

Hornsea Project Three  
Offshore Wind Farm



## Hornsea Project Three Offshore Wind Farm

Preliminary Environmental Information Report:  
Annex 4.2 – Key Characteristics of National Seascape and National Landscape Character Areas

Date: July 2017

**Environmental Impact Assessment**

**Preliminary Environmental Information Report**

**Volume 6**

**Annex 4.2 – Key Characteristics of National Seascape and Landscape Character Areas**

**Liability**

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Report Number: P6.6.4.2

Version: Final

Date: July 2017

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

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## Summary

This annex lists and describes the key characteristics of the National Seascape and Landscape Character Areas, National Landscape Character types and East of England Landscape Typology, as referred to in volume 3: chapter 4: Landscape and Visual Resources.

## Glossary

Term	Definition
Characteristics	Elements, or combinations of elements, which contribute to distinctive landscape character.
Development	Any proposal that results in a change to the landscape and/or visual environment.
Elements	Individual parts which make up the landscape, such as, for example, trees, hedges and buildings.
Feature	Particularly prominent or eye-catching elements in the landscape, such as tree clumps, church towers or wooded skylines.
Heritage	The historic environment and especially valued assets and qualities, such as historic buildings and cultural traditions.
Key characteristics	Those combinations of elements which are particularly important to the current character of the landscape and help to give an area its particularly distinctive sense of place.
Land cover	The surface cover of the land, usually expressed in terms of vegetation cover, or lack of it. Related to, but not the same as land use.
Land use	What land is used for, based on broad categories of functional land cover, such as urban and industrial use and the different types of agriculture and forestry.
Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation and physical processes.
Landscape	An area, as perceived by people, the character of which is a result of the action and interaction of natural and/or human factors.
Landscape character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.
Landscape Character Areas (LCAs)	These are single unique areas which are the discrete geographical areas of a particular landscape type.
Landscape Character Types /Landscape typology (LCTs)	These are distinct types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetic attributes.
National Landscape Character Areas (NCA)	Broad character areas of the land as defined by Natural England.
National Seascape Character Areas (NSCA)	Broad character areas of the sea, as defined by Natural England and the Marine Management Organisation
Perception	Combines the sensory (that we receive through our senses) with the cognitive (our knowledge and understanding gained from many sources and experiences).
Seascape	Landscapes with views of the coast or seas, and coasts and adjacent marine environments with cultural, historical and archaeological links with each other.
Statement of Environmental Opportunity	A statement identifying the environmental qualities, including landscape characteristics, which should be maintained and/or enhanced. It can include education about an area.
Tranquillity	A state of calm and quietude associated with peace, considered to be a significant asset in the landscape.

## Acronyms

Unit	Description
MMO	Marine Management Organisation
NCA	National Character Area
RYA	Royal Yachting Association
SEO	Statement of Environmental Opportunity

## 1. Introduction

1.1.1.1 In October 2012 Natural England (NE) published the final version of Report NECR106 'Seascape Characterisation around the English Coast (Marine Plan Areas 3 and 4 and Part of Area 6 Pilot Study)'. The Hornsea Three onshore study area falls covers part of Marine Plan Areas 3 and 4. The study area for the onshore components falls within Marine Management Organisation (MMO) Area 3. Key characteristics for these areas are described below and illustrated on Figure 4.6 in volume 3, chapter 4 Landscape and Visual Resources..

1.1.1.2 NE has produced a series of national countryside character reports, which identify the landscape character of England. Key characteristics for the National Character Areas (NCA) that the onshore elements of Hornsea Three lie within are outlined below and illustrated on Figure 4.6 in volume 3, chapter 4 Landscape and Visual Resources.

## 1.2 Key Characteristics of National Seascape and Landscape Character Areas

### 1.2.1 East Midlands Coastal Waters

#### Key Characteristics

- *“Flat, low lying coastal landscape demonstrating a complex array of dynamic natural processes;*
- *Wild and dynamic nature of the seascape with strong wave action over generally shallow waters;*
- *Shallow waters divided by a deeper water channel called The Well;*
- *Extensive submerged sand flats;*
- *Temporal seascape character heavily influenced by the tides and the exposure of vast sand flats at low tide;*
- *Extensive linear coastal geometry creating long sweeping views along the coastline and out to sea;*
- *Gently rolling dune systems and intertidal sand flats supporting a variety of coastal habitats and supporting a rich diversity of wildlife;*
- *Perception of land and sea is strongly influenced by dunes and intertidal areas which present a wild and remote character;*
- *Remote character influenced in places by concentrated urban settlements, commercial activities and both on and offshore wind farm developments;*
- *Sediment accretion influencing coastal economies;*
- *Coastal defence and beach replenishment activity;*
- *Recreational value of seascape represented by coastal resorts with much of the coastal waters recognised as Royal Yachting Association (RYA) racing and sailing areas;*

- *Commercial offshore activities such as dredging and dumping have localised influence on benthic and pelagic environments;*
- *Important fisheries areas, particularly shellfish fisheries;*
- *Important archaeological features present;*
- *Significant for its buried peat deposits;*
- *WW2 coastal defence infrastructure; and*
- *Extensive areas of salt marsh, and grazing marsh”.*

### 1.2.2 Norfolk Coastal Waters

#### Key Characteristics

- *“Extensive linear coastal geometry with open and exposed sandy beaches creating long sweeping views along the coastline and out to sea;*
- *Soft glacial till cliffs that are largely wild and unmanaged – partly vegetated, prone to slippage through ground water infiltration and easily eroded at their toe;*
- *Wide variety of erosion protection measures implemented along much of the coastline;*
- *Extensive systems of offshore mobile sandbanks aligned with the curve of the coast;*
- *Extensive chalk reef habitat;*
- *Visual influence of Cromer Ridge;*
- *Very low lying in places, particularly at the coastal interface of the Norfolk broads where the sea is hidden from inland behind sea walls;*
- *Important fisheries areas, particularly for shellfish species;*
- *Presence of major shipping routes;*
- *The coastline is recognised as RYA sailing area;*
- *Submerged gas pipelines and Bacton Gas refinery associated with North Sea gas;*
- *Coastal holiday resorts;*
- *Remote character strongly influenced in places by concentrated urban settlements, commercial activities and both on and offshore wind farm developments;*
- *Important archaeological features present;*
- *Navigation restricted by shingle/sand banks; and*
- *Important area for marine mammals”.*

## 2. National Landscape Character Areas

### 2.1 National Character Area (NCA) 77: North Norfolk Coast

#### 2.1.1 Key Characteristics

*“A predominantly open, flat and dynamic coastal landscape strongly influenced by North Sea marine sediments, much of it frequently inundated by spring tides owing to its low-lying nature.*

*Scolt Head and Blakeney Point sand banks, where dune and salt marsh vegetation has formed, are coastal storm barriers and an integral part of the sediment transfer system of this dynamic landscape. They are habitats for internationally and nationally important birds, plants and marine life.*

*The rivers Glaven, Stiffkey and Burn are fast-flowing, ecologically rich chalk streams that, along with springs from the underlying chalk, provide freshwater for the internationally important coastal habitats.*

*Agricultural use of the land in the NCA is restricted by the topography and proximity to the sea. Arable land with moderately fertile loamy and clayey soils is found on more elevated areas. On the coastal plain reclaimed freshwater grazing marshes fringed by reed beds, commonly cut for thatching, are key features.*

*Rich and abundant variety of internationally important marine and coastal habitats and species, including intertidal mudflats, sand dunes and wide sandy beaches, shingle banks, salt marsh, reed beds, tidal creeks and harbours.*

*Overall sense of wildness, remoteness and tranquillity with general lack of development provides for long, sweeping views in all directions.*

*Unwooded character overall with very limited tree cover, apart from pine plantations at Holme and Holkham, which are distinctive and visible features.*

*Highly distinctive traditional architecture and use of materials which make use of flint and carr stone, unified by the use of red brick. These buildings are clustered in the villages, which are linked by the A149 coast road, but they are also found in a scatter of isolated farmsteads and houses.*

*A rich archaeological heritage and historic environment provide evidence of a maritime and defensive military past as well as the presence of Palaeolithic/stone-age ancestors.*

*The Norfolk Coast Path National Trail runs through the NCA with links to the Peddars Way in the western extent of the area”.*

#### 2.1.2 Statements of Environmental Opportunity

2.1.2.1 The National Character Area profile defines a series of Statements of Environmental Opportunity (SEO) which seek to identify opportunities for protection and enhancement measures within the character area. The following are relevant to the North Norfolk Coast NCA.

2.1.2.2 (SEO) 1: *“Conserve and enhance this dynamic, remote and inspiring coastal landscape with its internationally important interrelated habitats of shingle, sand dunes, salt marsh, reed beds, lagoons and mudflats, while allowing for the dynamic coastal processes that are essential to the character of this area, managing coastal squeeze, and addressing the implications of sea level rise resulting from climate change”.*

2.1.2.3 SEO 2: *“Plan for and sustainably manage high visitor numbers to the North Norfolk Coast, particularly access to the sea and the National Nature Reserves, while recognising common rights and maintaining a living working landscape, reducing congestion on the rural roads and protecting the tranquillity and beauty which are valued by visitors and local residents”.*

2.1.2.4 SEO 3: *“Conserve, manage and increase understanding of an area which is rich in archaeological, historical and cultural heritage, offers wildness and inspiration, wide open views, beauty, a rich mosaic of wildlife habitats and seascapes of international importance, and is a cherished place to live and to visit”.*

2.1.2.5 SEO 4: *“Seek to maintain and enhance the distinctive and internationally important intertidal habitat and inshore waters which provide examples of rare geodiversity, estuarine habitat and species and important cultural, historic and economic resources which are valued by local communities”.*

### 2.1 NCA 78: Central Norfolk

#### 2.1.1 Key Characteristics

*“A gently undulating, sometimes flat, landscape dissected by river valleys, with the glacial landform of the Cromer Ridge and dramatic coastal cliffs providing distinctive features to the north.*

*Gravels, sands, chalk erratics and glacial till left behind by the retreating ice of Pleistocene glaciations, and the resulting complexity of soils, determine natural vegetation patterns.*

*Physically dynamic coastline of geomorphological importance, providing a main source of sediment recharge elsewhere along the coast, with internationally important Pleistocene sediment and fossil deposits exposed in eroding coastal cliffs.*

*Underlying chalk aquifer, small fast-flowing chalk rivers and biodiversity rich, wide, lush river valleys with wooded valley slopes, including the internationally important chalk-fed River Wensum.*

*Tranquil agricultural landscape with extensive areas of arable land, dominated by cereals with break-cropping of sugar beet and oilseed rape, and some pastures along valley floors.*

*Ancient countryside, much of it enclosed by the 16th century, with a sporadically rationalised patchwork field system, sinuous lanes and mixed hedges with hedgerow oaks.*

*Relatively well-wooded landscape, with ancient oak and beech woodland and areas of conifer plantation.*

*Important species, maritime cliff habitats and slopes, alkaline valley fen communities and areas of remnant heathland.*

*Large number of 18th-century estates with their associated parkland, and a great density and stylistic variety of churches, which are often prominent features of the skyline.*

*Coherent vernacular architecture – marked by distinctive red brick and flint buildings with pan-tiled roofs, much dating from the 17th and 18th centuries with some earlier timber frame – is an inherent component of the area’s character.*

*A mix of villages and many farmhouses within a complex minor road network, with a traditional pattern of market towns connected by main roads, the coastal holiday resorts of Cromer and Sheringham, and the city of Norwich providing a centre for cultural and economic activity.*

*Dense network of public rights of way including the Peddars Way and Norfolk Coast Path National Trail, with main recreational activity centred on coastal areas”.*

## 2.1.2 Statements of Environmental Opportunity

SEO 1: *2Work with the local farming community to safeguard future food production, while maintaining the traditional landscape character with its patchwork field system, mixed hedges and pastoral river valleys; enhancing biodiversity, especially in arable margins and hedgerows, geodiversity, water quality and availability, pollination, soil quality, and managing soil erosion; and addressing the impacts of climate change”.*

SEO 2: *“Maintain, enhance and restore priority habitats including woodlands, areas of remnant heathland, and the nationally and internationally important Norfolk Valley Fens, chalk river systems (including the River Wensum) and maritime cliff habitats. Seek opportunities to connect fragmented habitats, improving the area for biodiversity and recreation, and enhancing landscape character and resilience to climate change”.*

SEO 3: *“Conserve and enhance the historic character of the area while affording protection to heritage assets, biodiversity, geodiversity and water resources, and encouraging sustainable tourism and recreational use and also a sympathetic approach to development in coastal areas, around market towns and towards Norwich”.*

## 2.2 NCA 83: South Norfolk and High Suffolk Claylands

### 2.2.1 Key Characteristics

*“Large plateau area of chalky glacial till that is generally flat or only gently undulating, but can be locally concave. The edges of the plateau have been dissected by watercourses that form greater slopes, especially along the tributaries of the Waveney.*

*Views are frequently open, only sometimes confined by hedges and trees, with some woodland present. The small valleys support quite confined landscapes with intimate views.*

*Chalk bedrock overlain by glacial till, gravels and sands. Heavy, seasonally waterlogged chalky clay soils occur on the plateau, with small areas of better soils at the edges. The valley bottoms contain areas of glacial outwash deposits as well as some areas of deep peat.*

*Scattered areas of ancient woodland, game copses, shelterbelts, valley floor plantation and carr woodland as well as hedgerow trees provide a treed landscape character, despite much boundary loss.*

*A mix of remnant medieval ancient countryside, some of it with a decidedly coaxial character, although irregular field patterns and large modern amalgamated open fields dominate.*

*Sinuous field boundaries are formed by deep ditches, some with hedgerows and hedgerow trees.*

*Extensive areas of arable land dominated by cereals with break-cropping of sugar beet and oilseed rape, and some pastures along valley floors. Intensive pig and poultry production is common.*

*Remnant parkland, ancient woodlands, commons and greens with a diverse grassland flora. River valleys support areas of ecologically rich unenclosed ‘semi-wild’ fenland and remnant dry heaths dominated by poor dry grassland.*

*Small slow-flowing rivers and streams and the River Waveney drain the clay plateau. The River Waveney has a relatively large-scale open valley landscape compared with the other river valleys which have narrow valley bottoms. High density of isolated farm ponds in the southern half of the NCA.*

*Historic features include Palaeolithic archaeology, evidence of Roman enclosures, bronze-age and iron-age activity, remnant medieval and Tudor deer parks, scattered small parkland estates and Second World War airfields. Round-towered Saxo-Norman and medieval churches and 19th-century windmills are prominent historic landscape features.*

*Large number of isolated moated timber-framed farmhouses and farm buildings with steeply pitched clay-tiled or long-straw thatched roofs. Little flint, some brick (especially in towns).*

*A dispersed settlement pattern of small nucleated market towns with architectural variety and colour, loosely clustered villages and scattered hamlets. Settlement is often focused around large medieval greens. Many of the market towns have modern extensions.*

*Some major transport links including the Norwich to London main rail line but infrastructure routes are predominantly an extensive network of narrow lanes and byroads.*

*The Mendlesham and Tacolneston masts (tall communications masts), wind turbines at Eye airfield and high-tension overhead power lines are prominent modern features in the landscape”.*

## 2.2.2 Statements of Environmental Opportunity

SEO 1: *“Maintain and enhance the rural character of the landscape and the contrast between the arable plateau and pastoral river valleys by maintaining agricultural productivity and encouraging sustainable land management practices that protect and enhance the landscape, geodiversity and biodiversity assets while benefiting water quality and water availability, as well as the rural sense of place and of tranquillity”.*

SEO 2: *“Encourage measures that conserve and enhance the characteristic historic settlement patterns including notable village commons and greens, and historic features such as moated farmsteads and windmills, ensuring that access and educational opportunities are maximised; and ensure that the design and location of new developments add to the sense of place and history across the NCA”.*

SEO 3: *Maintain and enhance the river valleys and their grazed flood plains, as well as the important valley fens and riparian habitats, for their contribution to biodiversity networks, geodiversity, soil quality, water availability and regulating water flow and for their contribution to the traditional rural character of the area.*

SEO 4: *“Protect and enhance the area’s ancient semi-natural woodlands, copses, river valley plantations and ancient boundaries including hedgerows and hedgerow trees, through the management of existing and the creation of new woods and hedgerows to benefit biodiversity, landscape character and habitat connectivity, and for the benefits to soil erosion reduction, water infiltration and quality, timber provision and carbon storage”.*

## 2.3 NCA 84: Mid Norfolk

### 2.3.1 Key Characteristics

*“Broadly flat, glacial till plateau dissected by river valleys which create a more intricate landscape to the west of Norwich.*

*Chalk bedrock overlain by gravels, sands and glacial till left behind by the retreating ice of Anglian glaciations, and the resulting complexity of soils, determine natural vegetation patterns.*

*Underlying chalk aquifer; small, fast-flowing chalk streams and biodiversity-rich, wide, lush river valleys with wooded valley slopes, including the internationally important chalk-fed River Wensum.*

*Tranquil agricultural landscape with extensive areas of arable land, dominated by cereals with break-cropping of sugar beet and oilseed rape, and some pastures along valley floors.*

*Ancient countryside, much of it enclosed in the 14th century, with a sporadically rationalised patchwork field system, sinuous lanes and mixed hedges with hedgerow oaks.*

*Largely fragmented, isolated mixed deciduous and pasture woodlands, with a notable area of ancient woodland at Foxley Wood. Important alkaline valley fen communities and areas of remnant heathland.*

*Large number of 18th-century estates with their associated parkland, and a great density and stylistic variety of churches which are prominent features in the landscape.*

*Coherent vernacular architecture – marked by distinctive red brick and flint buildings with pan-tiled roofs, much dating from the 17th and 18th centuries, with some earlier timber frame – is an inherent component of the area’s character.*

*A mix of villages and many isolated farmsteads within a complex minor road network, with a traditional pattern of market towns connected by main roads, and the city of Norwich providing a centre for cultural and economic activity.*

*Dense network of public rights of way including bridleways and the Peddars Way and Norfolk Coast Path National Trails.*

*Overhead power lines are prominent modern features in the landscape”.*

### 2.3.2 Statements of Environmental Opportunity

SEO 1: *“Work with the local farming community to safeguard future food production, while conserving and enhancing the traditional rural character, long views and strong sense of tranquillity in this area of long-settled, ancient countryside. Manage and enhance farmland habitats – including hedgerows and woodland, field margins and pastoral river corridors – to enhance the area for farmland species (including pollinators), improve water quality and availability in the rivers and aquifer, manage soil erosion and quality, and address the impacts of climate change”.*

SEO 2: *“Maintain, enhance and restore priority habitats including woodlands, areas of remnant heathland, and the nationally and internationally important Norfolk Valley Fens and chalk river systems (including the River Wensum), and seek opportunities to connect fragmented sites, improving the area for biodiversity, geodiversity and recreation, and enhancing landscape character and resilience to climate change”.*

SEO 3: “Encourage a sympathetic approach to development that maintains traditional Norfolk character and improves sustainable recreational use, while protecting historic assets, geodiversity and biodiversity”.

SEO 4: “Ensure the sustainable development of the coastline and its coastal towns and villages, while protecting and enhancing its important geodiversity, encouraging natural coastal processes where possible, improving access and interpretation, and encouraging sustainable recreational use and visitor enjoyment while conserving sites with high biodiversity value including maritime cliff habitats”.

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