considered. |  | Natural England advises that accidental spillages and leakages of oils, fuel and other polluting substances which could potentially enter the water environment be scoped in for further assessment with regards to designated sites and potential impacts to their interest features. |
|------|------|---|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**From:** [Aaron Walsh](#) on behalf of [Town Planning LNE](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** RE: EN010130 - Outer Dowsing Offshore Wind - EIA Scoping Notification and Consultation  
**Date:** 03 August 2022 15:43:42  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)

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OFFICIAL

**FAO – Marie Shoesmith**  
**Ref – EN010130**  
**Proposal – Scoping Opinion for Outer Dowsing Offshore Wind**  
**Location – Outer Dowsing Offshore Wind**

Thank you for your letter of 2 August 2022 providing Network Rail with an opportunity to comment on the abovementioned Scoping Opinion.

Network Rail is a statutory undertaker responsible for maintaining and operating the railway infrastructure and associated estate. It owns, operates, maintains and develops the main rail network. Network Rail aims to protect and enhance the railway infrastructure therefore any proposed development which is in close proximity to the railway line or could potentially affect Network Rail's specific land interests, will need to be carefully considered.

#### **Impact on Network Rail Infrastructure**

Network Rail has been reviewing the information provided and note that the proposed development includes locations where there are railway assets present. In view of this, the EIA should consider the impact of the proposed development upon operational railway safety. This should include a transport assessment section considering the impact that HGV traffic/haulage routes associated with the construction and operation of the scheme may have on operational railway assets such as railway bridges with low clearance, bridges with weight restrictions and railway level crossings. In addition, should any part of the scheme require the use of, or access across railway land including the operational railway itself (e.g. the need to install cabling for grid connection), the developer will be required to obtain the necessary agreements and consents (easement agreements, licences etc) from Network Rail going forward.

#### **Summary**

Network Rail would be grateful if the comments above are considered by The Planning Inspectorate. Network Rail would welcome further discussion and negotiation with The Planning Inspectorate and Outer Dowsing Offshore Wind in relation to the proposed development as required going forward.

Kind regards



**Aaron Walsh**

Graduate  
Network Rail Property (Eastern Region)  
George Stephenson House, Toft Green, York, YO1 6JT

---

**From:** Outer Dowsing Offshore Wind  
<OuterDowsingOffshoreWind@planninginspectorate.gov.uk>  
**Sent:** 02 August 2022 11:41  
**To:** Town Planning LNE [REDACTED]  
**Cc:** Stephen Sprei [REDACTED]  
**Subject:** EN010130 - Outer Dowsing Offshore Wind - EIA Scoping Notification and Consultation

**From:** [LINCS-SECTION106 \(NHS LINCOLNSHIRE ICB - 71E\)](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** FW: EN010130 - Outer Dowsing Offshore Wind - EIA Scoping Notification and Consultation  
**Date:** 22 August 2022 12:29:02  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[EN010130-Statutory-consultation-letter.pdf](#)

---

Good Afternoon

Thank you for sharing the EIA Scoping Notification & Consultations.

The ICB notes the work but do not have any comments at this time.

Kind Regards  
Emily

Emily Turk  
S106 Administrator

**NHS Lincolnshire Integrated Care Board**

Tel: [REDACTED]

My working days are: Monday, Wednesday & Thursday

---

**From:** Outer Dowsing Offshore Wind  
<[OuterDowsingOffshoreWind@planninginspectorate.gov.uk](mailto:OuterDowsingOffshoreWind@planninginspectorate.gov.uk)>  
**Sent:** 02 August 2022 10:52  
**Subject:** EN010130 - Outer Dowsing Offshore Wind - EIA Scoping Notification and Consultation

Some people who received this message don't often get email from [outerdowsingoffshorewind@planninginspectorate.gov.uk](mailto:outerdowsingoffshorewind@planninginspectorate.gov.uk). [Learn why this is important](#)

Please see attached correspondence on the proposed Outer Dowsing Offshore Wind.

Please note the deadline for consultation responses is **30 August 2022** and is a statutory requirement that cannot be extended.

Kind regards,

Marie Shoemith



**Marie Shoemith** | Senior EIA Advisor  
The Planning Inspectorate



[@PINSgov](#)



[The Planning Inspectorate](#)



[planninginspectorate.gov.uk](https://www.planninginspectorate.gov.uk)

**From:** [Faulkner, Stephen](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Cc:** [Tracey, Matt](#); [Craske, Alice](#); [Wyatt, Joe](#)  
**Subject:** Scoping Opinion - Outer Dowsing  
**Date:** 16 August 2022 08:08:46

---

FAO Marie Shoemith – Planning Inspectorate

Thank you for consulting Norfolk County Council on the above Scoping Opinion.

I understand from the Applicant’s Scoping Opinion document that landfall and grid connection will all take place in Lincolnshire. As such there is unlikely to be any significant cross boundary issues affecting Norfolk.

However, any supporting Environmental Statement (EIA/ES) and initial Preliminary Environmental Information Report (PEIR) will need to consider the wider geographic implications associated with grid connection; and whether there is likely to be any further reinforcement needed to any onshore transmission infrastructure (400 kv power lines).

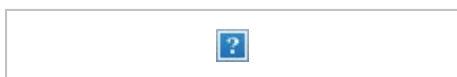
In particular the applicant should consider, along with National Grid, whether the existing transmission network in the area (including adjacent areas in Norfolk) has sufficient capacity to handle the additional power generated from the above NSIP proposal. Where any additional onshore electricity transmission infrastructure is necessary this should be clearly set out in the supporting ES / PEIR documentation; and indicate where there is likely to be wider cross-boundary implications (such as the need for new or reinforced overhead power lines or sub-stations).

If you have any queries with the above comments please call or email me.

Regards

Stephen

**Stephen Faulkner MRTPI**  
**Principal Planner**  
**Community and Environmental Services**  
**Telephone:** [REDACTED]



Campaign Logo



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To see our email disclaimer click here <http://www.norfolk.gov.uk/emaildisclaimer>

**From:** [Andrew Law](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** EN010130-000032-220802 - Scoping consultation response  
**Date:** 26 August 2022 09:19:18

---

Good morning,

Thank you for giving North Lincolnshire Council the opportunity to comment with regards to the scoping of the Outer Dowsing Offshore Wind project.

I can confirm that North Lincolnshire Council have no comments to make in respect of this scoping opinion.

It is noted that the proposal could affect several European sites, namely:

- North Norfolk Sandbanks and Saturn Reef SAC
- Inner Dowsing, Race Bank and North Ridge SAC
- Humber Estuary SAC
- Flamborough and Filey Coast (FFC) SPA
- Greater Wash SPA
- The Wash SPA
- The Humber Estuary SPA
- Hornsea Mere SPA

However, we would expect other Competent Authorities to lead on Habitat Regulations Assessments. Given the location of the offshore and onshore works, we would expect the lead competent authorities to be the Secretary of State, Natural England, the Marine Management Organisation and East Lindsey District Council. We would also expect these Competent Authorities to lead on protected and priority species.

I trust that this has provided the necessary clarification. Do not hesitate to contact me should you wish to discuss this matter further.

**Kind Regards**

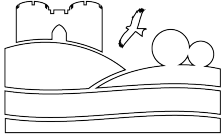
**Andrew Law**

**Development Management Specialist | Development Management | Economy and Environment**



✉ North Lincolnshire Council, Church Square House, 30 – 40 High Street, Scunthorpe, DN15 6NL

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**North  
Northamptonshire  
Council**

Development Management Service  
Wellingborough Office  
Swanspool House, Doddington Road  
Wellingborough  
NN8 1BP

Tel: [REDACTED]

Marie Shoesmith  
Environmental Services  
Central Operations  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

Ask for: Planning  
Telephone: [REDACTED]  
[REDACTED]  
Our Ref: NW/22/00556/EXT  
Your Ref: EN010130  
Date: 3 August 2022

Dear Marie Shoesmith

**Proposal: Application by GTR4 Limited, trading as Outer Dowsing Offshore Wind (the Applicant) for an Order granting Development Consent for the Outer Dowsing Offshore Wind (the Proposed Development)**  
**Location: Outer Dowsing Offshore Wind (Generating Station) Southern North Sea**

We raise no objections to the proposal and have no comments.

Yours faithfully

Planning Team  
North Northamptonshire Council – Wellingborough Area



**From:** [Before You Dig](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** RE: EXT:EN010130 - Outer Dowsing Offshore Wind - EIA Scoping Notification and Consultation  
**Date:** 02 August 2022 11:00:35  
**Attachments:** [~WRD0001.jpg](#)  
[image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)  
[image010.png](#)  
[image011.png](#)

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Good Morning,

NGN has a number of gas assets in the vicinity of some of the identified “site development” locations. It is a possibility that some of these sites could be recorded as Major Accident Hazard Pipelines(MAHP), whilst other sites could contain High Pressure gas and as such there are Industry recognised restrictions associated to these installations which would effectively preclude close and certain types of development. The regulations now include “Population Density Restrictions” or limits within certain distances of some of our “HP” assets.

The gas assets mentioned above form part of the Northern Gas Networks “bulk supply” High Pressure Gas Transmission” system and are registered with the HSE as Major Accident Hazard Pipelines.

Any damage or disruption to these assets is likely to give rise to grave safety, environmental and security of supply issues.

NGN would expect you or anyone involved with the site (or any future developer) to take these restrictions into account and apply them as necessary in consultation with ourselves. We would be happy to discuss specific sites further or provide more details at your locations as necessary.

If you give specific site locations, we would be happy to provide gas maps of the area which include the locations of our assets.

(In terms of High Pressure gas pipelines, the routes of our MAHP’s have already been lodged with members of the local Council’s Planning Department)

Kind regards,

**Lucy McMahon**

**Administration Assistant**  
**Before You Dig**  
**Northern Gas Networks**  
**1st Floor, 1 Emperor Way**  
**Doxford Park**  
**Sunderland**  
**SR3 3XR**

Before You Dig: 0800 040 7766 (option 5)



**Get involved! Have your say in the future of your gas network and win great prizes, by taking part in our BIG customer survey at [together.northerngasnetworks.co.uk](https://together.northerngasnetworks.co.uk) Keep posted to take part in a range of activities from workshops to roadshows. Together, we are the network.**

Northern Gas Networks Limited (05167070) | Northern Gas Networks Operations Limited (03528783) | Northern Gas Networks Holdings Limited (05213525) | Northern Gas Networks Pensions Trustee Limited (05424249) | Northern Gas Networks Finance Plc (05575923). **Registered address:** 1100 Century Way, Thorpe Park Business Park, Colton, Leeds LS15 8TU. Northern Gas Networks Pension Funding Limited Partnership (SL032251). **Registered address:** 1st Floor Citypoint, 65 Haymarket Terrace, Edinburgh, Scotland, EH12 5HD. **For information on how we use your details please read our [Personal Data Privacy Notice](#)**

---

**From:** Outer Dowsing Offshore Wind  
<OuterDowsingOffshoreWind@planninginspectorate.gov.uk>  
**Sent:** 02 August 2022 10:52  
**Subject:** EXT:EN010130 - Outer Dowsing Offshore Wind - EIA Scoping Notification and Consultation

You don't often get email from [outerdowsingoffshorewind@planninginspectorate.gov.uk](mailto:outerdowsingoffshorewind@planninginspectorate.gov.uk). [Learn why this is important](#)

External email! - Think before you click

Dear Sir/Madam

Please see attached correspondence on the proposed Outer Dowsing Offshore Wind.

Please note the deadline for consultation responses is **30 August 2022** and is a statutory requirement that cannot be extended.

Kind regards,

Marie Shoemith

**From:** [Fidler, Richard](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** Outer Dowsing Offshore Wind PINS ref: EN010130-000032-220802  
**Date:** 16 August 2022 15:36:18  
**Attachments:** [image001.png](#)

---

Dear Ms Shoesmith

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11  
Application by GTR4 Limited, trading as Outer Dowsing Offshore Wind (the Applicant) for an  
Order granting Development Consent for the Outer Dowsing Offshore Wind (the Proposed  
Development)**

**PINS ref: EN010130-000032-220802: SHDC ref: PE-00282-22 (Weston Marsh)**

I refer to the consultation letter referenced above, sent to SHDC on 2 August 2022.

I write to advise you of the following:

**1. EIA Regulations - Scoping Notification and Consultation**

Officers consider that the scoping document is comprehensive and we have no comments at present.

**2. Draft Statement of Community Consultation**

The draft document is comprehensive, however officers recommend that the following is included:

Statutory Advertising in the *Spalding Voice* publication  
Documents need to be held in the *South Holland District Council, Council Offices, Priory Road, Spalding, Lincolnshire, PE11 2XE*, in addition to the Pinchbeck Hub, already listed.

As well as the statutory and non-statutory organisations that will be identified by this exercise, officers also recommend that the following are consulted:

Various Parish Councils within SHDC, to be identified by search area  
Spalding SHDC Ward Members (please contact officers for a full list)  
SHDC Planning Portfolio Holder  
PEDALS (Spalding's cycling action group)  
Lincolnshire County Council as Highway and Lead Flood Authority  
Lincolnshire County Council Archaeology Service  
Lincolnshire Wildlife Trust, Banovallum House, Manor House Street, Horncastle, Lincolnshire, LN9 5HF  
Historic England

If you have further concerns or require clarification, please contact me on the address below.

Yours sincerely

**Richard Fidler**

Development Manager  
South Holland District Council



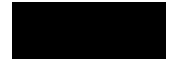
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The Planning Inspectorate  
Environmental Services,  
Central Operations,  
Temple Quay House,  
2 The Square, Bristol,  
BS1 6PN

Council Offices  
Priory Road  
Spalding  
Lincolnshire  
PE11 2XE

Admin  
DC Officers



16th August 2022

Dear Sir/Madam

## PLANNING: PRE-APPLICATION ADVICE

Reference: PE-00282-22                      Case Officer: Polly Harris-Gorf  
Location: Weston Marsh  
Proposal: Potential grid connection:

1. EIA Regulations - scoping consultation
2. Draft Statement of Community Consultation

Response sent under separate email cover at Tue 16/08/2022 15:36.

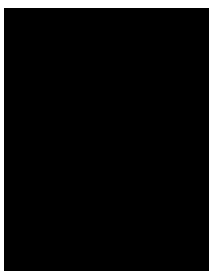
Signed by R Fidler.

This planning advice is given in good faith but is an officer opinion only and therefore is not binding on any formal decision the Council may make following the receipt of a planning application.

## BUILDING REGULATIONS

The works that you are proposing may also require Building Regulations and this informal advice or any subsequent planning permission does not give authority under Building Regulations to commence work. Please contact the Building Control section for further information on 01775 764557

Yours faithfully



Polly Harris-Gorf, Principal Planning Officer



30/08/2022

Your Ref: EN010130-000032-220802

Dear Sir

**RE: Scoping Consultation: Outer Dowsing Offshore Windfarm**

Thank you for the opportunity to comment on the proposed project at this stage.

As you already know, depending on the route of the proposed cables, it is likely that the route will pass through the Internal Drainage District (IDD) of the South Holland Internal Drainage Board (IDB) and therefore the Board's Byelaws apply. A copy of the Board's Byelaws can be accessed on our website ([https://www.wlma.org.uk/uploads/SHIDB\\_Byelaws.pdf](https://www.wlma.org.uk/uploads/SHIDB_Byelaws.pdf)), along with maps of the IDD ([https://www.wlma.org.uk/uploads/210-SHIDB\\_Index.pdf](https://www.wlma.org.uk/uploads/210-SHIDB_Index.pdf)). These maps also show which watercourses have been designated as 'Board Maintained Watercourses' by the Board. This designation is an acknowledgement by the Board that the watercourse is of arterial importance to the IDD and as such will normally receive maintenance from the IDB.

**Firstly, I would like to inform you that the Board intends to widen most of our Board Maintained watercourses over the next 50 years. This could impact your proposals when using both overhead and underground cables.**

I would also like to make you aware of the following three Byelaws under which you may require consent to enable your development:

**Byelaw 3 (surface water and treated foul water)**

- All new surface water (or treated foul) discharges into a watercourse within the IDD require consent from the Board under Byelaw 3.
- Please note that we recommend that any discharge is in line with the [Non-Statutory technical standards for sustainable drainage systems \(SuDS\)](#), therefore the Board is unlikely to grant consent for discharges in excess of greenfield rate, however we assess each proposal on a case-by-case basis.

**Byelaw 10**

- Consent is required for all works within 9 metres of the edge of drainage and flood risk management infrastructure. Within the IDD this infrastructure is principally Board Maintained watercourses and water management assets such as pumping stations. The 9 metre distance is measured from the edge/brink of the watercourse (whether open or piped). **The 9 m zone covers the whole 360° area around the watercourse**, including above and below it, so any

Duncan Worth (Chairman)    Simon Bartlett (Vice-Chairman)

Phil Camamile (Chief Executive)

Constituted by The Anglian Water Authority (South Holland Internal Drainage District) Order 1974,  
Statutory Instrument 1974 No.1209



crossings of Board maintained watercourses will likely require the Boards consent under this Byelaw.

### **Section 23, Land Drainage Act and Byelaw 4**

- If any works are proposed to alter a watercourse (culverting, infilling etc.), then consent would be required under Section 23 of the Land Drainage Act 1991 (and byelaw 4). I note that you intend to use HDD wherever possible to cross any watercourses. If your proposals change to an open cut method, this would require consent under Section 23 of the Land Drainage Act 1991 (and byelaw 4).

### **Having read through the Scoping Report provided by yourselves I have the following comments:**

- I note that in table 8.5.3 on page 491 it states that the LLFA will be consulted to determine the level of detail required for the surface water drainage strategy for the OnSS. Please be aware that if the OnSS falls within the Board's IDD then you would require consent from the Board under Byelaw 3 to discharge any surface water to a watercourse. Consequently, in addition to engaging with the LLFA we would also advise that the Board is consulted.
- When consenting cable crossings of watercourses within the IDD, the Board generally requires the cable to be placed a total of 2 m below the hard bed of the watercourse. Depending on the location and watercourse in question we may also ask that a strike plate be placed 1 m above the cable, at 1 m below the hard bed. In some instances we also ask that this level (and potentially the strike plate) be maintained for min. 3-5 m either side of the current watercourse brink in case of a future need to widen the watercourse for extra capacity (see first bolded comment). We are generally less stringent when consenting crossings over privately owned riparian watercourses (not maintained by the Board).

I hope the above has been useful; at this time we are unable to provide more detailed comments but we look forward to engaging more. If you have any questions or desire clarification on any of the above points please do not hesitate to contact me.

Kind Regards,

Emma

Emma Robertson  
Sustainable Development Officer  
Water Management Alliance

**From:** [Phil Jordan](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** EIA Scoping consultation for an application by GTR4 Limited for an Order granting Development Consent for the Outer Dowsing Offshore Wind  
**Date:** 23 August 2022 16:33:31  
**Attachments:** [image001.png](#)

---

Dear Marie,

Thank you for the above consultation.

I have reviewed the submitted Scoping Report submitted in relation to above, including the indicative areas for the proposed grid connection point.

South Kesteven District Council has no comments to make in relation to the scoping consultation at this time.

[Phil Jordan MRTPI](#)  
[Principal Planning Officer](#)  
Development & Growth  
South Kesteven District Council  
Council Offices, St. Peter's Hill  
Grantham, Lincolnshire, NG31 6PZ  
Tel: [REDACTED]

**East Midlands Building Consultancy** a partnership between South Kesteven DC, Rushcliffe BC and Newark and Sherwood DC.  
Committed and motivated to share and provide our expertise for the benefit of all.

**LABC** represents **Local Authority Building Control** in England and Wales.  
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If you want to know more about our range of services please contact us on [REDACTED] / [REDACTED]



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**From:** [Stephen Vanstone](#)  
**To:** [Outer Dowsing Offshore Wind](#)  
**Subject:** RE: EN010130 - Outer Dowsing Offshore Wind - EIA Scoping Notification and Consultation  
**Date:** 26 August 2022 14:14:52  
**Attachments:** [image001.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)  
[EN010130-Statutory-consultation-letter.pdf](#)

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Good afternoon Marie,

With reference to the above consultation, I can advise that Trinity House would expect the following to form part of the Environmental Statement:

Navigation Risk Assessment

- Comprehensive vessel traffic analysis in accordance with MGN 654.
- The possible cumulative and in-combination effects on shipping routes and patterns should be adequately assessed.
- The potential “corridor” between the project and Triton Knoll OWF, including future traffic patterns should be considered and assessed.

Risk Mitigation Measures

- We consider that this development will need to be marked with marine aids to navigation by the developer/operator in accordance with the general principles outlined in IALA (International Association of Marine Aids to Navigation and Lighthouse Authorities) Guideline G1162 - The Marking of Offshore Man-Made Structures as a risk mitigation measure. In addition to the marking of the structures themselves, it should be borne in mind that additional aids to navigation such as buoys may be necessary to mitigate the risk posed to the mariner, particularly during the construction phase. All marine navigational marking, which will be required to be provided and thereafter maintained by the developer, will need to be addressed and agreed with Trinity House. This will include the necessity for the aids to navigation to meet the internationally recognised standards of availability and the reporting thereof.
- Assessment of impact on existing aids to navigation, to include both offshore and shore based (where any cabling reaches landfall) aids to navigation.

A decommissioning plan, which includes a scenario where on decommissioning and on completion of removal operations an obstruction is left on site (attributable to the wind farm) which is considered to be a danger to navigation and which it has not proved possible to remove, should be considered. Such an obstruction may require to be marked until such time as it is either removed or no longer considered a danger to navigation, the continuing cost of which would need to be met by the developer/operator.

The possible requirement for navigational marking of the export cables and the vessels laying them. If it is necessary for the cables to be protected by rock armour, concrete mattresses or similar protection which lies clear of the surrounding seabed, the impact on navigation and the requirement for appropriate risk mitigation measures needs to be assessed.

Kind regards,

**Stephen Vanstone**

Navigation Services Officer | Navigation Directorate | Trinity House



TRINITY HOUSE

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UK Health  
Security  
Agency

Environmental Hazards and Emergencies Department  
Seaton House, City Link  
London Road  
Nottingham, NG2 4LA

████████████████████  
████████████████████  
Your Ref:  
Our Ref: CIRIS60004

Ms Marie Shoesmith  
Senior EIA Advisor  
The Planning Inspectorate  
3/20 Eagle Wing  
Temple Quay House  
2 The Square  
Bristol BS1 6PN

23<sup>rd</sup> August 2022

Dear Ms Shoesmith

**Nationally Significant Infrastructure Project  
Outer Dowsing Offshore Wind Farm  
Scoping Consultation Stage**

Thank you for including the UK Health Security Agency (UKHSA) in the scoping consultation phase of the above application. ***Please note that we request views from the Office for Health Improvement and Disparities (OHID) and the response provided below is sent on behalf of both UKHSA and OHID.*** The response is impartial and independent.

The health of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up to lifestyles and behaviours, and the communities, local economy, built and natural environments to global ecosystem trends. All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people. Although assessing impacts on health beyond direct effects from for example emissions to air or road traffic incidents is complex, there is a need to ensure a proportionate assessment focused on an application's significant effects.

Having considered the submitted scoping report we wish to make the following specific comments and recommendations:

## **Environmental Public Health**

We recognise the promoter's proposal to include a health section. We believe the summation of relevant issues into a specific section of the report provides a focus which ensures that public health is given adequate consideration. The section should summarise key information, risk assessments, proposed mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.

In terms of the level of detail to be included in an Environmental Statement (ES), we recognise that the differing nature of projects is such that their impacts will vary. UKHSA and OHID's predecessor organisation Public Health England produced an advice document *Advice on the content of Environmental Statements accompanying an application under the NSIP Regime*<sup>1</sup>, setting out aspects to be addressed within the Environmental Statement<sup>1</sup>. This advice document and its recommendations are still valid and should be considered when preparing an ES. Please note that where impacts relating to health and/or further assessments are scoped out, promoters should fully explain and justify this within the submitted documentation.

### **Recommendation**

Our position is that pollutants associated with road traffic or combustion, particularly particulate matter and oxides of nitrogen are non-threshold; i.e., an exposed population is likely to be subject to potential harm at any level and that reducing public exposure to non-threshold pollutants (such as particulate matter and nitrogen dioxide) below air quality standards will have potential public health benefits. We support approaches which minimise or mitigate public exposure to non-threshold air pollutants, address inequalities (in exposure) and maximise co-benefits (such as physical exercise). We encourage their consideration during development design, environmental and health impact assessment, and development consent.

Yours sincerely

On behalf of UK Health Security Agency  


*Please mark any correspondence for the attention of National Infrastructure Planning Administration.*

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<sup>1</sup>  
<https://khub.net/documents/135939561/390856715/Advice+on+the+content+of+environmental+statements+accompanying+an+application+under+the+Nationally+Significant+Infrastructure+Planning+Regime.pdf/a86b5521-46cc-98e4-4cad-f81a6c58f2e2?t=1615998516658>



Guildhall  
Marshall's Yard  
Gainsborough  
Lincolnshire DN21 2NA  
Telephone [REDACTED]  
Web [www.west-lindsey.gov.uk](http://www.west-lindsey.gov.uk)

The Planning Inspectorate  
Environmental Services, Central Operations  
Temple Quay House  
2 The Square  
Bristol BS1 6PN

Your contact for this matter is:  
Danielle Peck

[REDACTED]  
[REDACTED]

18<sup>th</sup> August 2022

Sent by email only

Dear Sir/Madam,

**APPLICATION REFERENCE NO: 145374**

**PROPOSAL: PINS consultation on behalf of SoS for its opinion (a scoping Opinion) as to the information to be provided in an Environmental Statement relating to the proposed development Ref: EN010130-000054-220804**

**LOCATION: Outer Dowsing Offshore Wind**

Thank you for identifying West Lindsey District Council as a consultation body and advising that the Secretary of State will be preparing a Scoping Opinion on the information to be provided in an environmental statement (ES). As the case officer I have read through the Scoping Report (SR) by Outer Dowsing Offshore Wind dated July 2022. Overall I consider the SR to be well written and comprehensive. The site is a large distance outside of the West Lindsey District boundary and would therefore be highly unlikely to be in view from any parts of the West Lindsey District.

On behalf of West Lindsey District Council I can therefore confirm that we have no comments to make with regard to the information that should be provided in the forthcoming ES.

Yours faithfully

[REDACTED]

Danielle Peck  
Senior Development Management Officer  
On behalf of West Lindsey District Council

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Our Ref: EJ/Eng/O4/Scoping Response

8<sup>th</sup> August 2022

Via – email



Dear Sir/Madam,

**RE: Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11**

**Application by GTR4 Limited, trading as Outer Dowsing Offshore Wind (the Applicant) for an Order granting Development Consent for the Outer Dowsing Offshore Wind (the Proposed Development)**

**Scoping consultation and notification of the Applicant’s contact details and duty to make available information to the Applicant if requested**

Thank you for your letter of the 2<sup>nd</sup> August 2022, ref: EN01030 – 000032 – 220802 consulting on the matter stated above.

The Witham Fourth District Internal Drainage Board is a drainage and flood risk management authority, that manages the drainage and water levels across an area of 44,000 hectares of lowland Lincolnshire. The Board routinely undertake works to reduce flood risk to people, property, and infrastructure, and manage water levels for agricultural and environmental needs.

The Board has permissive powers to manage water levels within their district, maintaining rivers, drainage channels, culverts, weirs, embankments, and pumping stations.

The Board are not formally a “statutory consultee” on planning matters. However, the Board has regulatory powers and strategic plans to manage drainage and flood risk within its district. As flood risk is a “material condition” the Local Planning Authorities consult with the Board as a public body managing flood risk. The Board has established arrangements with Boston Borough Council, East Lindsey District Council and Lincolnshire County Council to manage development and flood risk.

The Board is however a regulatory authority, and its consent is therefore required for certain activities, these activities are defined in the Board’s Byelaws as set out in Section 66 of the Land drainage Act 1991. In addition to the Byelaws the Boards consent is also required under Section 23 of the Land Drainage Act 1991, for works in an ordinary watercourse for the erection or alteration of a mill dam, weir or like obstruction; the erection of a culvert or the alterations of a culvert where the flow of water is affected.

The Board understand that the project will be applying for a Development Consent Order as a means of obtaining permission to construct this Nationally Significant Infrastructure Project, and this will be used to form a response to a number of legislative requirements.

The Board request that “Protective Provisions” for the Internal Drainage Boards are scheduled within the Development Consent Order to cover, but not limited to, the Boards regulatory powers, arrangements for cost recovery, mechanism for dispute resolution, liability and indemnity, specific undertakings for each party and management of information.

The Board also request that a performance agreement is developed in relation to the protected provisions detailed in the Development Consent Order between Witham Fourth District Internal Drainage Board and Outer Dowsing Offshore Wind.

When carrying out its functions, the Board must pay particular regard to the effect on the environment. Some environmental legislation relates specifically to maintaining or restoring the condition of protected sites or protecting certain species, but there are also statutory duties for the Board to conserve and enhance biodiversity in and alongside the watercourses they manage and the wider landscape.

The Natural Environment and Rural Communities Act 2006 places a duty on the Board to conserve biodiversity. The Environment Act 2021 extends this duty on the Board to also enhance biodiversity and report periodically on its actions.


Therefore, as a public authority, the Board must consider what action it can take, consistently with the proper exercise of its functions, to further the conservation and enhancement of biodiversity in England.

The Board has a biodiversity action plan to demonstrate how the Board fulfils its legal obligations to conserve and enhance biodiversity and sets out targets and actions that contribute to local, national, and international strategies and policies.

While the Board has a statutory duty to have regard for the environment whilst carrying out their functions, the Board also must consider how they can contribute to the enhancement of the wider environment.

Therefore, the Board welcome the opportunity to work together on this project to support and enhance biodiversity.

Your sincerely



**E.M. Johnson**  
Chief Engineer

The Secretary of State for Business, Energy & Industrial  
Strategy  
c/o Alberto Santamaria  
Planning Inspectorate  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

Your ref: EN010130  
Our ref: ODO-PIN-LET-000002

By email:  
OuterDowsingOffshoreWind@planninginspectorate.gov.uk

17 June 2022

Dear Alberto,

**Outer Dowsing Offshore Windfarm – Notification of Proposal to Provide an Environmental Statement and Notification of Intent to Submit a Request for a Scoping Opinion**

GTR4 Limited (a joint venture between Corio Generation and TotalEnergies), trading as Outer Dowsing Offshore Wind, proposes to submit an application for development consent for the Outer Dowsing offshore windfarm (the “Project”), which falls within the definition of a Nationally Significant Infrastructure Project under section 14 and section 15 of the Planning Act 2008 (as amended).

Please accept this letter as notification under Regulation 8(1)(b) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572) (EIA Regulations) that Outer Dowsing Offshore Wind proposes to undertake an Environmental Impact Assessment and provide an Environmental Statement in respect of the Project.

Please also accept this letter as notification that Outer Dowsing Offshore Wind proposes to submit a request for a Scoping Opinion in respect of the Project pursuant to Regulation 10 of the EIA Regulations in July 2022. We will notify you of the exact date we intend to submit our formal request once decided and in accordance with Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements.



Should you wish to discuss anything further please do not hesitate to contact me.

Yours sincerely,

A large black rectangular redaction box covering the signature area.

Chris Jenner  
*Development Manager*

A long black rectangular redaction box covering a line of contact information.

Mob. 