

Hornsea Project Three  
Offshore Wind Farm



## Hornsea Project Three Offshore Wind Farm

Environmental Statement:  
Volume 1, Chapter 1 - Introduction and Overarching Glossary

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Date: May 2018

  
**Hornsea 3**  
Offshore Wind Farm



Environmental Impact Assessment

Environmental Statement

Volume 1

Chapter 1 – Introduction and Overarching Glossary

**Liability**

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[www.hornseaproject3.co.uk](http://www.hornseaproject3.co.uk)

Ørsted

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## Overarching Environmental Statement Glossary

Term	Definition
Bathymetry	The measurement of water depth in oceans, seas and lakes.
Cable corridor	The specific corridor of seabed (seaward of Mean High Water Springs (MHWS)) and land (landward of MHWS) from the Hornsea Three array area to the Norwich Main National Grid substation, within which the export cables will be located.
Cable Specification and Installation Plan	A document detailing the technical specification of the offshore electrical system, including a cable burial risk assessment or similar, cable protection specification and installation risk mitigation measures.
Code of Construction Practice (CoCP)	A document detailing the overarching principles of construction, contractor protocols, construction-related environmental management measures, pollution prevention measures, the selection of appropriate construction techniques and monitoring processes, with three sections covering the offshore, intertidal and onshore environments.
Construction Traffic Management Plan(s) (CTMPs)	A plan(s) managing construction traffic, including protocols for delivery of Abnormal Indivisible Loads to site, personnel travel, measures for road cleaning and sustainable site travel measures relevant to those works.
Cumulative effects	The combined effect of Hornsea Project Three in combination with the effects from a number of different projects, on the same single receptor/resource.
Cumulative impact	Impacts that result from changes caused by other past, present or reasonably foreseeable actions together with Hornsea Project Three.
Design Envelope	A description of the range of possible elements that make up the Hornsea Project Three design options under consideration, as set out in detail in the project description. This envelope is used to define Hornsea Project Three for Environmental Impact Assessment (EIA) purposes when the exact engineering parameters are not yet known. This is also often referred to as the "Rochdale Envelope" approach.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects (NSIP).
Draft Development Consent Order (DCO) as submitted with the application	A draft of an order to be made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects (NSIP) as submitted with the application.
Drainage Management Plan	A document which identifies the strategy for managing surface water run-off.
Ecological Management Plan	A document detailing the onshore ecological surveys to be undertaken prior to and during construction, and during the operational phase of Hornsea Project Three, where required. The plan will include relevant survey and ecological procedures.
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
EIA Directive	European Union Directive 85/337/EEC, as amended by Directives 97/11/EC, 2003/35/EC and 2009/31/EC and then codified by Directive 2011/92/EU of 13 December 2011 (as amended in 2014 by Directive 2014/52/EU).
EIA Regulations	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended).

Term	Definition
Emergency Response and Cooperation Plan (ERCoP)	A document detailing the offshore emergency co-operation plans for the construction, operation and decommissioning phases of Hornsea Project Three.
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive and EIA Regulations, including the publication of an Environmental Statement.
European site	A Special Area of Conservation (SAC) or candidate SAC, a Special Protection Area (SPA) or potential SPA, a site listed as a site of community importance or a Ramsar site.
Fisheries Co-existence and Liaison Plan	A document detailing the approach to liaison and consultation with the fishing industry, scopes of work for the Fishing Liaison Officer (FLO) and Fishing Industry Representative (FIR) and principles of coexistence.
Flood Risk Assessment (FRA)	An evaluation of the baseline onshore flood risk and effect as a result of Hornsea Project Three. The FRA sets out flood risk mitigation measures, as may be required.
Former Hornsea Zone	The Hornsea Zone was one of nine offshore wind generation zones around the UK coast identified by The Crown Estate (TCE) during its third round of offshore wind licensing. In March 2016, the Hornsea Zone Development Agreement was terminated and project specific agreements, Agreement for Leases (Afls), were agreed with The Crown Estate for Hornsea Project One, Hornsea Project Two, Hornsea Project Three and Hornsea Project Four. The Hornsea Zone has therefore been dissolved and is referred to throughout the Hornsea Project Three Scoping Report as the former Hornsea Zone.
Habitats Regulations Assessment (HRA)	A process which helps determine likely significant effects and (where appropriate) assesses adverse impacts on the integrity of European conservation sites. The process consists of up to four stages of assessment: screening, appropriate assessment, assessment of alternative solutions and assessment of imperative reasons of over-riding public interest (IROPI).
High Voltage Alternating Current (HVAC)	High voltage alternating current is the bulk transmission of electricity by alternating current (AC), whereby the flow of electric charge periodically reverses direction.
High Voltage Direct Current (HVDC)	High voltage direct current is the bulk transmission of electricity by direct current (DC), whereby the flow of electric charge is in one direction.
Hornsea Project Four	The fourth offshore wind farm project within the former Hornsea Zone. Referred to as Hornsea Four throughout the Environmental Statement.
Hornsea Project One	The first offshore wind farm project within the former Hornsea Zone. It has a maximum capacity of 1.2 GW (1,200 MW) and includes all necessary offshore and onshore infrastructure required to connect to the existing National Grid substation located at North Killingholme, North Lincolnshire. Referred to as Project One throughout the Environmental Statement.
Hornsea Project Three	The third offshore wind farm project within the former Hornsea Zone. It includes offshore and onshore infrastructure to connect to the existing National Grid substation located at Norwich Main, Norfolk. Referred to as Hornsea Three throughout the Environmental Statement.
Hornsea Project Two	The second offshore wind farm project within the former Hornsea Zone. It has a maximum capacity of 1.8 GW (1,800 MW) and includes offshore and onshore infrastructure to connect to the existing National Grid substation located at North Killingholme, North Lincolnshire. Referred to as Project Two throughout the Environmental Statement.
Hornsea Three array area	The area in which the Hornsea Three turbines are located.

Term	Definition
Hornsea Three intertidal area	The area between Mean High Water Spring (MHWS) and Mean Low Water Springs (MLWS) in which all of the export cables will be landed. The transitional area between the offshore export cabling and the onshore export cabling.
Hornsea Three offshore cable corridor	The corridor in which the offshore export cables will be located.
Hornsea Three onshore cable corridor	The corridor in which the onshore export cables will be located.
Impact	Change that is caused by an action; for example, land clearing (action) during construction which results in habitat loss (impact).
In Principal Monitoring Plan	A plan describing the objectives of the offshore monitoring proposals and the guiding principles for delivering the monitoring measures.
Inter-related effects	Multiple effects on the same receptor arising from Hornsea Project Three. These occur either where a series of the same effect acts on a receptor over time to produce a potential additive effect or where a number of separate effects, such as noise and habitat loss, affect a single receptor, for example marine mammals.
Landscape Management Plan	A document detailing the proposed onshore landscape planting and landscape enhancement measures.
Lowest Astronomical Tide (LAT)	The minimum tidal level (under average meteorological conditions) which can be reached
Magnitude	A combination of the extent, duration, frequency and reversibility of an impact.
Marine Conservation Zone (MCZ)	Marine Conservation Zones (MCZs) are a new type of Marine Protected Area (MPA) brought in under the UK Marine and Coastal Access Act 2009. MCZs will form a key part of the UK MPA network.
Marine Mammal Mitigation Protocol (MMMP)	A document detailing the protocol to be implemented in the event that driven or part-driven pile foundations are proposed to be used. The protocol identifies the methods for detection, potential mitigation and monitoring/reporting protocols for marine mammals.
Marine Pollution Contingency Plan (MPCP)	A document addressing the risks, methods and procedures to deal with spills and collusion incidents during the construction, and operation and maintenance phase.
Marine Strategy Framework Directive (MSFD)	The Directive 2008/56/EC on establishing a framework for community action in the field of marine environmental policy outlining a transparent, legislative framework for an ecosystem-based approach to the management of human activities which supports the sustainable use of marine goods and services. The overarching goal of the Directive is to achieve 'Good Environmental Status' (GES) by 2020 across Europe's marine environment.
Mean High Water Neaps (MHWN)	The height of mean high water neaps is the average throughout the year (when the average maximum declination of the moon is 23.5°) of two successive high waters during those periods of 24 hours when the range of the tide is at its least.
Mean High Water Spring (MHWS)	The height of mean high water springs is the average throughout the year (when the average maximum declination of the moon is 23.5°) of two successive high waters during those periods of 24 hours when the range of the tide is at its greatest.
Mean Low Water Neaps (MLWN)	The height of the mean low water neaps is the average height obtained by the two successive low waters during the same period as mean high water neaps.

Term	Definition
Mean Low Water Spring (MLWS)	The height of the mean low water springs is the average height obtained by the two successive low waters during the same period as mean high water springs.
Measures adopted as part of the project	Enhancement, mitigation or monitoring commitment (which may include process or design measures) intended to avoid, reduce and where possible, remedy significant adverse impacts of a development.
National Policy Statement (NPS)	A document setting out national policy against which proposals for NSIPs will be assessed and decided upon.
Nationally Significant Infrastructure Project (NSIP)	Large scale development including power generating stations which requires development consent under the Planning Act 2008. An offshore wind farm project with a capacity of more than 100 MW constitutes an NSIP.
Norwich Main National Grid Substation	The existing National Grid Norwich Main substation which Hornsea Project Three will ultimately connect to.
Offshore Decommissioning Programme	A document confirming the geographic scope/spatial extent of decommissioning activities, process for seeking approval for decommissioning, and standards/objectives for the decommissioning process. A Decommissioning Programme is to be referred to for all decommissioning activities seaward of MHWS.
Offshore Habitats Regulations	The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended), which applies to marine habitats extending beyond 12 nautical miles (NM).
Offshore HVAC booster station search area	The area in which the offshore HVAC booster stations, if required, will be located.
Onshore Decommissioning Plan	A document confirming the geographic scope/spatial extent of decommissioning activities, process for seeking approval for decommissioning, and standards/objectives for the decommissioning process. A Decommissioning Plan is to be referred to for all decommissioning activities landward of MHWS.
Onshore HVAC booster station area	The area in which the onshore HVAC booster station, if required, will be located.
Onshore HVDC converter/HVAC substation area	The area in which the onshore HVDC converter/HVAC substation will be located.
Orsted Hornsea Project Three (UK) Ltd	The company promoting the development of the Hornsea Project Three offshore wind farm. Orsted Hornsea Project Three (UK) Ltd which is owned by Orsted Power (UK) Limited, which is owned by Ørsted Vind A/S, which is owned by Ørsted VE A/S, which is owned by Ørsted Wind Power A/S, which is owned by Ørsted Wind Power Holding A/S, and which is owned by Ørsted A/S.
Planning Act 2008	The key legislation providing for national policy guidance to assist in the delivery of NSIPs. The 2008 Act led to the development NPSs to guide the decision making processes for NSIPs.
Planning Inspectorate (PINS)	The executive agency of the Department for Communities and Local Government responsible for operating the planning process for NSIPs.
Project Description	A summary of the engineering design elements of Hornsea Three.
Project Environmental Management and Monitoring Plan (PEMMP)	This plan provides environmental risk analysis covering the MPCP, waste management, chemical risk assessment, offshore maintenance plans, details of Archaeological Exclusion Zones (AEZ), seasonal and working restrictions, and protocol for the appointment of Fisheries and Environmental Liaison Officers.

Term	Definition
Receptor	A component of the natural or man-made environment that is affected by an impact, including people.
Scour Protection Management Plan (SPMP)	A document detailing the need, type, sources, quantity, location and installation methods for scour protection.
Sensitivity	The extent to which a receptor can accept a change of a particular type and scale
Significance	The significance of an effect combines the evaluation of the magnitude of an impact and the sensitivity of the receptor.
Site Waste Management Plan	A plan setting out a framework for the management and mitigation of waste arising from Hornsea Project Three construction works, and protocols for the recording of waste arisings, waste minimisation measures and protocols that will be further developed and implemented by the construction teams.
Special Area of Conservation (SAC)	A site designation specified in the Habitats Directive (Council Directive 92/43/EEC). Each site is designated for one or more of the habitats and species listed in the Directive. The Directive requires a management plan to be prepared and implemented for each SAC to ensure the favourable conservation status of the habitats or species for which it was designated. In combination with SPAs, these sites contribute to the Natura 2000 Sites network.
Special Protection Area (SPA)	A site of European Community importance designated under the Birds Directive (Directive 2009/147/EC), classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species. SPAs contribute to the Natura 2000 Sites network.
Suspended sediments	Particulates in suspension in the water column, often comprising fine material such as clays and silts.
Transboundary	Crossing into other European Economic Association (EEA) States.
Written Scheme of Investigation (WSI)	A plan detailing the protocol for any archaeological investigation to be carried out prior to the construction of Hornsea Project Three, including procedures for field survey and watching briefs, as may be required.
Zone Appraisal and Planning (ZAP)	A framework intended to rationalise and balance the commercial aim of maximising development capacity aspirations with the practicalities of deliverability.
Zone Characterisation (ZoC)	A broad description of the physical, biological, socio-economic and cultural heritage characteristics of the former Hornsea Zone, at a resolution sufficient to support zonal layout and subsequent Hornsea Three identification. This does not take the form of a tangible output, but reflects the increase in understanding of the former Hornsea Zone over time.

## Acronyms

Acronym	Description
AC	Alternating Current
AEZ	Archaeological Exclusion Zones
AfL	Agreement for Lease
CoCP	Code of Construction Practice
DC	Direct Current
DCO	Development Consent Order
ECR	Export Cable Route
EEA	European Economic Association
EIA	Environmental Impact Assessment
GES	Good Environmental Status
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IROPI	Imperative Reasons of Over-riding Public Interest
LAT	Lowest Astronomical Tide
MCZ	Marine Conservation Zone
MHWN	Mean High Water Neaps
MHWS	Mean High Water Springs
MLWN	Mean Low Water Neaps
MLWS	Mean Low Water Springs
MMMP	Marine Mammal Mitigation Protocol
MPA	Marine Protected Area
MPCP	Marine Pollution Contingency Plan
MSFD	Marine Strategy Framework Directive
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
PEI	Preliminary Environmental Information
PEIR	Preliminary Environmental Information Report
PEMMP	Project Environmental Management and Monitoring Plan

Acronym	Description
PINS	Planning Inspectorate
SAC	Special Area of Conservation
SoCC	Statement of Community Consultation
SPA	Special Protection Area
SPMP	Scour Protection Management Plan
TCE	The Crown Estate
UK	United Kingdom
WSI	Written Scheme of Investigation
ZAP	Zone Appraisal and Planning
ZDA	Zone Development Agreement
ZoC	Zone Characterisation

## Units

Unit	Description
GW	Gigawatt
km	Kilometre
MW	Megawatt
nm	nautical mile

## 1. Introduction

### 1.1 Introduction to Hornsea Three

- 1.1.1.1 Orsted Hornsea Project Three (UK) Ltd., on behalf of Orsted Power (UK) Ltd., is promoting the development of the Hornsea Project Three Offshore Wind Farm (hereafter referred to as Hornsea Three). Hornsea Three is a proposed offshore wind farm located in the southern North Sea.
- 1.1.1.2 Hornsea Three is a project that will consist of an offshore generating station(s) with a capacity of greater than 100 MW and therefore is a Nationally Significant Infrastructure Project (NSIP), as defined by Section 15(3) of the Planning Act 2008, as amended. As such, there is a requirement to submit an application for a Development Consent Order (DCO) to the Planning Inspectorate (PINS) to be decided by the Secretary of State for Business, Energy and Industrial Strategy. The application for a DCO contains full details of the development proposal and is accompanied by an Environmental Statement. This document comprises the Environmental Statement and is submitted with the application for a DCO under Section 37(3) of the 2008 Act and Regulation 14 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009, as amended (the EIA Regulations).

### 1.2 Purpose of the Environmental Statement

- 1.2.1.1 The purpose of the Environmental Statement is to provide the environmental information which has been gathered in order to carry out an assessment of the likely significant environmental effects of Hornsea Three. The Environmental Statement specifically:
- Provides statutory and non-statutory consultees with technical information to enable an understanding of Hornsea Three;
  - Presents the existing environmental baseline information, established from desktop studies, offshore and onshore surveys and consultation;
  - Describes the methodology used within the Environmental Impact Assessment (EIA) process;
  - Presents the potential environmental impacts arising from Hornsea Three, based upon the baseline information and data gathered, and the analysis and impact assessments completed;
  - Indicates any limitations encountered during the compilation of the environmental information, including the acknowledgement of any data gaps or deficiencies and confidence in the information gathered;
  - Puts forward potential mitigation measures that could prevent, minimise, reduce or offset potential adverse environmental impacts identified during the EIA process. Where additional mitigation measures have been identified, the residual significance of effect has also been identified; and
  - Provides an outline of the main project alternatives considered for Hornsea Three and an indication of the main reasons for the project selection.
- 1.2.1.2 It is intended that the Environmental Statement is read alongside the Non-Technical Summary, which provides a brief non-technical overview of the information presented in the Environmental Statement. The Non-Technical Summary is a stand-alone companion document to the Environmental Statement. Both the Environmental Statement and the Non-Technical Summary are available for download: [www.hornseaproject3.co.uk](http://www.hornseaproject3.co.uk). Table 1.1 provides details of where hard copies of the application documents are available to view.

Table 1.1: Location of hard copies of the application documents.

Venue	Opening hours
<b>Breckland District Council</b> <sup>b</sup> , Elizabeth House, Walpole Loke, Dereham, NR19 1EE	Monday-Thursday: 8am-6pm
<b>Broadland District Council</b> <sup>b</sup> , 1 Yarmouth Road, Thorpe St Andrew, Norwich, NR15 2XE	Monday-Friday: 8:30am-5pm
<b>Broads Authority</b> <sup>b</sup> , Yare House, 62-64 Thorpe Road, Norwich, NR1 1RY	Monday-Friday: 9am-5pm
<b>Great Yarmouth Borough Council</b> <sup>b</sup> , Town Hall, Hall Plain, Great Yarmouth, NR30 2QF	Monday-Friday: 9am-5pm
<b>Hethersett Library</b> <sup>b</sup> , Queens Road, Hethersett, Norwich, NR9 3DB.	Monday: 8am-5pm, Wednesday: 8am-5pm, Thursday: 8am-7pm, Friday: 8am-5pm, Saturday: 8am-1pm.
<b>Holt Library</b> <sup>b</sup> , 9 Church Street, Holt, NR25 6BB	Monday-Wednesday: 9.30am-1pm, Friday: 9.30am-6pm, Saturday: 9.30am-1pm
<b>Norfolk and Norwich Millennium Library</b> <sup>a</sup> , The Forum, Millennium Plain, Norwich, NR2 1AW	Monday-Friday: 10am-7pm, Saturday: 9am-5pm, Sunday: Closed
<b>North Norfolk District Council</b> <sup>a</sup> , Council Offices, Holt Road, Cromer, Norfolk, NR27 9EN	Monday, Tuesday and Thursday: 8:30am-5pm, Wednesday: 10am-5pm, Friday: 8:30am-4:30pm
<b>Norwich City Council</b> <sup>b</sup> , City Hall, St Peters Street, Norwich, NR2 1NH	Monday-Friday: 8am-5pm Customer Centre: Monday, Tuesday, Wednesday and Friday: 8:45am-5pm
<b>Poringland Library</b> <sup>b</sup> , Overtons Way, Poringland, Norwich, NR14 7WB	Monday: 9am-5pm, Tuesday: 2pm-5pm, Wednesday: 9am-1pm, Thursday: 2pm-7.30pm, Friday: 2pm-5pm, Saturday: 9.30am-1pm
<b>Reepham Library</b> <sup>b</sup> , Bircham Institute, Market Place, Norwich, NR10 4JJ.	Monday: 2pm-7pm, Wednesday: 9.30am-1pm & 2pm-5pm, Friday: 10am-1pm & 2pm-5pm, Saturday: 9.30am-12.30pm.
<b>South Norfolk District Council</b> <sup>b</sup> , South Norfolk House, Cygnet Court, Long Stratton, Norwich, NR15 2XE	Monday-Friday: 8:15am-5pm
<b>Taverham Library</b> <sup>b</sup> , 9 Sandy Land, Taverham, Norwich, NR8 6JR.	Monday: 9am-1pm & 2pm-5pm, Tuesday: 9am-1pm, Wednesday: 2pm-5pm, Thursday 2pm to 8pm, Friday: 9am-1pm & 2pm-5pm, Saturday: 9am-1pm
a	Full suite of application documents available.
b	A copy of the NTS, as well as USBs with the full application are available. All libraries have computers on site for individuals to view the application.

### 1.3 DONG Energy (now Ørsted)

1.3.1.1 Ørsted A/S (owner of Orsted Power (UK) Ltd. and Orsted Hornsea Project Three (UK) Ltd.) specialises in procuring, producing, distributing and trading energy and related products in Northern Europe. Ørsted A/S is the world leader in the development, construction and operation of offshore wind farms, with more than 25 years' experience and a strong track record delivering successful projects, with approximately 4.4 GW of operational offshore wind farms worldwide, and a further 4.5 GW under construction in the lead up to 2022.

1.3.1.2 The Danish state owned energy company Dansk Naturgas A/S was founded in 1972 to manage Denmark's growing oil and gas resources industry in the Danish territories of the North Sea. The company was eventually renamed as Danish Oil and Natural Gas (DONG). DONG established itself in the electricity markets in the early 2000s by investing in Danish electricity companies. DONG Energy A/S was established in 2006 by the merging of six Danish Energy Companies (DONG, Elsam, Energi E2, Nesa, Københavns Energi and Frederiksburg Forsyning) and through these acquisitions, has been involved with offshore wind since the very start of the offshore wind energy industry. In November 2017, following the divestment of the upstream oil and gas business, DONG Energy changed its name to Ørsted.

1.3.1.3 Ørsted A/S is involved in consenting, construction and operation of a number of Round 1, Round 2, Round 2.5 and Round 3 offshore wind projects in the UK, specifically:

- Barrow – operational (90 MW);
- Burbo Bank – operational (90 MW);
- Burbo Bank Extension – operational (258 MW);
- Gunfleet Sands I, II and III (Demonstration) – operational (totalling 184 MW);
- Hornsea Project One (hereafter referred to as Project One) – in construction (1,200 MW);
- Hornsea Project Two (hereafter referred to as Project Two) – in construction (1,800 MW);
- Hornsea Project Four (hereafter referred to as Project Four) – proposed project but not yet taken forward for development;
- Lincs – operational (270 MW);
- London Array – operational (630 MW);
- Race Bank – in construction (580 MW);
- Walney I and II – operational (367 MW);
- Walney Extension – in construction (660 MW);
- West of Duddon Sands – operational (389 MW); and
- Westernmost Rough – operational (210 MW).

## 1.4 Project overview

### 1.4.1 The Hornsea Zone

- 1.4.1.1 The former Hornsea Zone was one of nine offshore wind generation zones around the UK coast identified by The Crown Estate (TCE) during its third round of offshore wind energy licensing. The former Hornsea Zone was located in the southern North Sea, approximately 31 km east of the Yorkshire coast and 1 km from the median line between UK and Dutch waters (Figure 1.1).
- 1.4.1.2 As part of a competitive tender process, SMart Wind Ltd. (a 50/50 joint venture between International Mainstream Renewable Power (Offshore) Limited and Siemens Project Ventures GmbH; hereafter referred to as SMart Wind) was awarded the rights to the development of the former Hornsea Zone by entering into a Zone Development Agreement (ZDA) with the TCE in 2009. The subsequent development agreement between SMart Wind and TCE established a target capacity of 4,000 MW of generating capacity within the former Hornsea Zone, which was to be met through the development of several offshore wind farms.
- 1.4.1.3 The first project to be proposed within the former Hornsea Zone was Hornsea Project One. Hornsea Project One comprises up to three offshore wind farms with a maximum generating capacity of 1,200 MW. The Secretary of State granted Development Consent for Hornsea Project One on 10 December 2014.
- 1.4.1.4 The second project to be proposed within the former Hornsea Zone was Hornsea Project Two. Hornsea Project Two comprises up to two offshore wind farms with a maximum generating capacity of 1,800 MW. The Secretary of State granted Development Consent for Hornsea Project Two on 16 August 2016.
- 1.4.1.5 DONG Energy Wind Power A/S (now Ørsted Wind Power A/S) acquired the development rights to Hornsea Project One in February 2015 and, in August 2015, DONG Energy Power (UK) Ltd. (now Orsted Power (UK) Ltd.) acquired SMart Wind and the former Hornsea Zone, together with the development rights for Hornsea Project Two, Hornsea Three and Hornsea Four. Subsequently in March 2016, the Hornsea Zone Development Agreement was terminated and project specific agreements, called Agreement for Leases (AfLs), were agreed with TCE for Hornsea Project One, Hornsea Project Two, Hornsea Three and Hornsea Four. The Hornsea Zone has therefore been dissolved and is referred to throughout the Hornsea Three Environmental Statement as the former Hornsea Zone.

### 1.4.2 Hornsea Three

- 1.4.2.1 Hornsea Three will include all associated offshore (including up to 300 turbines) and onshore infrastructure.
- 1.4.2.2 The key components of Hornsea Three include:
- Turbines;
  - Turbine foundations;
  - Array cables;
  - Offshore substation(s), and platform(s), including offshore HVAC booster stations (if required);
  - Offshore accommodation platform/s;
  - Offshore export cable/s;
  - Onshore High Voltage (HV) Direct Current (DC) or Alternating Current(AC) cabling;
  - Onshore HVAC booster station (if required); and
  - Onshore HVDC converter station/HVAC substation.
- 1.4.2.3 The Hornsea Three array area (i.e. the area in which the turbines are located) is approximately 696 km<sup>2</sup>, and is located approximately 121 km northeast off the Norfolk coast and 160 km east of the Yorkshire coast (Figure 1.1). The Hornsea Three array area lies to the east of Hornsea Project One and Hornsea Project Two offshore wind farms. The proposed Hornsea Three array area has similarities, both in terms of the nature of the development and its location to Hornsea Project One and Hornsea Project Two array areas. As such, where matters have been raised during consultation on Hornsea Project One and Hornsea Project Two, and are relevant to the Hornsea Three EIA, they have been considered within the Hornsea Three Environmental Statement where appropriate. A summary of the matters raised, together with how they have been considered in Hornsea Three, is set out in volume 4, annex 1.1: Hornsea Project One and Hornsea Project Two Consultation of Relevance to Hornsea Three.
- 1.4.2.4 The Hornsea Three offshore cable corridor extends from the Norfolk coast, offshore in a north-easterly direction to the western and southern boundary of the Hornsea Three array area (Figure 1.1). The Hornsea Three offshore cable corridor is approximately 163 km in length. Hornsea Three has a different onshore and offshore cable corridor, as well as grid connection, to Hornsea Project One and Hornsea Project Two (see Figure 1.1).
- 1.4.2.5 From the Norfolk coast, underground onshore cables will connect the offshore wind farm to an onshore HVDC converter station/HVAC substation, which will in turn, connect to an existing National Grid substation. Hornsea Three will connect to the Norwich Main National Grid substation, located to the south of Norwich. The onshore cable corridor is approximately 55 km in length at its fullest extent.

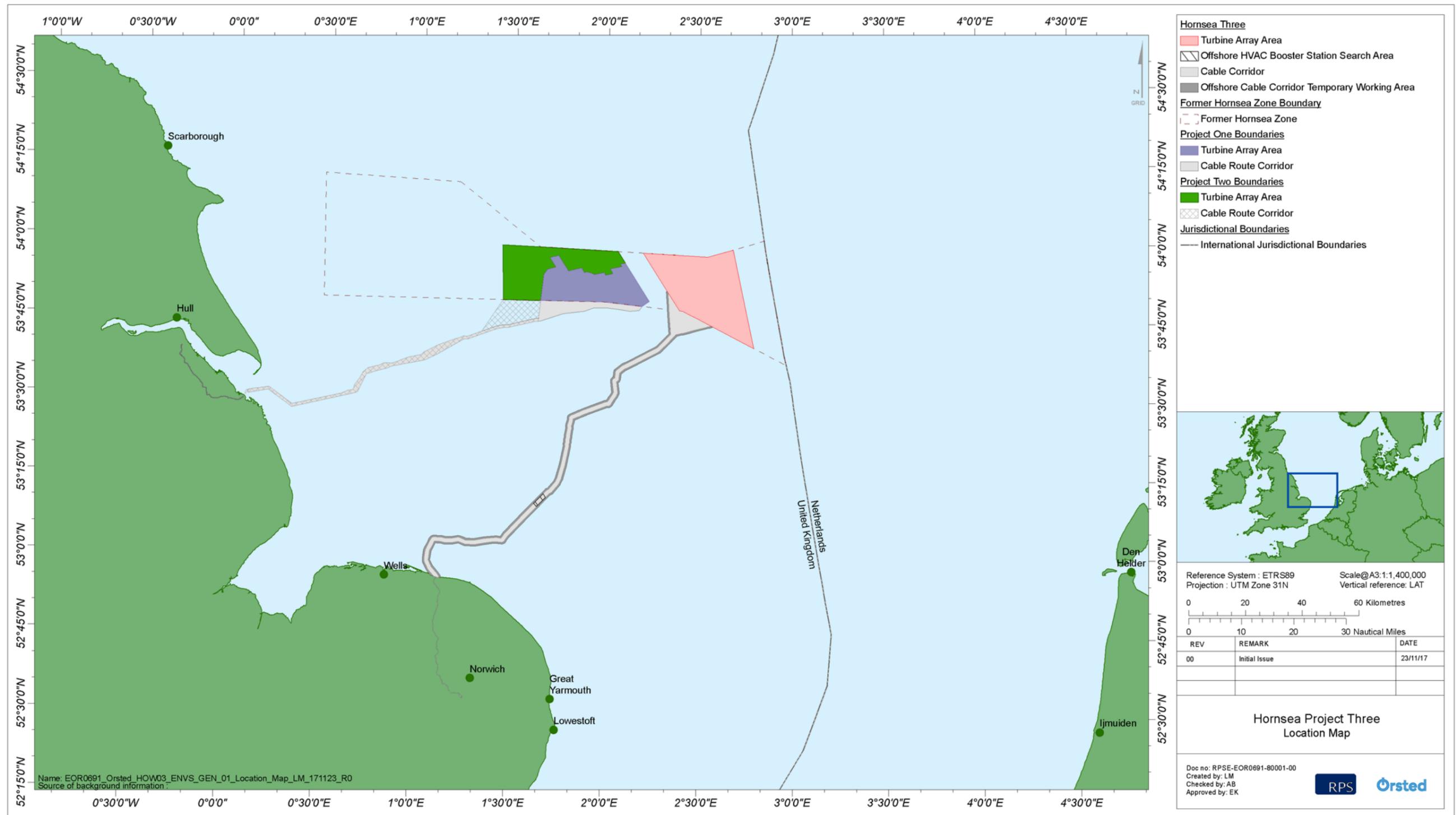


Figure 1.1: Location of Hornsea Three within the former Hornsea Zone.

- 1.4.2.6 The electricity generated from Hornsea Three will be transmitted via buried HVAC or HVDC cables, or a combination of the two. Depending on the transmission option, HVAC, HVDC or a combination of both, Hornsea Three will have slightly different key components. Figure 1.2 shows a schematic drawing of the key components associated with the HVDC and HVAC electrical transmission options. The difference between the HVDC and HVAC transmission options are explained further in volume 1, chapter 3: Project Description.
- 1.4.2.7 Under the HVAC transmission option only, a HVAC booster station will be required located along the Hornsea Three cable corridor, located onshore and/or offshore. This is not required under a HVDC transmission option. The potential location for the onshore HVAC booster station is presented in the Environmental Statement, along with an offshore HVAC booster station search area (see Figure 1.1).
- 1.4.2.8 The Hornsea Three boundaries, including both onshore and offshore components, were selected through a review of engineering and environmental constraints, as well as feedback from stakeholders, including members of the public. Further details regarding the site selection of Hornsea Three are provided in volume 1, chapter 4: Site Selection and Consideration of Alternatives. Further details of the Hornsea Three project design are provided in volume 1, chapter 3: Project Description.

## 1.5 Consultation process

### 1.5.1 Statement of Community Consultation

- 1.5.1.1 Under Section 47 of the 2008 Act, the Applicant has a duty to prepare a Statement of Community Consultation (SoCC), which sets out how it plans to consult local communities on the proposed development, and must conduct its consultation in line with this statement. The Applicant must consult on and agree the contents of the SoCC with each of the Local Authorities, in whose area the proposed development is situated (as prescribed in section 43(1) of the 2008 Act).
- 1.5.1.2 In the case of Hornsea Three, land affected by the onshore works falls within the administrative boundaries of the following Local Authorities:
- North Norfolk District Council;
  - Broadland District Council;
  - South Norfolk District Council; and
  - Norfolk County Council.
- 1.5.1.3 The above organisations were consulted on the contents of a draft SoCC in July 2016.

- 1.5.1.4 In addition to those organisations, the following Local Authorities, which adjoin the Hornsea Three onshore cable corridor, were also consulted on the draft SoCC:
- Norwich City Council;
  - Breckland District Council;
  - Broads Authority; and
  - Great Yarmouth Borough Council.
- 1.5.1.5 The SoCC in its final format was published on 30 September 2016 and copies were issued in local newspapers the following week. The Hornsea Three SoCC (DONG Energy (now Ørsted), 2016a) can be downloaded from: [www.hornseaproject3.co.uk](http://www.hornseaproject3.co.uk).
- 1.5.1.6 The Hornsea Three SoCC sets out the two phase consultation programme for Hornsea Three. The phased approach allowed for an iterative process in which consultees were able to observe the project changes in response to their feedback. As well as the two main phases of consultation outlined in the SoCC, further engagement took place throughout the pre-application period with a number of technical consultees who have specialist knowledge within the EIA topic areas.

### 1.5.2 Phase 1 consultation

#### *Overview*

- 1.5.2.1 The publication of the Hornsea Three SoCC (DONG Energy (now Ørsted), 2016a) marked the start of the first phase of consultation for Hornsea Three, hereafter referred to as Phase One consultation. During Phase One consultation, Hornsea Three published and received feedback on its Scoping Report and held two rounds of Community Consultation Events (Phase 1.A and Phase 1.B). Phase 1 consultation commenced on 31 October 2016 and was completed 9 November 2016.

#### *Scoping Report*

- 1.5.2.2 The Scoping Report for Hornsea Three was submitted to the Secretary of State in October 2016 (DONG Energy (now Ørsted), 2016b). Hornsea Three received the Scoping Opinion from the Secretary of State in December 2016 and in Quarter 1 2017, Hornsea Three met with stakeholders informally to discuss their feedback in more detail and to make any necessary amendments to the proposal ahead of formal consultation on the Preliminary Environmental Information Report (PEIR) during Phase Two.

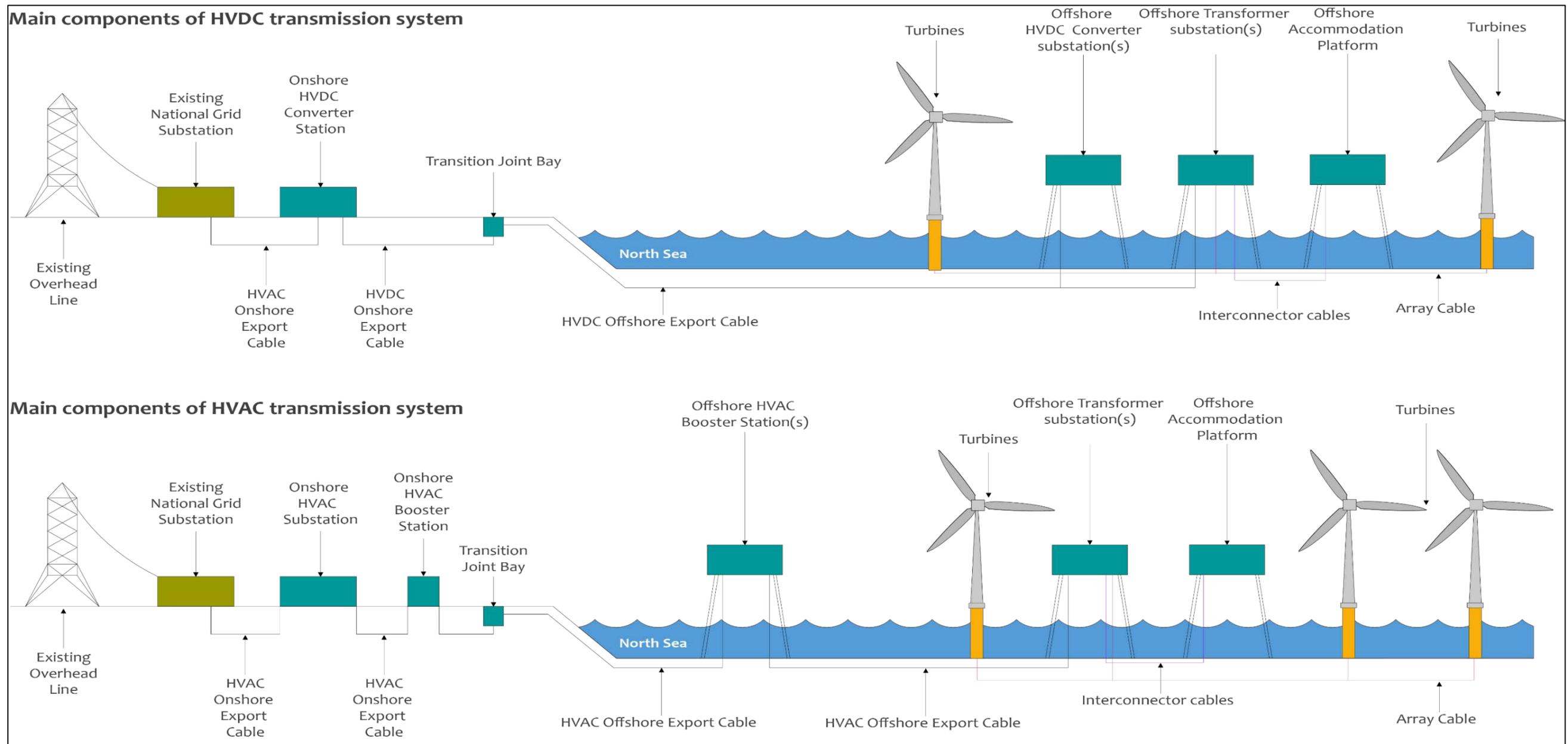


Figure 1.2: Main components of High Voltage Direct Current (HVDC) and High Voltage Alternating Current (HVAC) transmission options for Hornsea Three.

### **Phase 1.A Community Consultation Events**

- 1.5.2.3 In parallel to consultation on the Scoping Report, Hornsea Three held its first round of community consultation events. These events were held at six locations across the Consultation Zone, as defined by the onshore cable corridor search area, between 31 October 2016 and 9 November 2016. At these events, members of the public and other interested parties were able to view early information on Hornsea Three, including the proposed infrastructure and onshore cable corridor search area and comment on the proposed development. During and after the events, attendees had the opportunity to complete a feedback form.
- 1.5.2.4 After the events, a Consultation Summary Report (DONG Energy (now Ørsted), 2017a) was produced, summarising all of the feedback received during the first round of community consultation events. This can be downloaded from: [www.hornseaproject3.co.uk](http://www.hornseaproject3.co.uk).

### **Phase 1.B Community Consultation Events**

- 1.5.2.5 Following feedback from the first round of community consultation events (Phase 1.A) and refinement of the onshore cable corridor search area, Hornsea Three held a second round of consultation events ahead of the start of Phase Two consultation on the PEIR (Phase 1.B). The Phase 1.B Community Consultation Events were focused on the refinement of the onshore cable corridor search area, and seeking feedback on this. This additional event was partly driven by requests from stakeholders to see and understand more about the proposed project. Hornsea Three held seven events at locations in and near to the refined onshore cable corridor search area between 2 March 2017 and 10 March 2017. At these events, members of the public and other interested parties were able to view the refined proposal and had the opportunity to complete a feedback form and comment on the proposed plans.
- 1.5.2.6 A second Consultation Summary Report (DONG Energy (now Ørsted), 2017b) was produced on all the feedback received during the second round of community consultation events. This can be downloaded from: [www.hornseaproject3.co.uk](http://www.hornseaproject3.co.uk).

## **1.5.3 Phase 2 consultation**

### **Overview**

- 1.5.3.1 Phase Two consultation was marked by the beginning of formal consultation (under Section 42, Section 47 and Section 48 of the 2008 Act) on the PEIR and accompanying documents on 27 July 2017. The PEIR built upon and utilised the Scoping Report (DONG Energy (now Ørsted), 2016b) and Scoping Opinion (PINS, 2016), as well as comments received from the first two rounds of community events under Phase One consultation. As part of the Phase Two consultation, Hornsea Three held a third round of community consultation events in September 2017.

### **Preliminary Environmental Information Report**

- 1.5.3.2 The EIA Regulations require Preliminary Environmental Information (PEI) to be provided for public consultation by those seeking a DCO for a NSIP. The PEIR constituted the PEI for Hornsea Three. The PEIR was intended to allow those taking part in the consultation to understand the nature, scale, location and likely significant environmental effects of Hornsea Three, such that they could make an informed contribution to the process of pre-application consultation under the 2008 Act and to the EIA process.

### **Phase 2 Community Consultation Events**

- 1.5.3.3 In parallel to formal consultation with statutory consultees on the contents of the PEIR, Hornsea Three held a third round of community consultation events at seven locations across the Consultation Zone. At these events, Hornsea Three consulted with stakeholders and the local community on the contents of the PEIR. The consultation events were held from 4 to 13 September 2017.

### **Phase 2.B consultation**

- 1.5.3.4 Further formal consultation under Section 42, Section 47 and Section 48 of the Planning Act 2008 was undertaken between 25 November and 22 December 2017. This further consultation related to additional areas in which works are proposed beyond the Hornsea Three offshore and onshore cable corridor identified in Phase 2.A consultation. These new areas were identified following consultation responses received during Phase 2.A consultation and through ongoing design development.

### **Phase 2.C consultation**

- 1.5.3.5 Phase 2.C consultation under Section 42(1) of the Planning Act 2008 was undertaken between 28 February and 30 March 2018. Phase 2.C consultation related to six additional areas in which works are proposed beyond the Hornsea Three onshore cable corridor identified in the Phase 2.B further consultation. These new areas were identified following consultation responses received during the Phase 2.B further consultation.

## **1.5.4 Consultation Report**

- 1.5.4.1 A Consultation Report explaining how Hornsea Three has had regard to all consultation responses received during all stages of the Hornsea Three pre-application consultation process accompanies the DCO application in accordance with section 37(3) of the Planning Act 2008. The Consultation Report (document reference number A5.1) sets out the comments and feedback that have been received and describes how the comments raised have been taken into account as part of the application. The Consultation Report also demonstrates, in accordance with PINS Advice Note Fourteen: Compiling the Consultation Report (PINS, 2012), how Hornsea Three has complied with Sections 42, 47, 48 and 49 of the Planning Act 2008 and relevant best practice documents and guidance published by PINS.

## 1.6 Structure of the application for Development Consent

### 1.6.1 Overview

1.6.1.1 The Hornsea Three application for Development Consent has been submitted to PINS with the prescribed forms and documents as required by the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.

1.6.1.2 A number of supporting documents are required to be submitted as part of the application, including:

- A Consultation Report;
- A Draft DCO and Explanatory Memorandum;
- An Environmental Statement; and
- A Report to Inform Appropriate Assessment under the Habitats Regulations Assessment.

1.6.1.3 Table 1.2 provides a breakdown of each of the supporting documents and the organisations that have contributed to their preparation.

### 1.6.2 Environmental Statement

1.6.2.1 This Environmental Statement contains separate chapters for the offshore and onshore aspects of the EIA. For the purposes of the EIA 'offshore' generally refers to the receptors on the seaward side of Mean High Water Springs (MHWS) and 'onshore' refers to the receptors on the landward side of MHWS. Where particular onshore and offshore assessments overlap in the intertidal area, the extent of the study area is defined in Figure 1.3 below.

1.6.2.2 The Environmental Statement is divided into six volumes:

- Volume 1 - Introduction;
- Volume 2 - Offshore EIA;
- Volume 3 – Onshore EIA;
- Volume 4 - Introductory Annexes;
- Volume 5 - Offshore Annexes; and
- Volume 6 - Onshore Annexes.

1.6.2.3 The team responsible for the production of this Environmental Statement has been led by Ørsted, with the assistance of lead EIA consultants RPS. RPS is a founding member of the Institute of Environmental Management and Assessment (IEMA) and is a registrant of the IEMA Quality Mark scheme.

1.6.2.4 Table 1.3 provides a breakdown of the contents of each of the documents and the organisations that have contributed to them.

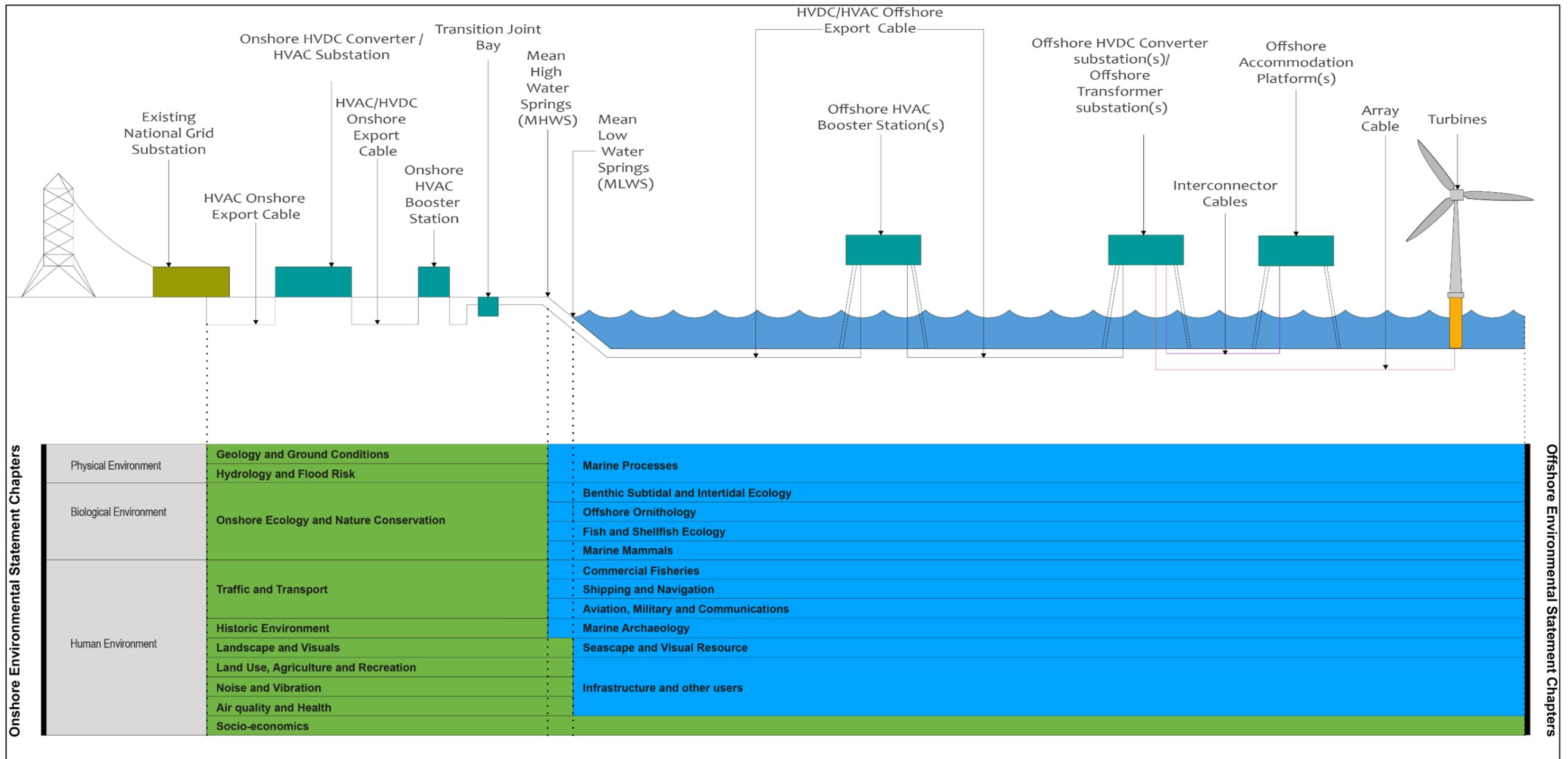


Figure 1.3: Schematic representation of the extent of offshore and onshore assessments.

Table 1.2: Hornsea Three supporting documentation and authors of the documents.

Document	Author
<b>Application Form</b>	
Covering Letter	Ørsted
Application Index	Ørsted
Draft Section 55 check list	Ørsted
Application Form	Ørsted
Newspaper Notices	Ørsted
<b>Plans and Drawings</b>	
Location Plan Offshore and Onshore	Ørsted
Location Plan Offshore	Ørsted
Location Plan Onshore	Ørsted
Offshore Order Limits and Grid Coordinates Plan	Ørsted
Onshore Order Limits	Ørsted
Land Plan - Onshore	Ørsted
Works Plan - Offshore	Ørsted
Works Plan - Onshore	Ørsted
Access to Works Plan	Ørsted
Streets Plan	Ørsted
Public Rights of Way Plan	Ørsted
Offshore Historic Environment Plan	Ørsted
Onshore Historic or Scheduled Monument Sites Plan	Ørsted
Onshore Statutory and Non-Statutory Nature Conservation Sites	Ørsted
Offshore Statutory and Non-Statutory Nature Conservation Sites	Ørsted
Tree Preservation Order and Hedgerow Plan	Ørsted
Crown Land – Onshore and Offshore	WSP
Special Category Land - Onshore	WSP
Indicative Extent of Marine Licence	Ørsted
Indicative Extent of Development Consent Order and Deemed Marine Licences – Cross Sectional	RPS
Onshore Limits of Deviation Plan	Ørsted

Document	Author
<b>Development Consent Order</b>	
Draft Development Consent Order including Draft Deemed Marine Licences	Pinsent Masons
Explanatory Memorandum	Pinsent Masons
<b>Compulsory Acquisition</b>	
Funding Statement	Ørsted
Funding Statement Annex 1 – Dalcour Maclaren Letter	Ørsted
Funding Statement Annex 2 – Ørsted Annual Report	Ørsted
Statement of Reasons	Pinsent Masons
Book of Reference	WSP
<b>Reports</b>	
Consultation Report	Ørsted
Consultation Report Annex 1 - Evidence Plan	Ørsted
Consultation Report Annex 2 - Consultation Compliance Checklist	Ørsted
Consultation Report Annex 3 - Consultee List	Ørsted
Consultation Report Annex 4 - Regulation 6 Notification	Ørsted
Consultation Report Annex 5 - EIA Regulation 24 Notice	Ørsted
Consultation Report Annex 6 - Section 42 Notification	Ørsted
Consultation Report Annex 7 - Section 44	Ørsted
Consultation Report Annex 8 - Section 46	Ørsted
Consultation Report Annex 9 - Section 48	Ørsted
Consultation Report Annex 10 - Statement of Community Consultation	Ørsted
Consultation Report Annex 11 - Section 47 Phase 1.A Consultation Materials	Ørsted
Consultation Report Annex 12 - Section 47 Phase 1.B Consultation Materials	Ørsted
Consultation Report Annex 13 - Section 47 Phase 1 Responses	Ørsted
Consultation Report Annex 14 - Section 47 Phase 2 Consultation Materials	Ørsted
Consultation Report Annex 15 - Phase 2 Responses	Ørsted
Consultation Report Annex 16 - Newsletters	Ørsted

Document	Author
Report to Inform Appropriate Assessment	Niras
Report to Inform Appropriate Assessment Annex 1 – HRA Screening Report	Niras
Report to Inform Appropriate Assessment Annex 2 – Additional SPA Screening	Niras
Report to Inform Appropriate Assessment Annex 3 – Phenology, Connectivity and Apportioning	Niras
<b>Environmental Statement</b>	
Environmental Statement - see Table 1.3.	See Table 1.3.
<b>Additional Application Information</b>	
Safety Zone Statement	Ørsted
Cable Statement	Ørsted
Statutory Nuisance Statement	Ørsted
Consents Management Plan	Ørsted
<b>Other Documents</b>	
Planning Statement	RPS
Hierarchy of Management Plans	Ørsted
Outline Code of Construction Practice <sup>a</sup>	RPS
Outline Ecological Management Plan <sup>a</sup>	RPS
Outline Landscape Management Plan <sup>a</sup>	RPS
Outline Construction Traffic Management Plan <sup>a</sup>	RPS
In Principle Monitoring Plan	GoBe
Outline Fisheries Coexistence and Liaison Plan <sup>a</sup>	RPS
a Note documents at the time of application will be outline only, meaning further details will be added between application and construction.	

Table 1.3: Hornsea Three Environmental Statement structure and authors.

Volume	Chapter number	Chapter	Author
-	-	Non-Technical Summary	RPS
Volume 1 – Introductory Chapters	1	Introduction and Overarching Glossary	RPS
	2	Policy and Legislation	RPS
	3	Project Description	Ørsted
	4	Site Selection and Consideration of Alternatives	Ørsted and SLR
	5	Environmental Impact Assessment Methodology	RPS
Volume 2 – Offshore EIA	<b>Physical Environment</b>		
	1	Marine Processes	ABPmer
	<b>Biological Environment</b>		
	2	Benthic Ecology	RPS
	3	Fish and Shellfish Ecology	RPS
	4	Marine Mammals	SMRU and GoBe
	5	Offshore Ornithology	Niras
	<b>Human Environment</b>		
	6	Commercial Fisheries	Poseidon
	7	Shipping and Navigation	Anatec
	8	Aviation, Military and Communications	RPS
	9	Marine Archaeology	RPS
	10	Seascape and Visual Resources	RPS
	11	Infrastructure and Other Users	RPS
	<b>Overarching (Offshore)</b>		
12	Inter-related Effects (Offshore)	RPS	
Volume 3 – Onshore EIA	<b>Physical Environment</b>		
	1	Geology and Ground Conditions	RPS
	2	Hydrology and Flood Risk	RPS

Volume	Chapter number	Chapter	Author
	<i>Biological Environment</i>		
	3	Ecology and Nature Conservation	RPS
	<i>Human Environment</i>		
	4	Landscape and Visual Resources	LDA Design
	5	Historic Environment	RPS
	6	Land Use and Recreation	RPS
	7	Traffic and Transport	RPS
	8	Noise and Vibration	RPS
	9	Air Quality	RPS
	10	Socio-economics	Regeneris
	<i>Overarching (Onshore)</i>		
11	Inter-related Effects (Onshore)	RPS	
Volume 4 – Introductory Annexes	<i>Introduction Annexes</i>		
	1.1	Hornsea Project One and Hornsea Project Two Consultation of Relevance to Hornsea Three	RPS
	<i>Project Description Annexes</i>		
	3.1	Subsea Noise Technical Report	Subacoustech
	3.2	Dredging and Disposal: Site Characterisation	RPS
	3.3	Electro-magnetic Fields Compliance Statement	RPS
	3.4	Site Waste Management Plan	RPS
	3.5	Onshore Crossing Schedule	RPS
	3.6	Offshore Operation and Maintenance Licensable Activities	RPS
	3.7	Layout Development Principles	RPS

Volume	Chapter number	Chapter	Author	
	<i>Site Selection and Consideration of Alternatives Annexes</i>			
	4.1	Grid Connection and Refinement of the Cable Landfall	Ørsted and SLR	
	4.2	Selection and Refinement of the Offshore ECR and HVAC Booster Station	Ørsted and SLR	
	4.3	Refinement of the Onshore Cable Corridor and Associated Infrastructure (Stages 5 -7 Scoping to PEIR)	Ørsted and SLR	
	4.4	Post PEIR Changes (Stages 8-9)	Ørsted and SLR	
	<i>Environmental Impact Assessment Methodology Annexes</i>			
	5.1	Enhancement, Mitigation and Monitoring Commitments	RPS	
	5.2	Cumulative Effects Screening Matrix	RPS	
	5.3	Location of Cumulative Schemes	RPS	
	5.4	Transboundary Impacts Screening Note	RPS	
	5.5	Scoping Report and Secretary of State's Scoping Opinion	RPS	
	Volume 5 – Offshore Annexes	<i>Marine Processes Annexes</i>		
		1.1	Marine Processes Technical Report	ABPmer
		<i>Benthic Subtidal and Intertidal Ecology Annexes</i>		
		2.1	Benthic Ecology Technical Report	RPS
2.2		Water Framework Directive Assessment	RPS	
2.3		Marine Conservation Zone Assessment	RPS	
<i>Fish and Shellfish Ecology Annexes</i>				
3.1		Fish and Shellfish Ecology Technical Report	RPS	
<i>Marine Mammal Annexes</i>				
4.1		Marine Mammal Technical Report	SMRU and GoBe	

Volume	Chapter number	Chapter	Author
	<i>Ornithology Annexes</i>		
	5.1	Baseline Characterisation Report	Niras
	5.2	Analysis of Displacement Impacts on Seabirds	Niras
	5.3	Collision Risk Modelling	Niras
	5.4	Data Hierarchy Report	HiDef
	<i>Commercial Fisheries Annexes</i>		
	6.1	Commercial Fisheries Technical Report	Poseidon
	<i>Shipping and Navigation Annex</i>		
	7.1	Navigational Risk Assessment	Anatec
	<i>Aviation, Military and Communications Annexes</i>		
	8.1	Aviation, Military and Communication Technical Report	RPS
	<i>Marine Archaeology Annexes</i>		
	9.1	Marine Archaeology Technical Report	RPS
	9.2	Outline Written Scheme of Investigation <sup>a</sup>	RPS
	<i>Seascape and Visual Resources Annexes</i>		
	10.1	Seascape and Visual Resources Technical Report	RPS
	10.2	Seascape and Visual Resources Wirelines	RPS
	10.3	Seascape and Visual Resources Cumulative Wirelines	RPS
	<i>Infrastructure and Other Users Annexes</i>		
	11.1	Radar Early Warning Systems Technical Annex	University of Manchester

Volume	Chapter number	Chapter	Author
Volume 6 – Onshore Annexes	<i>Geology and Ground Conditions Annexes</i>		
	1.1	Borehole Logs	RPS
	1.2	Abstraction Licences and Source Protection Zones	RPS
	1.3	Discharge Consents and Licences	RPS
	1.4	Water Framework Directive Groundwater Assessment	RPS
	<i>Hydrology and Flood Risk Annexes</i>		
	2.1	Onshore Infrastructure Flood Risk Assessments	RPS
	2.2	Environment Agency and Internal Drainage Board Watercourses and Flood Zones	RPS
	2.3	Surface Water Abstraction Licences, Discharge Consents and Pollution Incidents	RPS
	2.4	Hydrological Characterisation Study	RPS
	2.5	Water Framework Directive Surface Water Assessment	RPS
	<i>Ecology and Nature Conservation Annexes</i>		
	3.1	Desk Study and Phase 1 Habitat Survey	Thomson Ecology
	3.2	Hedgerow Survey	Thomson Ecology
	3.3	Desmoulin's Whorl Snail Survey	Thomson Ecology
	3.4	White Clawed Crayfish Survey	Thomson Ecology
	3.5	Great Crested Newt Survey	Thomson Ecology
	3.6	Reptile Survey	Thomson Ecology
	3.7	Water Vole Survey	Thomson Ecology
	3.8	Bat Surveys	Thomson Ecology
	3.9	Onshore Ornithology – Wintering and Migratory Birds	Niras
	3.10	Onshore Ornithology - Breeding Birds	Niras

Volume	Chapter number	Chapter	Author
	3.11	Otter Survey	Thomson Ecology
	3.12	Badger Survey	Thomson Ecology
	3.13	Hazel Dormouse, Red Squirrel and Freshwater Pearl Mussel Desk Study	Thomson Ecology
<b>Landscape and Visual Resources Annexes</b>			
	4.1	Landscape and Visual Impact Assessment Methodology	LDA Design
	4.2	Extracts from National Landscape Character Area Descriptions	LDA Design
	4.3	Extracts from Local Landscape Character Area Descriptions	LDA Design
	4.4	Qualities of Natural Beauty of the Norfolk Coast AONB	LDA Design
	4.5	Photograph Panels, Wirelines and Photomontages	LDA Design
	4.6	Residential Visual Amenity	LDA Design
	4.7	Effects of the Offshore HVAC Booster Station	LDA Design
<b>Historic Environment Annexes</b>			
	5.1	Desk Based Assessment	RPS
	5.2	Fieldwalking Report	RPS
	5.3	Site Gazetteer	RPS
	5.4	Screening Assessment – Onshore HVDC converter/HVAC substation	RPS
	5.5	Screening Assessment - Onshore HVAC Booster Station	RPS
	5.6	Onshore Geophysical Survey Report	Oxford Archaeology
<b>Land Use and Recreation Annexes</b>			
	6.1	Agricultural Land Classification Published Data	RPS
	6.2	Soil Survey Data	RPS
	6.3	Agricultural Land Classification and Farm Holdings Figures	RPS

Volume	Chapter number	Chapter	Author
<b>Traffic and Transport Annexes</b>			
	7.1	Transport Assessment	RPS
	7.2	Description of Network Links and Sensitivity	RPS
	7.3	Base Traffic Flows	RPS
	7.4	Personal Injury Accident Locations	RPS
	7.5	Public Transport Networks	RPS
	7.6	Construction Vehicle Trip Generation Assumptions	RPS
	7.7	Traffic Flows with Construction Traffic	RPS
	7.8	Traffic and Transport Figures	RPS
<b>Noise and Vibration Annexes</b>			
	8.1	Baseline Noise Survey	RPS
	8.2	Construction Noise Model Output	RPS
	8.3	Operational Noise Model Input	RPS
	8.4	Operational Noise Assessment Output	RPS
Volume 7 – Addendums	7	Addendum - Land at Booton	RPS
a	Note documents at the time of application are outline only, meaning further details will be added between application and construction.		

## 1.7 References

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