



# Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions

Preliminary Environmental Information Report

**Volume 1**

Chapter 27 - Seascape, Landscape & Visual (SLVIA)

April 2021

Title:	
<b>Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions Preliminary Environmental Information Report Chapter 27 Seascape and Visual Impact Assessment</b>	
Document no.: PB8164-RHD-ZZ-XX-RP-Z-0010	
Date:	Classification
29 <sup>th</sup> April 2021	<b>Final</b>
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## Glossary of Acronyms

AfL	Agreement for Lease
AONB	Area of Outstanding Natural Beauty
BDC	Broadland District Council
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CIA	Cumulative Impact Assessment
DCO	Development Consent Order
DECC	Department for Energy and Climate Change
DEFRA	Department for the Environment and Rural Affairs
DEP	Dudgeon Extension Project
DOW	Dudgeon Offshore Wind Farm
EC	European Commission
EIA	Environmental Impact Assessment
EPP	Evidence Plan Process
EPS	European Protected Species
EPUK	Environmental Protection United Kingdom
ES	Environmental Statement
ETG	Expert Topic Group
EU	European Union
GIS	Geographical Information System
HVAC	High-Voltage Alternating Current
HVDC	High-Voltage Direct Current
IPC	Infrastructure Planning Commission
ISO	International Standards Organisation
km	Kilometre
LPA	Local Planning Authority
LCA	Landscape Character Area
LCT	Landscape Character Type
MMO	Marine Management Organisation
MW	Megawatts
NP	National Park
NNDC	North Norfolk District Council
NorCC	Norwich City Council

NP	National Park
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
OLEMP	Outline Landscape and Ecological Management Plan
OS	Ordnance Survey
OWF	Offshore Wind Farm
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate for England and Wales
PPG	Planning Practice Guidance
PRoW	Public Right of Way
SCA	Seascape Character Area
SEP	Sheringham Shoal Extension Project
SVIA	Seascape and Landscape Visual Impact Assessment
SNC	South Norfolk Council
SNS	Southern North Sea
SoS	Secretary of State
TEU	Treaty of the European Union
UK	United Kingdom
WTG	Wind Turbine Generator

## Glossary of Terms

The Applicant	Equinor New Energy Limited
Cumulative effects	The additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together
DCO boundary	The area subject to the application for development consent, including all permanent and temporary works for DEP and SEP. The DCO boundary will be subject to updated impact assessment and further development of mitigation proposals to inform the ES.
Dudgeon Offshore Wind Farm Extension site	The Dudgeon Offshore Wind Farm Extension lease area.
European site	Sites designated for nature conservation under the Habitats Directive and Birds Directive. This includes candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas, and is defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017.
Evidence Plan Process (EPP)	A voluntary consultation process with specialist stakeholders to agree the approach, and information to support, the EIA and HRA for certain topics.
Horizontal directional drilling (HDD) zones	The areas within the landfall site and the onshore cable route that which would house HDD entry or exit points.
Infield cables	Cables linking the wind turbine generators in strings for connection to the offshore substation platforms. The last turbine in a string will either connect to the offshore substation via an Infield cable or via an Interlink cable depending on the scenario. Cables which link the wind turbine generators to the offshore substation platforms.
Integrated Grid Option	Transmission infrastructure which serves both extension projects
Interlink cables	<p>Cables linking two separate project areas. This can be cables linking</p> <ol style="list-style-type: none"> <li>(1) DEP S and DEP N</li> <li>(2) DEP S and SEP</li> <li>(3) DEP N and SEP</li> </ol> <p>(1) is relevant if DEP is constructed alone or first in a phased development</p>



	(2) and (3) are relevant in a tandem construction
Jointing bays	Underground structures constructed at regular intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The point on the coastline at which the offshore export cables are brought onshore and connected to the onshore export cables.
Landfall search areas	The areas being considered within which the landfall would be located. A single landfall location will be identified prior to submission of the Preliminary Environmental Information Report (PEIR).
Landscape character	A distinct and recognisable pattern of elements in the landscape that makes one landscape different from another, rather than better or worse. (Natural England, 2014)
Landscape Character Areas	These are single unique areas which are the discrete geographical areas of a particular landscape type. Each has its own individual character and identity, even though it shares the same generic characteristics with other types. (Natural England, 2014)
Landscape Character Type	These are distinct types of landscape that are relatively homogeneous 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, historical land use, and settlement pattern. (Natural England, 2014)
Landscape effects	Effects on the landscape as a resource in its own right. (Landscape Institute and IEMA, 2013)
Landscape quality (or condition)	A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements. (Landscape Institute and IEMA, 2013)
Landscape receptor	Defined aspects of the landscape resource that have the potential to be affected by a proposal. (Landscape Institute and IEMA, 2013)

Landscape value	The relative value that is attached to different seascape and / or landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons. (Landscape Institute and IEMA, 2013)
Magnitude (of effect)	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term, in duration. (Landscape Institute and IEMA, 2013)
Mitigation	Measures which are proposed to prevent, reduce and where possible offset any significant adverse effects (or to avoid, reduce and if possible remedy identified effects). (Landscape Institute and IEMA, 2013)
Offshore export cables	The cables which would bring electricity from the offshore substation platform(s) to the landfall. 220 – 230kV
Offshore scoping area	An area that encompasses all planned offshore infrastructure, including landfall options at both Weybourne and Bacton, and allows sufficient room for receptor identification and environmental surveys. This will be refined following further site selection and consultation.
Offshore substation platform (OSP)	A fixed structure located within the wind farm area, containing electrical equipment to aggregate the power generated by the wind turbines and increase the voltage before transmitting the power to shore
Onshore cable corridor	The area between the landfall and the onshore substation sites, within which the onshore cable circuits will be installed along with other temporary works for construction.
Onshore cable route search area	The areas being considered within which the onshore cable route would be located. A single landfall location and onshore cable route will be identified prior to PEIR.
Onshore scoping area	An area that encompasses all planned onshore infrastructure and allows sufficient room for receptor identification and environmental surveys. This will be refined following further site selection and consultation.

<p>Onshore substation sites</p>	<p>Parcels of land within onshore substation zones A and B, identified as the most suitable location for development of the onshore substation. Two sites have been identified for further assessment within the PEIR.</p>
<p>Onshore Substation Zone</p>	<p>Parcels of land within the wider onshore substation search area identified as suitable for development of the onshore substation. Two substation zones (A and B) have been identified as having the greatest potential to accommodate the onshore substation.</p>
<p>PEIR boundary</p>	<p>The area subject to survey and preliminary impact assessment to inform the PEIR, including all permanent and temporary works for DEP and SEP. The PEIR boundary will be refined down to the final DCO boundary ahead of the application for development consent.</p>
<p>Seascape</p>	<p>Landscapes with views of the coast or seas, and coasts and the adjacent marine environment with cultural, historical and archaeological links with each other. (HM Government, Northern Ireland Executive, Scottish Government and Welsh Assembly Government, 2011 and Marine Management Organisation, 2019A)</p>
<p>Seascape character sensitivity</p>	<p>Term applied to marine character and seascape and the associated visual resource, combining judgements of their susceptibility to a specific type of development / development scenario or other change being considered and the value(s) related to that seascape, marine character and visual resource. (Marine Management Organisation, 2019A)</p>
<p>Seascape character susceptibility</p>	<p>The degree to which a defined seascape character area and its associated visual qualities and attributes might respond to the specified types of development or change without undue negative effects on character and the visual resource. (Marine Management Organisation, 2019A)</p>

Seascape character value	The relative value or importance attached to a seascape character area, which may express national or local consensus, because of its quality, its qualities including perceptual aspects such as scenic beauty, tranquility and wildness, its natural or historic attributes or features, cultural associations, or its relationship with designated or valued landscapes and coasts and their defined special qualities. (Marine Management Organisation, 2019A)
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor. (Landscape Institute and IEMA, 2013)
Separated Grid Option	Transmission infrastructure which allows each project to transmit electricity entirely separately
Sheringham Shoal Offshore Wind Farm Extension site	Sheringham Shoal Offshore Wind Farm Extension lease area.
The Sheringham Shoal Offshore Wind Farm Extension Project (SEP)	The Sheringham Shoal Offshore Wind Farm Extension site as well as all onshore and offshore infrastructure.
Study area	Area where potential impacts from the project could occur, as defined for each individual EIA topic.
Substation search area	An area within which the onshore substation is likely to be located. Further iterations of this area will be developed in 2020 following review of feedback from public drop-in exhibitions and other input from other stakeholders. An onshore project substation location will be defined prior to PEIR.
Susceptibility	The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences. (Landscape Institute and IEMA, 2013)
The Dudgeon Offshore Wind Farm Extension Project (DEP)	The Dudgeon Offshore Wind Farm Extension site as well as all onshore and offshore infrastructure.
Transition joint bay	Connects offshore and onshore export cables at the landfall. The transition joint bay will be located above mean high water

<p>Visual amenity</p>	<p>The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of people living, working, recreating, visiting or travelling through an area. (Landscape Institute and IEMA, 2013)</p>
<p>Visual effect</p>	<p>Effects on specific views and on the general visual amenity experienced by people. (Landscape Institute and IEMA, 2013)</p>
<p>Visual receptor</p>	<p>Individuals and/or defined groups of people who have the potential to be affected by a proposal. (Landscape Institute and IEMA, 2013)</p>
<p>Zone of Theoretical Visibility (ZTV)</p>	<p>A map, usually digitally produced, showing areas of land within which a development is theoretically visible (Landscape Institute and IEMA, 2013)</p>

## 27 SEASCAPE AND VISUAL IMPACT ASSESSMENT

### 27.1 Introduction

1. This chapter of the Preliminary Environmental Information Report (PEIR) considers the potential impacts of the proposed Dudgeon Offshore Wind Farm Extension Project (DEP) and Sheringham Shoal Extension Offshore Wind Farm Project (SEP) on seascape, landscape and visual resources.
2. The chapter provides an overview of the existing environment for the proposed offshore development areas, by defining the existing seascape, landscape and visual baseline environments; assessing their sensitivity to change; describing the key seascape, landscape and visual related aspects of the proposed development; describing the nature of the anticipated change upon the seascape, landscape and visual environments; and assessing the magnitude and significance of the changes for the construction, operational and decommissioning stages. An assessment of the landscape and visual impacts of the onshore elements of DEP and SEP is provided separately in **Chapter 28 Landscape and Visual Impact Assessment**.
3. This chapter has been written by LDA Design Consulting Ltd ('LDA Design'), with the assessment undertaken with specific reference to the relevant legislation and guidance, of which the primary sources are the National Policy Statements (NPS). Details of these and the methodology used for the Environmental Impact Assessment (EIA) and Cumulative Impact Assessment (CIA) are presented in **Section 27.4**.
4. The assessment method draws upon the established Guidelines for Landscape and Visual Impact Assessment, Third Edition (Landscape Institute and Institute of Environmental Management and Assessment (IEMA), 2013); An Approach to Landscape Character Assessment (Natural England, 2014); and Technical Guidance Note 06/19 Visual Representation of development proposals (Landscape Institute, 2019), and other recognised guidelines.
5. The assessment should be read in conjunction with following linked chapters:
  - Chapter 15 Offshore and Intertidal Archaeology and Cultural Heritage; and
  - Chapter 28 Landscape and Visual Impact Assessment.
6. Additional information to support the Seascape and Visual Impact Assessment (SVIA) assessment in **Appendix 27.1** includes:
  - **Annex 27.1 – Seascape and Visual Impact Assessment Methodology;**
  - **Annex 27.2 – Visualisations and Zone of Theoretical Visibility Studies Methodologies;**
  - **Annex 27.3 – Seascape Character Area Sensitivity Criteria Assessment;**
  - **Annex 27.4 – Viewpoint Descriptions;** and
  - **Annex 27.5 – Summary of Potential Impacts during the Construction and Decommissioning Phases.**

## 27.2 Consultation

7. Consultation with regard to the SVIA has been undertaken in line with the general process described in **Chapter 6 EIA Methodology**. The key elements to date have included scoping and the ongoing Evidence Plan Process (EPP) via the DEP and SEP Landscape and Seascape Expert Topic Group (ETG) meetings on 23<sup>rd</sup> and 30<sup>th</sup> March 2020. Additional consultation with relevant stakeholders with respect the SVIA’s proposed representative viewpoints, study areas and approach to visualisations at both PEIR and Environmental Statement (ES) stage was also undertaken at the outset of the SVIA.
8. The feedback received has been considered in preparing the PEIR. **Table 27-1** provides a summary of how the consultation responses received to date have influenced the approach that has been taken.
9. This chapter will be updated following the consultation on the PEIR in order to produce the final assessment that will be submitted with the Development Consent Order (DCO) application. Full details of the consultation process will also be presented in the Consultation Report alongside the DCO application.

*Table 27-1: Consultation responses.*

Consultee	Date/ Document	Comment	Project Response
PINS	Scoping Opinion Nov 2019	ID 6.1.1. Potential visual effects from the offshore wind turbines on the Broads National Park (NP) cannot be scoped out by PINS at this stage. The Inspectorate also considers that the temporary effects to the Broads resulting from the presence of construction vessels close to the coast (i.e. from cable laying) should be assessed, where significant effects are likely.	The potential for effects on the Broads National Park is considered in <b>Section 27.5.8.1</b> .
		ID 6.1.3. The Inspectorate recommends that the Applicant makes efforts to agree representative receptors with relevant consultation bodies, including the local planning authorities. The locations of representative receptors should be depicted on a figure within the ES.	Relevant consultation bodies have been consulted to agree receptors and representative viewpoints as described in this table. Representative viewpoints are shown on <b>Figures 27.9 and 27.10</b> .



Consultee	Date/ Document	Comment	Project Response
		<p>ID 6.1.4 The ES should assess any significant effects of the apparent joining together of the DEP and SEP with existing offshore wind farms (Dudgeon, Sheringham Shoal and Race Bank) when viewed from onshore.</p> <p>The ES should explain and assess any significant effects resulting from the use of taller turbines when viewed in conjunction with shorter turbines of existing offshore wind farms.</p>	<p><b>Section 27.6</b> sets out the assessment of effects, which assesses SEP or DEP, and SEP and DEP together. The assessments assess effects resulting from factors including the differences in height between existing and proposed turbines.</p>
		<p>ID 6.1.5. The ES should provide clear definitions of the terminology used in the assessment, for example 'short-term', 'long-term' and 'temporary'.</p>	<p>These terms are defined in <b>Section 27.4</b>.</p>
		<p>ID 6.1.6 The Applicant's attention is drawn to the 'Seascape character area assessment: East Inshore and East Offshore marine plan areas' produced by the Marine Management Organisation, to inform the seascape element of the assessment.</p>	<p>This information has been included and considered throughout the SVIA.</p>
		<p>ID 6.1.7. The Inspectorate recommends that a ZTV is developed in order to inform the study area(s). The study area should be sufficiently broad to allow long distance views to be assessed, taking into account the low-lying topography of the area which allows broad views across large expanses of landscape and seascape.</p>	<p>ZTVs have been produced to support the SVIA and is presented on <b>Figures 27.9</b> and <b>27.10</b>. <b>Section 27.5.2</b> describes the extent of theoretical visibility, and likely visibility on the ground, informed on observations made in the field.</p>



Consultee	Date/ Document	Comment	Project Response
		<p>The ES should define the spatial extent of effects close to the coast i.e. at what distance from the coast they become indiscernible.</p> <p>The study areas should be clearly explained and justified within the ES.</p>	<p>The spatial extents of potential visibility inland defined in <b>Section 27.5.2</b> are taken through the baseline study in <b>Section 27.5</b> and the assessment of effects in <b>Section 27.6</b>. The study areas have been agreed with relevant consultees as described in this table and defined in <b>Section 27.3.1</b>.</p>
		<p>ID 6.1.8. The Inspectorate recommends that the ES should make use of photomontages to illustrate the offshore turbines and substation(s) ... Views should be verified and visualisations should accord with industry standards.</p>	<p>Verified wireframes of SEP and DEP are included in <b>Annex 27.6</b>. Verified photomontages from selected viewpoint locations of SEP and DEP are included in <b>Volume 2</b>.</p>
		<p>ID 6.1.10. The ES should describe any lighting that would be in place throughout the lifetime of the Proposed Development and assess any likely significant effects from light pollution, including on local amenity receptors.</p>	<p>Lighting will be described in the ES supporting the DCO submission. Effects due to potential lighting are accounted for within <b>Section 27.6</b>. and <b>Annex 27.5</b>.</p>

Consultee	Date/ Document	Comment	Project Response
<p>Natural England, South Norfolk and Broadland District Council, North Norfolk District Council, Norwich City Council</p>	<p>23 March 2020 Landscape / Seascape Expert Topic Group (ETG) meeting</p>	<p>ETG agreed the following approach to visuals: Visuals will be produced from agreed representative viewpoints, in accordance with: - Landscape Institute Technical Guidance Note 06/19 Visual Representation of Development Proposals, September 2019. - Visual Representation of Wind Farms Version 2.2, Scottish Natural Heritage, February 2017. Wireframes for impact assessment will present the 'worst case' in accordance with the Rochdale Envelope approach. E.g. they will show the maximum outline development envelope. Illustrative photomontages showing potential scheme during operation will also be produced showing: - The offshore wind turbine array with the largest potential turbines (from land - daytime). - Night-time photomontages of the offshore wind turbine array from selected land based viewpoints to illustrate lighting.</p>	<p>This approach to visuals has been followed in this chapter, with the exception of preparation of night time photomontages which will only be prepared for the ES and not the PEIR (as subsequently agreed with consultees).</p>
<p>Natural England, North Norfolk District Council</p>	<p>30 March 2020 Landscape / Seascape Expert Topic Group (ETG) meeting</p>	<p>ETG agreed the following list of visual receptors for SVIA: Marine: - ferry routes - recreational vessels - fishing boats Land - England Coast Path / Norfolk Coast Path - beach / coastal margin and other accessible landscapes - coastal settlements - specific viewpoints</p>	<p>Effects on these receptors are assessed in this chapter.</p>

Consultee	Date/ Document	Comment	Project Response
		High ground areas should be covered by the assessment.	High ground areas are assessed in this chapter.
		No seascape designations identified for the assessment. The following onshore designations will be taken into account: Norfolk Coast AONB, North Norfolk Heritage Coast and the Norfolk Broads National Park.	Norfolk Coast AONB, North Norfolk Heritage Coast and the Norfolk Broads National Park have been assessed in this chapter.
		<p>ETG agreed with the following list of data sources:</p> <ul style="list-style-type: none"> <li>- Seascape character area assessment East Inshore and East Offshore marine plan areas, Marine Management Organisation 2012.</li> <li>- Historic Seascape Characterisation East Yorkshire to Norfolk Section, University of Newcastle unpublished report for English Heritage 2013</li> <li>- Admiralty charts.</li> <li>- Recorded visibility data Met Office.</li> <li>- Norfolk Coast Area of Outstanding Natural Beauty Management Plan Strategy 2014-2019.</li> <li>- Norfolk Coast Area of Outstanding Natural Beauty Integrated Landscape Guidance.</li> </ul>	These have been reviewed and, where relevant, referred to in this chapter.
		The ETG agreed that the Seascape character area assessment East Inshore and East Offshore marine plan areas, Marine Management Organisation 2012 should be used as the baseline for assessing seascape effects, informed by other documents and site assessment.	This has been used as the baseline for assessing seascape effects in this chapter.

Consultee	Date/ Document	Comment	Project Response
		<p>The ETG agreed that viewpoints for assessment of the offshore development will be consulted with North Norfolk Council, Norfolk Coast Partnership and Natural England.</p>	<p>North Norfolk Council, Norfolk Coast Partnership and Natural England have been consulted on viewpoints. It was subsequently decided to consult with all relevant authorities within the study areas of SEP and DEP (see below)</p>
		<p>The ETG agreed with the following list of potential impacts:</p> <ul style="list-style-type: none"> <li>- Temporary impacts during construction and decommissioning.</li> <li>- Long term impacts during operation.</li> <li>- Effects on seascape character.</li> <li>- Effects on landscape character where offshore elements would be visible from land.</li> <li>- Effects on visual receptors sea based and land based.</li> <li>- Effects on designated landscapes Norfolk Coast AONB, North Norfolk Heritage coast and, potentially, the Norfolk Broads National Park.</li> </ul>	<p>These potential impacts have been addressed within this chapter.</p>

Consultee	Date/ Document	Comment	Project Response
<p>South Norfolk Council / Broadland District Council, Norfolk County Council, Norwich City Council, North Norfolk Council, Natural England, East Lindsey District Council, Norfolk Coast Partnership, Lincolnshire County Council, Broads Authority, Breckland District Council, Great Yarmouth Borough Council, Kings Lynn and West Norfolk Council</p>	<p>2 June 2020. Email consulting on SVIA study areas (50km), 9 viewpoints and approach to visualisations at both the PEIR and ES stages</p>	<p>The following stakeholders agreed to the proposals or advised they had no comments:</p> <ul style="list-style-type: none"> <li>- Norfolk County Council.</li> <li>- South Norfolk Council / Broadland District Council.</li> <li>- Norwich City Council.</li> <li>- East Lindsey District Council.</li> <li>- Lincolnshire County Council.</li> <li>- Kings Lynn and West Norfolk Council.</li> </ul> <p>Broads Authority suggested a slight refinement to the position of the viewpoint at Horsey Gap (viewpoint 7).</p> <p>North Norfolk Council agreed with proposals and requested additional viewpoint at Grambrorough Hill.</p> <p>Norfolk Coast Partnership agreed with proposals and additional viewpoint at Grambrorough Hill.</p> <p>Natural England agreed with study area, requested additional viewpoints and that photomontages are also provided at PEIR stage.</p> <p>The following did not respond:</p> <ul style="list-style-type: none"> <li>- Breckland District Council.</li> <li>- Great Yarmouth Borough Council.</li> </ul>	<p>Additional viewpoints have been agreed with North Norfolk Council, Norfolk Coast Partnership and Natural England and are used in this chapter (Viewpoints 1 to 18, see <b>Figures 27.21 to 27.38</b>).</p> <p>50km study areas for SEP and DEP have been agreed with all consultees who responded on this matter and are used in this chapter.</p> <p>Wirelines of the worst case scenario from the agreed viewpoints have been provided in this chapter (see <b>Figures 27.21 to 27.38</b>).</p> <p>Subsequent to this consultation, Equinor decided to also produce photomontages from selected viewpoints at the PEIR stage to illustrate how an illustrative substation design for SEP and DEP might appear in existing views. These are included as part of the representative viewpoints SVIA Figures appended in <b>Volume 2</b>.</p>

Consultee	Date/ Document	Comment	Project Response
			Wirelines and photomontages (daytime) will be produced for all viewpoints at ES stage and night time photomontages will be produced from three of these viewpoints at ES stage. This was agreed by all consultees who responded on this matter.

## 27.3 Scope

### 27.3.1 Study Area

10. A study area of 50km from the offshore turbine arrays has been agreed with the relevant consultees as being appropriate to cover all potentially material seascape, landscape and visual impacts. The extents of each study area for SEP and DEP are shown in **Figures 27.1** and **27.2**.
11. Relevant guidance (Scottish Natural Heritage (SNH), 2017) recommends that ZTV distances are used for defining study area based on wind turbine height. The guidance recommends 45km for wind turbines greater than 150m to blade tip, although it also recognises that “...greater distances may need to be considered for the larger wind turbines used offshore”.
12. In this case, the ZTV studies for both SEP and DEP (shown on **Figures 27.9** and **27.10**) indicate that a degree of theoretical visibility of wind turbine hub height would be available up to approximately 55km from the outermost wind turbines for both wind farm sites. However, effects are unlikely to occur beyond 50km.
13. In reality, the actual visibility of the wind farm sites that would be experienced by people would be influenced substantially by the prevailing weather and visibility conditions in the area. Fieldwork has shown that the visibility of the wind farm sites would also reduce considerably from inland areas where the screening effects of landform, vegetation, buildings and other features screen and filter views; and effects on land based landscape and visual receptors are unlikely to occur beyond 50km.
14. Therefore, seascape, landscape and visual receptors are scoped out beyond 50km.

## 27.3.2 Realistic Worst Case Scenario

### 27.3.2.1 General Approach

15. The final design of SEP and DEP will be confirmed through detailed engineering design studies that will be undertaken post-consent to enable the commencement of construction. In order to provide a precautionary but robust impact assessment at this stage of the development process, realistic worst case scenarios have been defined in terms of the potential effects that may arise. This approach to EIA, referred to as the Rochdale Envelope, is common practice for developments of this nature, as set out in Planning Inspectorate Advice Note Nine (The Planning Inspectorate, 2018). The Rochdale Envelope for a project outlines the realistic worst case scenario for each individual impact, so that it can be safely assumed that all lesser options will have less impact. Further details are provided in **Chapter 6 EIA Methodology**. The SEP and DEP parameters are described in **Chapter 5 Project Description**, which provides further details regarding specific activities and their durations. Consideration is also given to how SEP and / or DEP would be built out as described in **Section 27.3.2.2** to **Section 27.3.2.4** below. This accounts for the fact that whilst SEP and DEP are the subject of one DCO application, it is possible that either DEP or SEP will be developed, and if both are developed, that construction may be undertaken either concurrently or sequentially.
16. With respect to the SVIA, the key parameters identified as part of the Rochdale Envelope for SEP and / or DEP are as follows:
  - Location of the turbines;
  - Arrangement of the turbines, and their perceived visual density / relationship with landform / perspective;
  - Quantity of the turbines;
  - Height of the turbine hubs and blades;
  - Effect of Earth's curvature upon different layouts;
  - Relation of turbines with horizon and views of open sea; and
  - Relation of turbines with existing offshore wind farms.
17. Whilst offshore substations within the SEP and / or DEP sites would also bring about effects, the order of variance between the scenarios is considerably less than the variance that would be exhibited by the turbines within the scenarios.
18. It is also important to note that the worst case is dependent upon the particular location from which the turbines are viewed and its relative orientation and elevation. Due to the distance offshore of the wind farm sites, the ability of the viewer to judge height and distance is reduced, and the effect of the earth's curvature plays a role in limiting views of lower parts of the turbines from locations with greater distance from either wind farm site.
19. In terms of the realistic worst case scenarios for the SVIA, two scenarios were tested. Turbine height and number were the two variables between the scenarios. Draft layouts were prepared for each scenario, each maximising potential generation capacity:



- Scenario 1 – larger number of smaller wind turbines. This scenario was considered to potentially represent the worst case in terms of turbine number and development density.
  - Scenario 2 – smaller number of larger wind turbines. This scenario was considered to potentially represent the worst case in terms of turbine height and contrast with existing offshore wind farm height and density.
20. Draft wirelines from selected onshore viewpoints and ZTV studies were prepared for each scenario. It was concluded that scenario 2 represented the realistic worst case for the following reasons:
- Larger turbines (scenario 2) would be visible from more locations and at further distances than smaller turbines (scenario 1);
  - Larger turbines (scenario 2) would contrast in size when seen adjacent to the existing Sheringham Shoal and Dudgeon wind turbines to a greater degree compared to smaller turbines (scenario 1);
  - Wider spaced turbines (scenario 2) would contrast with the spacing and density of turbines of the adjacent existing Sheringham Shoal and Dudgeon wind turbines to a greater degree compared to smaller turbines (scenario 1); and
  - Conversely, smaller and more closely spaced turbines (scenario 1) would have the potential to ‘blend’ with the existing Sheringham Shoal and Dudgeon wind farms to a greater degree than larger and more widely spaced turbines (scenario 2).
21. Realistic worst case indicative schemes were designed for SEP and DEP and used in the preparation of ZTVs (**Figures 27.9** and **27.10**) and visuals (**Figures 27.21** to **27.38**). This comprises:
- 26MW wind turbines 180m to hub and 330m to blade tip height above sea level.
  - 13 wind turbines for SEP.
  - 17 wind turbines for DEP.
22. This SVIA bases the assessment of potential effects on seascape, landscape and visual receptors on these realistic worst case scenarios.
23. Wirelines of potential 26MW turbine schemes have been produced for all representative viewpoints, along with nine photomontages from selected viewpoint locations (viewpoints 1, 2, 3, 4, 5, 10, 13, 14 and 18), to illustrate how the realistic worst case scenario for SEP and DEP might appear in existing views. The photomontages are presented in **Figures 27.21** to **27.25**, **27.30**, **27.33**, **27.34**, and **27.38**, which are appended in **Volume 2**.
24. Additional wirelines and photomontages have also been produced to show how a larger number of smaller 14MW turbines might appear in existing views (i.e. scenario 1), using the same nine selected representative viewpoint locations as presented for the 26MW schemes (viewpoints 1, 2, 3, 4, 5, 10, 13, 14 and 18). These are presented in **Figures 27.39** to **27.46** (see **Volume 2**) for information only, and are not assessed or discussed in further detail in this Chapter.



### 27.3.2.2 Construction Scenarios

25. The following principles set out the framework for how the projects may be constructed:
- DEP and SEP may be constructed at the same time, or at different times;
  - If built at the same time both projects could be constructed in four years, with offshore construction being undertaken over two years (likely years 3 and 4) of the overall construction period;
  - If built at different times, either project could be built first;
  - If built at different times the first project would require a four-year period of construction including a two year offshore construction period, the second project a three-year period of construction including a two year offshore construction period;
  - If built at different times, the duration of the gap between start of construction of the first project, and the start of construction of the second project may vary from two to four years;
  - Assuming maximum construction periods, and taking the above into account, the maximum period over which the construction of both projects could take place is seven years;
  - The earliest construction start date is 2024 and the latest is 2028.
26. To determine which construction scenario presents the realistic worst case for each receptor and impact, the assessment considers both maximum duration effects and maximum peak effects, in addition to each project being developed in isolation, drawing out any differences between each of the two projects.
27. The three construction scenarios considered by the SVIA are therefore:
- Build DEP or build SEP in isolation;
  - Build DEP and SEP concurrently – reflecting the maximum peak effects; and
  - Build one project followed by the other with a gap of up to four years (sequential) – reflecting the maximum duration of effects. This would result in a maximum gap in offshore construction of one year.
28. This impact assessment has identified that, regardless of the construction scenario implemented, the greatest effects arising as a result of SEP and / or DEP would be experienced during the operational phases, due to the longer-term duration compared to the construction phases. This chapter therefore only describes in detail the potential effects arising during the operational phases in [Section 27.6](#). A summary of the potential impacts that would arise as a consequence of the construction phases of SEP and / or DEP is set out in [Annex 27.5](#).

### 27.3.2.3 Operation Scenarios

29. Operation scenarios are described in more detail in [Chapter 5 Project Description](#). The assessment considers the following three scenarios:
- Only DEP in operation;

- Only SEP in operation; and
- DEP and SEP operating at the same time, with a gap of up to three years between each project commencing operation.

30. If SEP and DEP are constructed at different times with a four year gap between each Project, the total operational life of the combined DEP and SEP Projects could be 38 years (with only SEP or DEP being present at the beginning and end of this period).

#### 27.3.2.4 Decommissioning Scenarios

31. Decommissioning scenarios are described in detail in **Chapter 5 Project Description**. Decommissioning arrangements will be agreed through the submission of a Decommissioning Plan prior to construction, however for the purpose of this assessment it is assumed that decommissioning of SEP and DEP could be conducted separately, or at the same time.

32. The decommissioning phases of SEP and / or DEP would be temporary in nature, of shorter duration than the operational phases, and would not give rise to effects over and above those of the operational phases. Therefore, regardless of the decommissioning scenario implemented, the greatest effects arising as a result of SEP and / or DEP would be experienced during the operational phases. This chapter therefore only describes in detail the potential effects arising during the operational phases in **Section 27.6**. A summary of the potential impacts that would arise as a consequence of the decommissioning phases of SEP and / or DEP is set out in **Appendix 27.5**.

#### 27.3.3 Summary of Mitigation Embedded in the Design

33. Consideration of seascape, landscape and visual matters informed the selection of the SEP and DEP Agreement for Lease (AfL) areas, as described in **Chapter 4 Site Selection**. It was decided to not to include the SEP AfL between the southern edge of the existing Sheringham Shoal wind farm and the Norfolk coast due to the proximity of sensitive land-based receptors.

34. This SVIA assesses realistic worst case scenarios for SEP and / or DEP within the AfL (see **Section 27.3.2**) without any further embedded mitigation measures. Further mitigation will be considered post-PEIR submission and, if appropriate, included in the DCO application.

### 27.4 Impact Assessment Methodology

#### 27.4.1 Policy, Legislation and Guidance

##### 27.4.1.1 National Policy Statements

35. The assessment of potential impacts upon the seascape / landscape character and visual amenity has been made with specific reference to the relevant National Policy Statements (NPS). These are the principal decision making documents for Nationally Significant Infrastructure Projects (NSIPs). Those relevant to SEP and DEP are:

- Overarching NPS for Energy (EN-1) (Department of Energy and Climate Change (DECC), 2011a);
- NPS for Renewable Energy Infrastructure (EN-3) (DECC, 2011b); and
- NPS for Electricity Networks Infrastructure (EN-5) (DECC, 2011c).

36. The specific assessment requirements for the SVIA as detailed in the NPS, are summarised in **Table 27-2** together with an indication of the section of the PEIR chapter where each is addressed.

*Table 27-2: NPS Assessment Requirements.*

NPS Requirement	NPS Reference	Section Reference
En-1 NPS for Energy (EN-1)		
<p>Paragraph 5.9.5 of EN-1 advises that the applicant should carry out a landscape and visual assessment and makes reference to the following documents:</p> <ul style="list-style-type: none"> <li>Guidelines for Landscape and Visual Impact Assessment, Second Edition (Landscape Institute and IEMA, 2002); and</li> <li>Landscape Character Assessment – Guidance for England and Scotland (Land Use Consultants, 2002).</li> </ul>	Paragraph 5.9.5	<p>‘The Guidelines for Landscape and Visual Impact Assessment, Second Edition’ (GLVIA) (Landscape Institute and IEMA, 2002) has been superseded by ‘The Guidelines for Landscape and Visual Impact Assessment, Third Edition’ (Landscape Institute and IEMA, 2013) (GLVIA3).</p> <p>‘Landscape Character Assessment – Guidance for England and Scotland’ (Land Use Consultants, 2002) has been superseded by ‘An Approach to Landscape Character Assessment’ (Natural England, 2014).</p> <p>The SVIA has been prepared following the updated versions of these documents and other recognised guidelines.</p>
<p>“The landscape and visual assessment should include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project. The applicant’s assessment should also take account of any relevant policies based on these assessments in local development documents in England ....”</p>	Paragraph 5.9.5	<p>Published landscape character assessments, and other associated studies within the extent of the study areas of SEP and DEP are reviewed and considered as part of the baseline study contained within <b>Section 27.5</b>. Those that merit detailed consideration in the assessment of effects have been taken forward to <b>Section 27.6</b>.</p>

NPS Requirement	NPS Reference	Section Reference
<p>“The applicant’s assessment should include the effects during construction of the project and the effects of the completed development and its operation on landscape components and landscape character.”</p>	<p>Paragraph 5.9.6</p>	<p>As set out in <b>Section 27.3.2</b>, the greatest effects arising as a result of SEP and / or DEP would be experienced during the operational phases, as both the construction and decommissioning phases would be temporary in nature, of shorter duration, and would not give rise to effects over and above those of the operational phases. Detailed assessment of the operational phases of SEP and DEP on landscape character is set out in <b>Section 27.6</b>. A summary of construction and decommissioning phase effects on landscape character is set out in <b>Annex 27.5</b>.</p>
<p>“The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity.”</p>	<p>Paragraph 5.9.7</p>	<p>As set out in <b>Section 27.3.2</b>, the greatest effects arising as a result of SEP and / or DEP would be experienced during the operational phases, as both the construction and decommissioning phases would be temporary in nature, of shorter duration, and would not give rise to effects over and above those of the operational phases. Detailed assessment of the operational phases of SEP and DEP on visual receptors is set out in <b>Section 27.6</b>. A summary of construction and decommissioning phase effects on visual receptors is set out in <b>Annex 27.5</b>.</p>

NPS Requirement	NPS Reference	Section Reference
<p>“Landscape effects depend on the existing character of the local landscape, its current quality, how highly it is valued and its capacity to accommodate change. All of these factors need to be considered in judging the impact of a project on landscape. Virtually all nationally significant energy infrastructure projects will have effects on the landscape. Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.”</p>	<p>Paragraph 5.9.8</p>	<p>The quality, value and capacity of the seascape and landscape to accommodate change are considerations of the SVIA within this chapter. As set out in <b>Section 27.3.3</b> consideration of seascape, landscape and visual matters informed the selection of the SEP and DEP AfLs. It was decided to not to include the SEP AfL between the southern edge of the existing Sheringham Shoal wind farm and the Norfolk coast due to the proximity of sensitive land-based receptors. This chapter assesses a realistic worst case scenarios for SEP and / or DEP within the selected AfLs without any further embedded mitigation measures. Further mitigation will be considered post-PEIR submission and, if appropriate, included in the DCO application.</p>
<p>“5.9.12 The duty to have regard to the purposes of nationally designated areas also applies when considering applications for projects outside the boundaries of these areas which may have impacts within them. The aim should be to avoid compromising the purposes of designation and such projects should be designed sensitively given the various siting, operational, and other relevant constraints. ...</p>	<p>Paragraph 5.9.12 and Paragraph 5.9.13</p>	<p>The potential for SEP and DEP to affect nationally designated landscapes and areas has been considered in <b>Sections 27.5 and 27.6.</b></p>

NPS Requirement	NPS Reference	Section Reference
<p>5.9.13 The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.”</p>		
<p>“Outside nationally designated areas, there are local landscapes that may be highly valued locally and protected by local designation. Where a local development document in England has policies based on landscape character assessment, these should be paid particular attention. However, local landscape designations should not be used in themselves to refuse consent, as this may unduly restrict acceptable development.”</p>	<p>Paragraph 5.9.14</p>	<p>The value of the local landscape is considered as part of the baseline study contained within <b>Section 27.5</b>, and is informed by local landscape designations identified in local development plans documents. Effects on landscape character are assessed in <b>Section 27.6</b>.</p>
<p>“The IPC [now the Planning Inspectorate and the Secretary of State] should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by reasonable mitigation.”</p>	<p>Paragraph 5.9.17</p>	<p>As set out in <b>Section 27.3.3</b> consideration of seascape, landscape and visual matters informed the selection of the SEP and DEP AfLs. It was decided to not to include the SEP AfL between the southern edge of the existing Sheringham Shoal wind farm and the Norfolk coast due to the proximity of sensitive land-based receptors. This chapter assesses a realistic worst case scenarios for SEP and / or DEP within the selected AfLs without any further embedded mitigation measures. Further mitigation will be considered post-PEIR submission and, if appropriate, included in the DCO application.</p>



NPS Requirement	NPS Reference	Section Reference
<p>“Reducing the scale of a project can help to mitigate the visual and landscape effects of a proposed project. However, reducing the scale or otherwise amending the design of a proposed energy infrastructure project may result in a significant operational constraint and reduction in function – for example, the electricity generation output. There may, however, be exceptional circumstances, where mitigation could have a very significant benefit and warrant a small reduction in function. In these circumstances, the IPC may decide that the benefits of the mitigation to reduce the landscape and/or visual effects outweigh the marginal loss of function.</p>	<p>Paragraph 5.9.21</p>	<p>As set out in <b>Section 27.3.3</b> consideration of seascape, landscape and visual matters informed the selection of the SEP and DEP AfLs. It was decided to not to include the SEP AfL between the southern edge of the existing Sheringham Shoal wind farm and the Norfolk coast due to the proximity of sensitive land-based receptors. This chapter assesses a realistic worst case scenarios for SEP and / or DEP, to generate maximum allowed electricity generation within the selected AfLs without any further embedded mitigation measures. Further mitigation will be considered post-PEIR submission and, if appropriate, included in the DCO application.</p>
<p>“Within a defined site, adverse landscape and visual effects may be minimised through appropriate siting of infrastructure within that site, design including colours and materials, and landscaping schemes, depending on the size and type of the proposed project. Materials and designs of buildings should always be given careful consideration.”</p>	<p>Paragraph 5.9.22</p>	<p>As set out in <b>Section 27.3.3</b> this chapter assesses a realistic worst case scenarios for SEP and / or DEP within the selected AfLs without any further embedded mitigation measures. Further mitigation will be considered post-PEIR submission and, if appropriate, included in the DCO application.</p>
<p>EN-3 NPS for Renewable Energy Infrastructure</p>		

NPS Requirement	NPS Reference	Section Reference
<p>“Proposals for renewable energy infrastructure should demonstrate good design in respect of landscape and visual amenity, and in the design of the project to mitigate impacts such as noise and effects on ecology.”</p>	<p>Paragraph 2.4.2</p>	<p>As set out in <b>Section 27.3.3</b> consideration of seascape, landscape and visual matters informed the selection of the SEP and DEP AfLs. It was decided to not to include the SEP AfL between the southern edge of the existing Sheringham Shoal wind farm and the Norfolk coast due to the proximity of sensitive land-based receptors. This chapter assesses a realistic worst case scenarios for SEP and / or DEP within the selected AfLs without any further embedded mitigation measures. Further mitigation will be considered post-PEIR submission and, if appropriate, included in the DCO application.</p>
<p>“Generic landscape and visual impacts are covered in Section 5.9 of EN-1. In addition, there are specific considerations which apply to offshore wind energy infrastructure proposals as set out below.</p> <p>Seascape is an additional issue for consideration. Seascape is a discrete area within which there is shared inter-visibility between land and sea. In some circumstances it may be necessary to carry out a seascape and visual impact assessment (SVIA) in accordance with the relevant offshore wind farm EIA policy.</p>	<p>Paragraphs 2.6.198 to 2.6.206</p>	<p>This chapter assesses the impacts of SEP and / or DEP on seascape, landscape and visual resources. It provides an overview of the existing environment for the proposed offshore wind farm sites, by defining the existing seascape, landscape and visual baseline environments; assessing their sensitivity to change; describing the key seascape, landscape and visual related aspects; describing the nature of the anticipated change upon the seascape, landscape and visual environments; assessing the magnitude and significance of the changes.</p> <p>SEP and DEP would be visible from the shore and this SVIA considers effects on coastal receptors in accordance with this NPS requirement.</p>



NPS Requirement	NPS Reference	Section Reference
<p>The seascape is an important resource and an economic asset. Coastal landscapes are often recognised through statutory landscape designations. ....</p> <p>Where a proposed offshore wind farm will be visible from the shore, an SVIA should be undertaken which is proportionate to the scale of the potential impacts. Impact on seascape should be addressed in addition to the landscape and visual effects discussed in EN-1.</p> <p>Where necessary, assessment of the seascape should include an assessment of three principal considerations on the likely effect of offshore wind farms on the coast:</p> <ul style="list-style-type: none"> <li>• limit of visual perception from the coast;</li> <li>• individual characteristics of the coast which affect its capacity to absorb a development; and</li> <li>• how people perceive and interact with the seascape.</li> </ul> <p>As part of the SVIA, photomontages are likely to be required. Viewpoints to be used for the SVIA should be selected in consultation with the statutory consultees at the EIA Scoping stage.</p>		<p>At this PEIR Stage, illustrative wireframes of the proposed wind farm extensions during operation have been produced from each representative viewpoint agreed with consultees, showing the existing view (baseline panoramic photograph) and a wireframe showing existing wind farms and SEP and DEP (<b>Volume 2</b>). The turbine layouts and dimensions for SEP and DEP have yet to be determined, and the wireframes represent realistic worst-case scenarios in terms of seascape, landscape and visual impacts.</p> <p>Illustrative photomontages have also been produced from selected viewpoints (<b>Volume 2</b>).</p> <p>The assessment methodology is set out in <b>Section 27.4</b> and <b>Annex 27.1</b>.</p> <p>Cumulative effects of SEP and DEP if both developed are considered in this chapter. Existing and consented wind farms form part of the existing baseline.</p>

NPS Requirement	NPS Reference	Section Reference
<p>Magnitude of change to both the identified seascape receptors (such as seascape units and designated landscapes) and visual receptors (such as viewpoints) should be assessed in accordance with the standard methodology for SVIA.</p> <p>Where appropriate, cumulative SVIA should be undertaken in accordance with the policy on cumulative assessment outlined in Section 4.2 of EN-1.</p>		

#### 27.4.1.2 Other

37. In addition to the NPSs, there are a number of pieces of legislation, policy and guidance applicable to the assessment of potential effects on seascape and landscape character; and visual amenity. Policies of relevance to this chapter are those that related to the protection of seascape character, landscape character and views, and those relating to valued landscape including the Broads National Park, Norfolk Coast AONB, the North Norfolk Heritage Coast and locally designated landscapes. These are referred to where applicable in this chapter.

#### 27.4.2 Data and Information Sources

38. Data has been gathered from official, reliable and the most up-to-date sources. This includes Ordnance Survey map-based data, as well as data on landscape and seascape character, landscape designations and other Governmental and Local Planning Authority data of relevance.

#### 27.4.3 Impact Assessment Methodology

39. **Chapter 6 EIA Methodology** provides a summary of the general impact assessment methodology applied to SEP and DEP. The following section describes the methodology used for the SVIA.

40. For each effect, the assessment identifies receptors sensitive to that effect and implements a systematic approach to understanding the impact pathways and the level of impacts on given receptors. The definitions of sensitivity and magnitude for the purpose of the SVIA are provided in this section.

41. *“Landscape and Visual Impact Assessment is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and people’s views and visual amenity.”* (Guidelines for Landscape and Visual Impact Assessment, Third Edition para. 1.1 (Landscape Institute and IEMA, 2013) (GLVIA3).
  42. Paras. 2.20-2.22 of GLVIA3 (Landscape Institute and IEMA, 2013) indicate that the two components (assessment of landscape effects, and assessment of visual effects) are *“related but very different considerations”*.
  43. Para. 2.6 of GLVIA3 (Landscape Institute and IEMA, 2013) states that *“This guidance is equally applicable to all forms of landscape and does not separate townscape and seascape out for special treatment.”*
  44. GLVIA3 (Landscape Institute and IEMA, 2013) explains how to assess the landscape and visual baseline, the sensitivity of landscape and visual receptors, and the magnitude of impact and significance of effect that would be caused by a development. Separate guidance specifically on assessing sensitivity of seascape character was produced in 2019 (An approach to seascape sensitivity assessment (MMO1204), Marine Management Organisation, 2019) (MMO, 2019A).
  45. This methodology therefore provides separate methods for assessing the sensitivity of seascape character (i.e. areas of sea) and landscape character (i.e. areas of land) and is structured as follows:
    - Method for assessing the sensitivity of seascape character.
    - Method for assessing the sensitivity of landscape character, visual receptors (applying to both land and sea-based visual receptors) and designated landscapes.
    - Method for assessing magnitude of impact and significance of effect.
  46. The methodology is described in more detail in **Annex 27.1**.
- 27.4.3.1 Assessment Terminology and Judgements**
47. A full glossary is provided at the beginning of this chapter. The key terms used within this assessment are:
    - Susceptibility and Value – which contribute to Sensitivity of the receptor;
    - Scale, Duration and Extent - which contribute to the magnitude of effect; and
    - Significance.
  48. These terms are described in more detail below.
- 27.4.3.1.1 Assessing the sensitivity of seascape character**
49. MMO1204 (MMO, 2019A) defines seascape character sensitivity as a *“..term applied to marine character and seascape and the associated visual resource, combining judgements of their susceptibility to a specific type of development / development scenario or other change being considered and the value(s) related to that seascape, marine character and visual resource.”* (Page 11, Glossary.)
  50. Seascape character sensitivity is therefore defined by assessing the susceptibility of the seascape character and visual resource to a defined type of change, and the value(s) of the seascape character and visual resource.

51. Seascape character susceptibility is *“the degree to which a defined seascape character area and its associated visual qualities and attributes might respond to the specified types of development or change without undue negative effects on character and the visual resource...”* (MMO, 2019A, page 11, Glossary.)

*Table 27-3: Seascape character susceptibility*

Susceptibility	Definition
High	Undue negative effects on character and the visual resource are likely to arise from the proposed development.
Medium	Undue negative effects on character and the visual resource may arise from the proposed development.
Low	Undue negative effects on character and the visual resource are unlikely to arise from the proposed development.

52. The susceptibility of seascape character areas is influenced by their characteristics and might be within documented seascape character assessments and sensitivity or capacity studies. Criteria affecting seascape character susceptibility to offshore wind farm development are listed in **Annex 27.3**.
53. Seascape character value is *“the relative value or importance attached to a seascape character area, which may express national or local consensus, because of its quality, its qualities including perceptual aspects such as scenic beauty, tranquillity and wildness, its natural or historic attributes or features, cultural associations, or its relationship with designated or valued landscapes and coasts and their defined special qualities.”* (MMO, 2019A, page 12, Glossary)

**Table 27-4: Seascape character value**

Sensitivity	Definition
National / International	Seascape character areas that form an important part of the setting or contribute strongly to the special qualities or reasons for designation of nationally or internationally designated landscapes which are designated for their landscape value or quality.
Local / District	Seascape character areas that form part of the setting or contribute to a lesser degree to the special qualities or reasons for designation of nationally or internationally designated landscapes which are designated for their landscape value or quality. Seascape character areas that form an important part of and contribute strongly to the setting of regionally designated landscapes which are designated for their landscape value or quality. Also, seascape character areas which documentary evidence and/or site observation indicates as being valued for other attributes, and by large numbers of people who travel from beyond the local community to experience the seascape.
Community	'Everyday' seascape which is appreciated by the local community and small numbers of visitors but has little or no wider recognition of its value.
Limited	Despoiled or degraded seascape with little or no evidence of being valued by the community or visitors.

54. The degree of influence of a seascape character area on a designated landscape *“is likely to be determined by a number of factors including the defined special qualities of the designation, distance from the designation, intervisibility and the relationship between the designation and character area.”* (MMO, 2019B, section 5.3.)
55. Criteria affecting seascape character value to offshore wind farm development are listed in [Annex 27.3](#).
56. Seascape character sensitivity is assessed by combining the considerations of susceptibility and value described above.

**Table 27-5: Seascape character sensitivity**

		Susceptibility		
		High	Medium	Low
Value	National / International	High	High-Medium	Medium
	Local / District	High-Medium	Medium	Medium-Low
	Community	Medium	Medium-Low	Low
	Limited	Low	Low-Negligible	Negligible

27.4.3.1.2 *Assessing the sensitivity of landscape character, visual receptors and designated landscapes*

- 57. This section applies to landscape character (i.e. areas of land), visual receptors (onshore and offshore) and designated landscapes (which only occur onshore in England and Wales except for Heritage Coasts (a non-statutory landscape) which lie onshore and extend offshore).
- 58. Susceptibility indicates the ability of a landscape receptor (onshore) or visual receptor (onshore and offshore) to accommodate the proposed development “*without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.*” (GLVIA3 (Landscape Institute and IEMA, 2013), para. 5.40).

Table 27-6: *Landscape and visual receptor susceptibility*

Sensitivity	Definition
High	Undue consequences are likely to arise from the proposed development.
Medium	Undue consequences may arise from the proposed development.
Low	Undue consequences are unlikely to arise from the proposed development.

- 59. Susceptibility of landscape character areas is influenced by their characteristics and is frequently considered (though often recorded as ‘sensitivity’ rather than susceptibility) within documented landscape character assessments and capacity studies.
- 60. Susceptibility of designated landscapes is influenced by the nature of the special qualities and purposes of designation and/or the valued elements, qualities or characteristics, indicating the degree to which these may be unduly affected by the development proposed.
- 61. Susceptibility of accessible or recreational landscapes or seascapes is influenced by the nature of the landscape / seascape involved; the likely activities and expectations of people within that landscape / seascape and the degree to which those activities and expectations may be unduly affected by the development proposed.
- 62. Susceptibility of visual receptors is primarily a function of the expectations and occupation or activity of the receptors (GLVIA3 (Landscape Institute and IEMA, 2013), para 6.32).
- 63. Landscape Value is “*the relative value that is attached to different landscapes by society*” (GLVIA3 (Landscape Institute and IEMA, 2013), page 157).

Table 27-7: *Landscape value*

Value	Definition
National / International	Designated landscapes which are nationally or internationally designated for their landscape value.
Local / District	Locally or regionally designated landscapes; also areas which documentary evidence and/or site observation indicates as being more valued than the surrounding area.

Value	Definition
Community	'Everyday' landscape which is appreciated by the local community but has little or no wider recognition of its value.
Limited	Despoiled or degraded landscape with little or no evidence of being valued by the community.

64. Sensitivity is assessed by combining the considerations of susceptibility and value described above. The differences in the tables below reflect a slightly greater emphasis on value in considering landscape receptors, and a greater emphasis on susceptibility in considering visual receptors.

Table 27-8: Landscape sensitivity

		Susceptibility		
		High	Medium	Low
Value	National / International	High	High-Medium	Medium
	Local / District	High-Medium	Medium	Medium-Low
	Community	Medium	Medium-Low	Low
	Limited	Low	Low-Negligible	Negligible

Table 27-9: Visual receptor sensitivity

		Susceptibility		
		High	Medium	Low
Value	National / International	High	High-Medium	Medium
	Local / District	High-Medium	High-Medium	Medium
	Community	High-Medium	Medium	Medium-Low
	Limited	Medium	Medium-Low	Low

65. For visual receptors; susceptibility and value are closely linked - the most valued views are also likely to be those where viewer's expectations will be highest. The value attributed relates to the value of the view, e.g. a National Trail is nationally valued for access, not necessarily for the available views. Typical examples of visual receptor sensitivity are plotted in a diagram in [Annex 27.1](#).

#### 27.4.3.1.3 Magnitude of Effect

66. Scale of effect is assessed for all seascape, landscape and visual receptors and identifies the degree of change which would arise from the development.

Table 27-10: Definition of Scale of Effect

Scale of effect	Definition
Large	Total or major alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally changed.



Scale of effect	Definition
Medium	Partial alteration to key elements, features, qualities or characteristics, such that post development the baseline will be noticeably changed.
Small	Minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be largely unchanged despite discernible differences.
Negligible	Very minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally unchanged with barely perceptible differences.

67. Duration of effect is assessed for all seascape, landscape and visual receptors and identifies the time period over which the change to the receptor as a result of the development would arise.

Table 27-11: Definition of Durations of effect

Duration	Definition
Permanent	The change is expected to be permanent and there is no intention for it to be reversed. Or where it is expected to be in place more than 25 years and will be reversed.
Long-term	The change is expected to be in place for 10-25 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.
Medium-term	The change is expected to be in place for 2-10 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.
Short-term	The change is expected to be in place for 0-2 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.

68. Effects arising from the operational wind farm sites are defined as permanent for the purpose of impact assessment, although each Project (SEP or DEP) is likely to be removed after 35 years in operation. Effects arising from the construction of the wind farm sites will be medium-term.

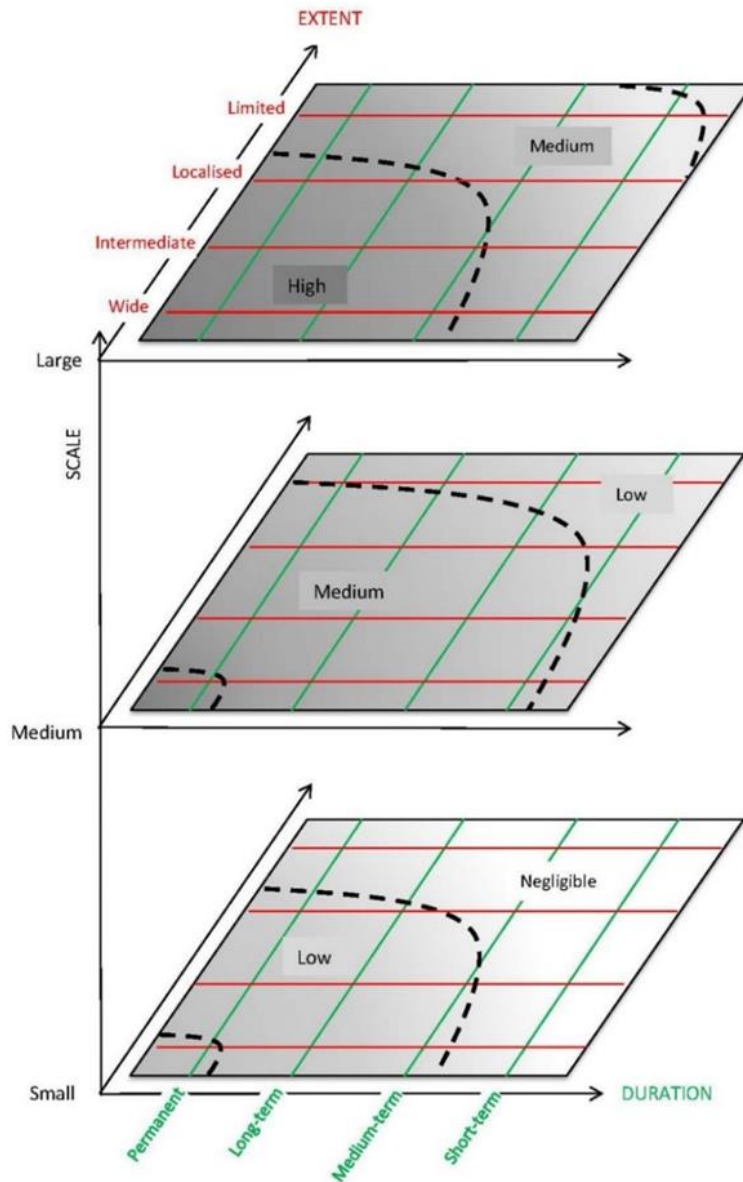
Table 27-12: Extent of effect

Duration	Definition
Wide	Beyond 4km, or more than half of receptor.
Intermediate	Up to approx. 2-4km, or around half of receptor area.
Localised	Site and surroundings up to 2km, or part of receptor area (up to approx. 25%).
Limited	Site, or part of site, or small part of a receptor area (< approx. 10%).



70. The magnitude of effect is informed by combining the scale, duration and extent of effect. **Plate 27-1** below illustrates the judgement process:

*Plate 27-1: Magnitude of Effect*

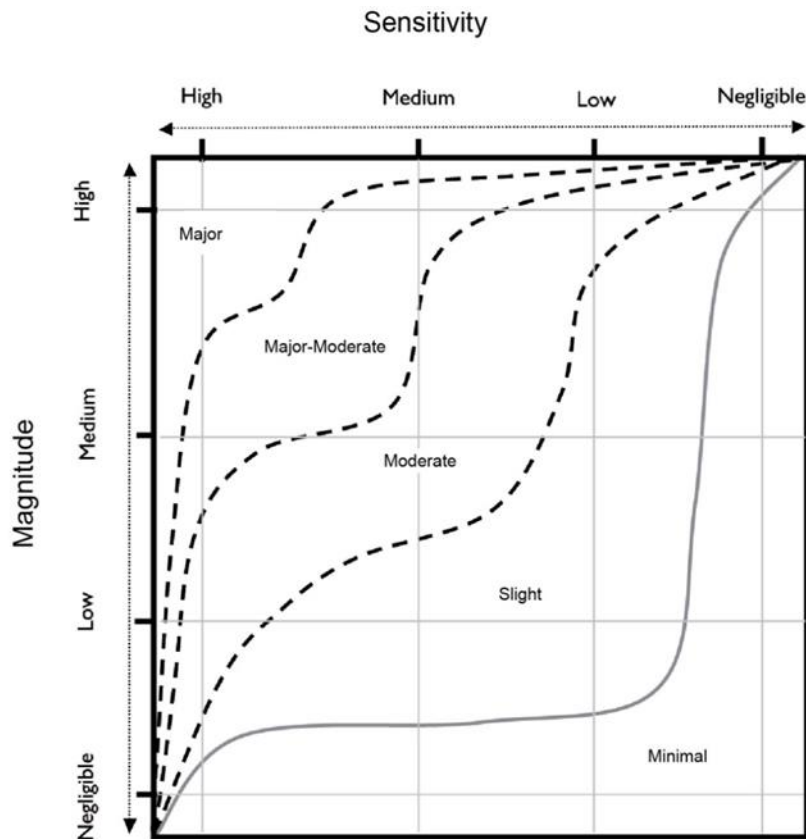


71. As can be seen from the illustration above, scale (shown as the layers of the diagram) is the primary factor in determining magnitude; most of each layer indicates that magnitude will typically be judged to be the same as scale but may be higher if the effect is particularly widespread and long lasting, or lower if it is constrained in geographic extent or timescale. Where the scale of effect is judged to be negligible the magnitude is also assumed to be negligible and no further judgement is required.

### 27.4.3.2 Impact Significance

72. Significance indicates the importance or gravity of the effect. The process of forming a judgement as to the degree of significance of the effect is based upon the assessments of magnitude of effects and sensitivity of the receptor to come to a professional judgement of how important this effect is. This judgement is illustrated by the diagram below:

Plate 27-2: Definition of impact significance



73. The significance ratings indicate a 'sliding scale' of the relative importance of the effect, with major being the most important and minimal being the least. Effects that are major-moderate or major are considered to be significant in EIA terms. Effects of moderate significance or less are "of lesser concern" (GLVIA3 (Landscape Institute and IEMA, 2013), para 3.35). It should also be noted that whilst an effect may be significant, that does not necessarily mean that such an impact would be unacceptable or should necessarily be regarded as an "undue consequence" (GLVIA3 (Landscape Institute and IEMA, 2013) para 5.40).

74. Where intermediate ratings are given, e.g. "moderate-slight", this indicates an effect that is both less than moderate and more than slight, rather than one which varies across the range. In such cases, the higher rating will always be given first; this does not mean that the impact is closer to that higher rating but is done to facilitate the identification of the more significant impacts within tables. Intermediate judgements may also be used for judgements of magnitude.

#### 27.4.3.2.1 *Positive / Adverse / Neutral*

75. Effects are defined as positive, neutral or adverse. Neutral effects are those which overall are neither adverse nor positive but may incorporate a combination of both.
76. The decision regarding the significance of effect and the decision regarding whether an effect is beneficial or adverse are entirely separate. For example, a rating of major and Positive would indicate an effect that was of great significance and on balance positive, but not necessarily that the proposals would be extremely beneficial.
77. Whether an effect is positive, neutral or adverse is identified based on professional judgement. GLVIA3 (Landscape Institute and IEMA, 2013) indicates at paragraph 2.15 that this is a “*particularly challenging*” aspect of assessment, particularly in the context of a changing landscape.
78. In the case of wind farms, much depends upon the attitudes and predispositions of the individual. As has been shown in a number of opinion surveys, the attitudes of the general public vary widely from those who think that windfarms blight the landscape or seascape to others who feel that they are a beautiful or positive addition, in some instances regardless of the natural beauty/ value of the landscape or seascape in question. In general terms there appears to be a majority view that is positive towards offshore wind energy generation and its appearance in views. Quarterly public opinion surveys carried out by Department for Business, Energy and Industrial Strategy (BEIS) since 2012 have shown increasing support for offshore wind energy (Department for Business, Energy and Industrial Strategy, 2012). In March 2019, 83% supported offshore wind (up from 79% in September 2018) (BEIS Public Attitudes Tracker (Wave 29), (Department for Business, Energy and Industrial Strategy, 2019)).
79. A 2015 public perception opinion survey by the Plymouth Marine Laboratory on behalf of the Crown Estate (Public Perceptions of Offshore Wind Farms, (the Crown Estate, 2015)) found that 47% of UK respondents (and 54.8% of an East Coast sample) consider that offshore wind farms do not spoil the view and 42% of UK respondents (and 37% of the East Coast sample) consider that they do spoil the view. Asked if offshore wind farms should only be built if they are not visible from land, 30.1% of UK respondents (and 27.8% of the East Coast sample) agreed, whereas 51.3% of UK respondents (and 59.9% of the East Coast sample) disagreed. 40.6% of UK respondents (and 38.5% of the East Coast sample) consider that offshore wind farms negatively affect the wilderness image of the sea whereas 35.5% of UK respondents (and 42.9% of the East Coast sample) consider that they do not negatively affect the wilderness image of the sea. Based on this data, the argument that effects on the seascape, landscape and views should always be treated as adverse (on a ‘worst case’ or precautionary principle) seems to go against the majority opinion.

80. In examining visual effects, it is relevant to recognise this range of public opinion (and the likelihood that professionally qualified landscape architects may have differing positions) when discussing the effect upon views perceived by the public. However, given that there is not an established policy position which aims to maintain unchanged views (similar to those for landscape character), visual effects are generally described as being Neutral unless specific factors contribute to positive or adverse effects as identified within design guidance (e.g. Siting and Designing Windfarms in the Landscape (SNH, 2017), Offshore Renewables – guidance on assessing the impact on coastal landscape and seascape Guidance for Scoping an Environmental Statement, (SNH, 2012) or local guidance, or in the opinion of the assessor.
81. Public opinion is also pertinent when considering effects on seascape and landscape receptors, as the way in which an individual person regards wind turbine plays a part in their perceptual response to them within the seascape or landscape. If one regards them as industrial, alien structures, then it is understandable to perceive their influence as adverse. Likewise, those who have concerns regarding climate change may welcome turbines as a physical expression of action being taken. For those who derive particular value from associations with the past, the uncompromising modernity of wind turbines may be jarring within a familiar seascape or landscape, whilst for others, turbines may have positive associations with human progress. All of these responses are equally valid and will affect the perceptual aspects of seascape and landscape character. However, in keeping with the general planning policy presumption that distinctive character should not be altered and designated landscapes should be protected from development, effects on seascape and landscape receptors are generally presumed to be Adverse.

#### 27.4.4 Cumulative Impact Assessment Methodology

82. The cumulative impact assessment (CIA) considers other plans, projects and activities that may impact cumulatively with SEP and DEP. As part of this process, the CIA considers which of the residual impacts assessed for DEP and / or SEP on their own have the potential to contribute to a cumulative impact, the data and information available to inform the cumulative assessment and the resulting confidence in any assessment that is undertaken. **Chapter 6 EIA Methodology** provides further details of the general framework and approach to the CIA.
83. With respect to the SVIA and its CIA, cumulative assessment relates to the assessment of the effects of more than one development. For each of the identified cumulative schemes within the study area agreement is reached with relevant stakeholders as to whether and how they should be included in the assessment.
84. Developments that are subject to a valid planning application are included where specific circumstances indicate there is potential for cumulative effects to occur, with progressively decreasing emphasis placed on those which are less certain to proceed.
85. Operational, and consented developments are treated as being part of the seascape, landscape and visual baseline i.e. it is assumed that consented schemes will be built except for occasional exceptions where there is good reason to assume that they will not be constructed.

86. In this instance, the relevant operational developments and developments under construction within the extent of the study areas of the wind farm sites are as follows and presented in **Figures 27.11** and **27.12**:

- Lincs (operational);
- Inner Dowsing (operational);
- Lynn (operational);
- Race Bank (operational);
- Triton Knoll (under construction);
- Sheringham Shoal (operational); and
- Dudgeon (operational).

87. No developments requiring cumulative assessment were identified within the study area at the time of assessment. Therefore, a CIA is not undertaken for the SVIA.

#### 27.4.5 Transboundary Impact Assessment Methodology

88. Transboundary effects have been scoped out of the SVIA since there is no potential for transboundary seascape, landscape and visual effects to arise as a result of the construction and operation of the wind farm sites.

#### 27.4.6 Assumptions and Limitations

##### 27.4.6.1.1 Desk-study and Fieldwork

89. The baseline environment within the study areas of SEP and DEP is described in the subsequent sections has been informed by desk-study and fieldwork (undertaken between August to November 2020).

90. The ZTV studies (see **Figures 27.9** and **27.10**) have been produced and used as a tool to inform the professional judgements made in this SVIA and during the iterative design process. The ZTV studies have been modelled on the maximum development parameters available but do not take into account small scale, local screening features such as hedgerows, individual trees or micro topography.

##### 27.4.6.1.2 Consented Wind Farms

91. There are a number of existing wind farms and one consented wind farm under construction (Triton Knoll) within the SEP and DEP study areas as shown on **Figures 27.11** and **27.12**. Triton Knoll is due to become operational in 2022, before construction of SEP or DEP would start. Triton Knoll is assumed to be operational as part of the existing baseline for the purpose of the assessment within this chapter.

### 27.4.6.1.3 *Potential Night-time Effects and Lighting*

92. The wind farm sites are located adjacent to the existing wind farms of Sheringham Shoal and Dudgeon. Other wind farms are also located within 30km of each wind farm site. Ambient illumination within the seascape and landscape comprises that from the existing development along the coastline, and from offshore wind farms, gas rigs, buoys and shipping / boats. It is anticipated that any additional lighting produced would not be dissimilar to the lighting produced by the existing wind farms and will be developed in consultation with the relevant authorities during the detailed design of SEP and DEP. Effects of lighting associated with SEP and DEP at night has been accounted for in the assessment of effects presented in **Section 27.6** and **Annex 27.5**.

### 27.4.6.1.4 *Distances*

93. Where distances are given in the assessment, these are approximate distances between the nearest part of the wind farm site and the nearest part of the receptor in question, unless explicitly stated otherwise.

### 27.4.6.1.5 *Offshore visibility*

94. There are a number of factors that would influence the degree of visibility to SEP and / or DEP, which are considered below.

95. GLVIA3 (para. 8.15) and Scottish Natural Heritage (SNH) guidance (SNH, 2017, para 39) refer to use of this Met Office visibility data to assess typical visibility conditions within an area.

96. The Department for Business, Energy & Industrial Strategy Guidance on the assessment of the impact of offshore wind farms: seascape and visual impact report (DTI, 2005, now archived) as quoted in Offshore Energy Strategic Environmental Assessment: Review and Update of Seascape and Visual Buffer study for Offshore Wind farms document (White Consultants, 2020) (OESEA), recommends the use of Met Office weather data for SVIAs to assess trends in conditions over a 10 year period for stations located landward of proposed wind farm sites.

97. Although there are limitations to how this data can be applied to judgements about wind farm visibility, the visibility data provides some understanding and evidence basis for evaluating the actual visibility of the wind turbines against their background.

98. The Met Office defines the different ranges of visibility, stating “*visibility measures the distance at which an object can be clearly seen*” (<https://www.metoffice.gov.uk/services/data/datapoint/code-definitions>, 2020). They define and set out the following:

- Very Poor visibility – Less than 1km;
- Poor visibility – 1 – 4km;
- Moderate visibility – 4 – 10km;
- Good visibility – 10 – 20km;
- Very Good visibility – 20 – 40km; and
- Excellent visibility – Greater than 40km.



99. Based on these parameters, the prevailing meteorological conditions would need to be a of 'Good' visibility rating or higher from the closest representative viewpoint location (Sheringham Promenade, circa 16.1km) in order for SEP to be clearly seen. For DEP, a 'Very Good' visibility rating or higher would be required to clearly see this Project from its closest viewpoint location (Cromer Pier, circa 27.1km).
100. The effects identified in the SVIA are based on the optimum viewing conditions at the time of assessment, with clear views to SEP and DEP i.e. the visibility rating 'Very Good' or higher, so that the 'worst-case scenario' could be assessed.
101. However, in reality, the degree of visibility of SEP and / or DEP will be influenced the prevailing meteorological conditions, which will likely vary throughout the operational lifetime of SEP and DEP. It is judged reasonably that clear views from the land would not be experienced every day, and there would be a finite number of days per annum where the meteorological conditions would provide ideal viewing conditions and visibility to SEP and / or DEP.
102. As a consequence, the effects of the SEP and / or DEP on seascape, landscape and visual receptors will vary according to the meteorological conditions and the degree of visibility available. This means that effects that are assessed to be significant in the SVIA under 'good' or 'very good' or 'excellent' visibility conditions, may be not significant under moderate, poor or very poor visibility conditions where there would be little to no visibility of SEP and / or DEP.
103. The nearest Met Office climate station to SEP and DEP is located at Weybourne (approximately 17.5km from SEP and 32.3km from DEP) on the north Norfolk coast. Visibility distance, obtained from the Met Office, for the Weybourne climate station over a 10 year period (January 2011 to December 2020) is set out in **Table 27-13**. **Table 27-13** below sets out the averaged frequency of possible visibility ranges that have occurred over a 10 year period for each month of the year. To produce the data, automated recordings of visibility are carried out by determining the concentration of aerosols from a captured sample of air between two lasers. This is equated to a distance from which a distinct object or skyline can be viewed. This data does not take account of varying conditions that may exist at certain distances offshore and may therefore provide a distorted picture of the actual visibility.



**Table 27-13: Visibility distance for Weybourne climate station over a 10 year period (2011 - 2020)**

Visibility (m)	Month / Percentage of frequency												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average % frequency
< 1,000m 'Very poor'	1.00	0.94	1.91	2.47	2.13	1.01	0.90	0.51	1.26	0.92	0.97	1.09	1.26
1,000 – 3,999m 'Poor'	5.38	5.29	7.46	5.61	4.48	2.72	1.96	2.40	3.70	3.27	6.75	4.87	4.52
4000 – 9,999m 'Moderate'	18.62	18.08	18.76	14.21	12.01	8.60	7.37	7.46	10.14	12.25	18.84	15.27	13.55
10,000 – 19,999m 'Good'	24.81	23.35	26.24	25.88	21.84	18.40	17.54	13.67	16.69	22.63	24.80	21.92	21.53
20,000 – 39,999m 'Very Good'	24.08	25.37	24.55	27.81	30.12	34.36	31.96	28.85	28.40	28.35	24.24	25.13	27.68
> or = 40,000 'Excellent'	26.12	26.97	21.08	24.02	29.42	34.92	40.26	47.11	39.81	32.59	24.42	31.72	31.46
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Data contained within this table is presented with permission of the Met Office (2021) © Crown Copyright Met Office 2021

104. **Table 27-13** shows that, during the summer / autumn months (June – October), visibility over a greater distance has occurred more frequently than in comparison to the winter / spring months (November – May).
105. SEP is located approximately 16.1km from the coast at its closest point in the vicinity of Sheringham, within the distance range of 10,000 – 19,999m in **Table 27-13**. **Table 27-13** illustrates that visibility over 10km has occurred for approximately 80.67% (i.e. 295 days of the year on average) from this part of the Norfolk coastal landscape. However, SEP would not be visible where visibility is less than 16.1km from any part of the Norfolk coast.
106. DEP is located approximately 27.1km from the coast at its closest point in the vicinity of Cromer, within the distance range of 20,000 – 39,999m in **Table 27-13**. **Table 27-13** illustrates that visibility over 20km has occurred for approximately 59.14% (i.e. 216 days of the year on average) from this part of the Norfolk coastal landscape. However, DEP would not be visible where visibility is less than 27.1km from any part of the Norfolk coast.
107. Whilst this ‘visibility’ analysis is a useful indicator other factors such as contrast (largely influenced by lighting by the sun), scale, orientation and movement of the structures also need to be considered when determining optimum visibility, as set out in the document Visual Assessment of Windfarms: Best Practice (University of Newcastle, 2002):
- “Lighting
 

“5.2.6 [It] ...was observed that direct light shining on the turbines has the effect of increasing the prominence of the structures and this effect operated over a wide middle distance range. Viewpoints to the south of a windfarm (in the arc from east through south to west) were said to experience this effect whereas back-lit effects occurred at viewpoints to the north (in the arc from east through north to west). ...

5.2.8. The seasonal effects of light (linked with weather and cloud cover) should be considered in relation to human receptors. For residents, year-round conditions are relevant. For tourists and other recreationists, winter conditions will affect fewest people and summer conditions will affect most.”
  - Movement and Orientation
 

“5.2.9. The movement of the blades, in all cases where this was visible, increased the visual effect of the turbines because it tended to draw the eye. [It was detected] ...movement with clarity at distances up to 15 km in clear conditions or conditions of strong contrast between the rotors and the sky, but only if you are specifically looking for the windfarm. On occasions, movement was not visible at 6 km in weak contrast. At a distance of more than about 12 km blade movement can become hardly perceptible and... [it was judged] ...that blade movement is perceptible to the casual observer at up to approximately 10 km. Movement was more perceptible when backdropped against dark vegetation compared to grey sky. ...

5.2.11. Since windfarm rotors are designed to move, the only significant circumstance when a static illusion will result in a generally lesser effect is at viewpoints oriented at 90° ( $\pm$  a small deviation of perhaps 10°) to the prevailing wind direction. Because the prevailing wind in the UK is generally from the south west, viewpoints in the quadrants from south through south west to west, and from north through north east to east, will experience the longest periods of exposure to visible movement. Viewpoints in the opposite quadrants will experience more static effects and we observed this effect at relatively short distances of 2-5 km. [It was] ...also judged that rotors seen in the plane oriented at 180° to the viewpoint appear relatively nearer. It was difficult to assess whether the visibility of movement is affected significantly by the diameter of the rotors or the height of the structures.”

- Distance, Colour and Contrast “5.2.12. At short distances the colour is clearly seen and colour and light do not have a dramatic modifying effect on visibility, except in extreme overcast conditions or at dawn or dusk. As distance increases, the eye cannot distinguish colour and all structures are seen as grey (this effect would apply whether the turbines were pale grey, yellow or blue). Light coloured (lit) turbines appear closer than grey (unlit) turbines at similar distances. Seen against a blue or pale sky, but not sunlit, grey turbines appear dark. As the sky darkens, because of cloud cover or time of day or season, the contrast between sky and turbines decreases and at long distances (e.g. over approximately 10 km) the turbines may become indistinct because of this. Turbines can appear white against a dark sky if they are lit by sun through patches of cloud. At shorter distances, the contrast between sky and turbines still decreases, but the reduction in visibility is much less because the eye and brain use more linked cues including colour and form and texture as well as contrast.”

108. The assessment of effects in **Section 27.6** is based on conditions when proposed SEP and / or DEP turbines would be most visible, to assess ‘worst case’ effects.

## 27.5 Existing Environment

### 27.5.1 Introduction

109. An overview of the baseline study results is provided in this section with the full baseline description of the individual landscape and visual receptors being provided alongside the assessment in **Section 27.6** for ease of reference.

110. This section identifies those seascape, landscape and visual receptors which merit detailed consideration in the assessment of effects, and those which are ‘scoped out’ from further assessment as effects *“have been judged unlikely to occur or so insignificant that it is not essential to consider them further”* (GLVIA3 (Landscape Institute and IEMA, 2013), para 3.19).

111. Both this baseline section and the effects section describe seascape and landscape character, and visual receptors before considering designated landscapes. It is common for designations to encompass both character and visual considerations within their special qualities or purposes of designation. It therefore makes a more natural reading sequence to draw together those aspects of character and views which relate to the designation if they have been described earlier in the chapter.

### 27.5.2 Zone of Theoretical Visibility (ZTV) Studies

112. Preliminary ZTV studies were generated based the worst-case operational scenarios for both SEP and DEP. A ZTV study for each wind farm site is presented in **Figures 27.9** and **27.10**.

113. The ZTV studies have been used as a tool to inform the professional judgements made in this SVIA and determine which seascape, landscape and visual receptors are likely to be significantly affected and merit further consideration in the assessment of effects in **Section 27.6**.

114. The ZTV studies prepared indicate areas of potential visibility for the hubs and blade tips of indicative layouts of turbines for SEP and DEP from the surrounding seascape and landscape.

115. The analysis was carried out using a topographic model that included settlements and woodland as visual barriers (derived from NEXTMAP 25 surface mapping data) in order to provide a more realistic indication of potential visibility.

116. As can be seen from the two ZTVs, the tallest element of the turbines (i.e. the blades) could theoretically be widely visible within the 50km study areas in all directions, with intermittent visibility inland where the terrain, woodland and settlements strongly influence the degree of theoretical visibility within Norfolk and Lincolnshire. Visibility of the hubs would not extend as expansively inland, being of a lower height and screened to a greater degree by the intervening terrain, settlements and vegetation.

117. When comparing the extent of theoretical visibility between SEP and DEP, the two ZTVs show that the extent of theoretical visibility of DEP would be less than that of SEP from inland locations as a result of its greater distance offshore in combination with intervening terrain, settlements and vegetation.

118. The following points should be borne in mind in respect of the ZTV studies.

- The ZTVs represent theoretical models of the potential visibility of each of the wind farm sites. In reality, landscape features such as trees, hedgerows, embankments, landform and / or buildings found on-the-ground, but not accounted for within the digital model, are likely to combine to screen the wind farm sites to a greater degree. As a result, the extent of actual visibility experienced on-the-ground from onshore locations would be less than suggested by the ZTV studies.
- Since only the turbine hubs and blade tips have been modelled, this may be all that is visible - rather than the turbine tower. This is particularly true of areas near the edges of potential visibility.

- The ZTVs do not take account of atmospheric conditions which would obscure the wind farm sites for periods of time, from within areas shown as having potential viability.

### 27.5.3 ZTV studies and Zone of Visual Influence

119. Fieldwork observations from onshore locations (undertaken in September and October 2020) confirmed that a combination of vegetation, buildings, and localised undulations in the landform within the study areas would reduce the extent of the visibility experienced to that indicated on the ZTV plans.
120. Across the onshore landscape within each of the study areas, vegetation cover is more prevalent than accounted for and indicated by the ZTV – particularly along roads, lanes and tracks; field boundaries; and around farmsteads, dwellings and settlements.
121. The anticipated main area of visibility, hereafter referred to as the ‘Zone of Visual Influence’ (ZVI), has been established as far as possible through field observations and a desk-based review of aerial photography and terrain data, and is described below. Areas outside of the ZVI would have extremely limited visibility, or no visibility at all, of either of the wind farm sites.
122. Views to the SEP and DEP wind farm sites would be available from the locations within North Sea (as indicated on **Figures 27.9** and **27.10**) when prevailing atmospheric conditions permit long-range views. Whilst possible, it should be acknowledged that with greater distances from the wind farm sites, the perceptibility of them would decrease as would their potential effects on receptors. This SVIA is based on impacts when visibility is excellent, representing ‘worst case’.
123. Onshore, visibility of SEP and / or DEP would also decrease with distance. Fieldwork observations, in combination with desk-based study of aerial photography and terrain indicates that visibility of SEP and / or DEP on-the-ground would be primarily contained within the broad area of landscape that rises inland from sea (circa 1 - 5km inland from the coast) between Old Hunstanton (to the west) and Cromer (to the east), and a narrower strip along coastline between Cromer and Winterton-on-Sea. **Figure 27.5** shows the representative viewpoints from within this area and topography. (Refer to **Figures 27.21** to **27.38** for existing views and wireline views of SEP and DEP from the representative viewpoints.) Potential visibility of SEP and / or DEP sites is generally restricted inland to the area where the landform generally rises to a height above 40-50m AOD (Above Ordnance Datum) between approximately 1 and 5km from the Norfolk coast before levelling out or falling further inland.
124. East of Cromer visibility of SEP and / or DEP would be contained to a narrower strip along the coastline.

125. The east coast of Lincolnshire lies within the SEP study area (approximately 45km from the wind farm site), and the ZTV (**Figure 27.9**) indicates that turbine blades could theoretically be visible from some areas, and hubs visible from very limited areas of land. Viewpoint 9 lies on the coast at Ingoldmells Point (see existing view and wireframe of SEP at **Figure 27.29**). **Figure 27.29** shows that existing wind farms (Lincs and Inner Dowsing) are clearly visible in the foreground, and that the proposed turbines at SEP would be barely visible and seen beyond the existing wind farms. SEP would not cause any impacts on landscape and visual receptors in Lincolnshire. The east coast of Lincolnshire lies outside the DEP study area (approximately 57km from DEP) and DEP would not cause any impacts on landscape and visual receptors in Lincolnshire. Lincolnshire lies outside the ZVI of SEP and DEP.
126. Based on fieldwork observations, it is judged that the scale of effects on seascape, landscape or visual receptors outside the ZVI described above would be, at greatest, negligible scale and **minimal significance** and are not assessed in further detail in this chapter.

#### 27.5.4 Existing, under construction and consented wind farms – ZTV studies

127. ZTV studies of existing and consented wind farms and wind farms under construction situated within the SEP and DEP study areas have been prepared comparing the combined theoretical visibility of each scheme with SEP and DEP (**Figures 27.13 to 27.15** (SEP) and **27.17 to 27.19** (DEP))
128. The ZTVs indicate that both SEP and DEP would generally be visible together from the north Norfolk coast and areas inland in conjunction with other existing and / or consented schemes. Exceptions to this are small areas where coastal dunes at Blakeney Point and Scolt Head Island, for example, screen DEP but not SEP. There are also small areas inland where SEP could theoretically be visible on its own. Inland from the north-east facing Norfolk coast there are small areas where DEP could theoretically be visible on its own.
129. Inland, SEP could theoretically be visible on its own from some areas due to the height of the turbines compared to those at existing wind farms, and its proximity to the coast.
130. Inland, DEP would generally be visible with existing wind farms where views are possible, due its greater distance offshore. The exception to this is inland from the north-eastern Norfolk coast where **Figure 27.17** indicates that there could theoretically be areas where DEP is visible on its own. DEP would also, visibility allowing, be visible on its own in areas of sea to the east and south-east of the wind farm site.



### 27.5.5 Seascape Character

131. Natural England state in their guidance document, An Approach to Seascape Character Assessment (Natural England, 2012) that seascape character assessment principally applies to coastal and marine areas seaward of the low water mark and that landscape character assessment principally applies to areas lying to the landward side of the high water mark. Natural England indicate that the assessment of intertidal areas (i.e. located between the high water mark and the low water mark) can follow either Landscape Character Assessment or Seascape Character Assessment approaches, the selection of the appropriate approach being dependent on the scope and purpose of the assessment being undertaken. (Natural England, 2012, Box 1).
132. In this instance, it has been determined that the boundary between seascape and landscape character assessments for the purpose of this SVIA will be the low water mark.
133. A seascape character assessment for the East Inshore and East Offshore Marine Plan areas was published by the Marine Management Organisation in July 2012 (MMO, 2012). Its purpose is to provide a strategic scale seascape character assessment to inform the marine planning process and is based upon an earlier pilot study seascape assessment commissioned by Natural England.
134. The study areas for SEP and DEP encompass marine plan areas 3 and 4 (East Inshore and East Offshore respectively), which extend as far as the median line between the UK and the Netherlands.
135. Both the MMO and the Natural England seascape character assessments divide the East Inshore and East Offshore marine plan areas into ten National Seascape Character Areas (NSCA) ('Dogger Bank', 'Dogger Deep Water Channel', 'East Midlands Offshore Gas Fields', 'East Anglian Shipping Waters', 'Holderness Coastal Waters', 'Humber Waters', 'East Midlands Coastal Waters', 'The Wash', 'Norfolk Coastal Waters', 'Suffolk Coastal Waters').
136. The MMO seascape character area assessment (MMO, 2012) revises the key characteristics listed for each NSCA contained within the Natural England pilot study. These revised key characteristics are presented within this report and have been used to inform the assessment.
137. Both the SEP and DEP wind farm sites and their respective study areas are located with the East Inshore Marine Plan Area and East Offshore Marine Plan Area. The following Seascape Character Areas (SCAs) are located within the study areas (see **Figures 27.3** and **27.4**):
  - East Midlands Offshore Gas Fields (SCA 3);
  - East Midlands Coastal Waters (SCA 7);
  - The Wash (SCA 8) (SEP only);
  - Norfolk Coastal Waters (SCA 9); and
  - Dogger Deep Water Channel (SCA 2) (DEP only)
138. Parts of the SEP wind farm site are located within the following SCAs:
  - East Midlands Coastal Waters (SCA 7);



- Norfolk Coastal Waters (SCA 9); and
  - East Midlands Offshore Gas Fields (SCA 3)
139. Parts of the DEP wind farm site are located within the following SCAs:
- Norfolk Coastal Waters (SCA 9); and
  - East Midlands Offshore Gas Fields (SCA 3)
140. SCA 8 The Wash lies outside the DEP study area and is not assessed further for that Project. Whilst visibility of SEP wind farm site might be possible from the north-eastern extent of the SCA 8, given the distance (approximately 42km between the SCA and wind farm site) and the baseline context of other existing wind farms in the intervening seascape, effects on the SCA would not exceed negligible scale and **minimal significance**. Viewpoint 9 (**Figure 27.29**) presents a representative view from the general vicinity and distance of the northern extent of the SCA where it can be seen that the proposed turbines would be barely visible due to the earth curvature and distance.
141. Similarly, it is judged that with regard to the southern extent of SCA 2 Dogger Deep Water Channel, which falls within the study area of DEP, given the distance from the wind farm site (also approximately 42km at its closest) effects on the SCA would not exceed a negligible scale and **minimal significance**.
142. Effects on SCA 8 The Wash and SCA 2 Dogger Deep Water Channel are therefore not assessed in further detail.
143. The ZTV studies for SEP and DEP show that there would be potential visibility from each of the remaining SCAs set out above (East Midlands Coastal Waters (SCA 7), Norfolk Coastal Waters (SCA 9) and East Midlands Offshore Gas Fields (SCA 3), and effects on these are assessed in detail in **Section 27.6**.

#### 27.5.5.1 Historic Seascape Characterisation (HSC) – East Yorkshire to Norfolk

144. In March 2012 the Department of Archaeology in the School of History, Classics and Archaeology at Newcastle University was commissioned by English Heritage to undertake a Historic Seascape Characterisation (hereafter HSC) across two areas: East Yorkshire to Norfolk, which covered the area between Withernsea and Newport; and the northernmost area of England's Offshore Region between England and Scotland (Department of Archaeology in the School of History, Classics and Archaeology at Newcastle University, 2012).
145. The overall aim of the project was to carry out a GIS-based characterisation of a specified area of England's coastal and marine zones and adjacent waters to the limit of UK Controlled Waters using the national method for HSC.
146. The HSC is a useful reference document that has informed the baseline review of the historical context of the seascape character of the wind farms sites and their study areas. However, the effects on historic seascape are assessed in **Chapter 15 Offshore and Intertidal Archaeology and Cultural Heritage** and are not assessed in this chapter.

## 27.5.6 Landscape Character

### 27.5.6.1 National Character Assessments

147. Landscape Character Map of England (National Character Areas (Natural England, various dates)) identifies broad overarching character at the national level. GLVIA3 (Landscape Institute and IEMA, 2013) notes the purpose of national character area profiles in Landscape Visual Impact Assessment is to “set the scene” with assessment of specific impacts to character undertaken using local character assessments.
148. Within the context of this SVIA, potential effects on onshore landscape resources are considered in this chapter within the extent of SEP and DEP’s study areas. The purposes of the NCAs remain relevant in ‘setting the scene’ for those landscape character areas within the study areas which may be affected as a result of the offshore development.
149. Effects on landscape character for the onshore development of SEP and DEP is assessed in detail in **Chapter 28 Landscape and Visual Impact Assessment**.
150. In this instance, the wind farm sites are located beyond the extent of the National Character Area (NCA) profiles. However, the following NCAs lie within the study areas of both the SEP and DEP wind farm sites:
  - NCA 42. Lincolnshire Coast and Marshes;
  - NCA 46. The Fens;
  - NCA 76. North West Norfolk;
  - NCA 77. North Norfolk Coast;
  - NCA 78. Central North Norfolk;
  - NCA 79. North East Norfolk and Flegg;
  - NCA 80. The Broads; and
  - NCA 84. Mid Norfolk.
151. Whilst these NCAs provide context to the assessment, given their scale and the presence of more detailed landscape character areas at a local level, effects on the NCAs are not assessed in further detail.

### 27.5.6.2 Regional Character Assessments

#### 27.5.6.2.1 East of England Landscape Framework (2011)

152. The East of England Landscape Framework (The East of England Landscape Framework, 2011) (EELF) presents an integrated landscape assessment (covering a range of environment matters) across the East of England region. The typologies form a structured spatial framework from which consistent descriptions are documented, drawing from a range of data including local Landscape Character Assessments, Historic Landscape Characterisation, biodiversity, and rural settlement datasets as well as data generated through consultation. Its objective is to provide consistent information across the region to inform future planning application, climate change studies; biodiversity; land management work; and research studies, where matter related to the land / landscape are considered.

153. Whilst the EEFL provides context to the assessment, given its broad scale and the presence of more detailed character area assessments at a local level, effects on landscape character described in this regional character assessment are not assessed in further detail.

#### 27.5.6.2.2 *Norfolk Coast AONB Integrated Landscape Guidelines (2009)*

154. The Norfolk Coast AONB Integrated Landscape Guidelines (Norfolk Coast Partnership, 2009) (AONB LCA) describes the distinctive character of the Norfolk Coast AONB; highlights those aspects of the landscape which are valued and particularly vulnerable to change; and provides guidance on appropriate measures and considerations that will help conserve and enhance them, whilst encouraging the sustainable development of the area.

155. The AONB LCA states that it “...does not seek to override the detailed information contained in each of the district-based landscape character assessment reports; instead it summarises and presents information from the detailed reports in a consistent, user-friendly format which relates to the landscapes of the AONB.”

156. Whilst the AONB LCA provides relevant information about the landscape character with the study areas of the wind farm sites, the North Norfolk Landscape Character Assessment (Land Use Consultants, 2018) provides a more recent character assessment of the area where the two overlap and will be used as the landscape character assessment for impact assessment in in **Section 27.6**. This was agreed with consultees at the Seascape and Landscape ETG meeting on 30<sup>th</sup> March 2020.

#### 27.5.6.2.3 *The Broads Landscape Character Assessment (2006)*

157. The Broads Landscape Character Assessment (The Broads Authority, 2006) identifies, maps and describes the areas which reflect the unique set of landscape characteristics which combine to form the Broads National Park. It is intended to promote management and changes that seek to conserve and enhance the area's natural beauty.

158. The Broads lies outside the ZVI and landscape character would not be affected by the proposed development. The Broads Landscape Character Assessment is therefore not considered further.

#### 27.5.6.2.4 *Report on the Norfolk Historic Landscape Characterisation Project (2009)*

159. The Norfolk Historic Landscape Characterisation Project was completed in 2008 (Norfolk Landscape Archaeology, 2009) and the overall mapped classification of broad historic landscape types, resulting in the identification of 22 major Broad Groups and over 60 detailed Historic Landscape Character (HLC) Types.

160. The Report on the Norfolk Historic Landscape Characterisation Project (Norfolk Landscape Archaeology, 2009) is a useful document from which to inform the baseline understanding of the historical context of the landscape within the study areas of the wind farm sites and has formed part of the review of the existing landscape character throughout this assessment.

#### 27.5.6.3 **Local Landscape Character**

161. The following districts within the study areas (see **Figures 27.3** and **27.4**) lie outside the ZVI and landscape character would not be affected by the proposed developments. Therefore, the SVIA does not consider landscape character assessments covering these districts:

- Breckland District;
- South Norfolk District;
- Broadland District;
- Great Yarmouth District;
- Norwich City; and
- East Lindsey District.

162. Parts of North Norfolk and Kings Lynn and West Norfolk districts lie within the ZVI and the landscape character assessments of these districts are discussed below.

#### 27.5.6.3.1 North Norfolk Landscape Character Assessment (2018)

163. In February 2018, the North Norfolk District Council commissioned a review and update to the existing landscape character evidence base, with the objective of producing an update landscape character assessment. The intention was to provide context for policies and proposal within the emerging Local Plan, inform the determination of planning applications, and inform the management of future change, and resulted in the North Norfolk Landscape Character Assessment (Land Use Consultants, 2018) (NNLCA).

164. The North Norfolk District is described as having “*an overarching and strong rural character with agriculture, in particular arable farmland, comprising by far the largest component of land use. A network of Rights of Way crosses open fields, heathlands and woodlands. Many of the large areas of coastline, heathland and woodland have open access. The Norfolk Coast Path National Trail follows the entirety of the District’s coastline, linking with the Peddars Way in the west and the Paston Way in the east.*”

165. Further key aspects of the North Norfolk environment are described as follows [inter alia]:

- “The nationally protected landscape of the Norfolk Coast AONB;
- A large number of internationally and nationally designated sites and nature reserves;
- A wealth of archaeological and historic environment sites throughout the district, from the prehistoric to the Cold War;
- The rare arable plants thriving in pockets of North Norfolk farmland.”

166. 11 landscape character types (LCT) and 17 landscape character areas (LCA) are identified. **Figures 27.3** and **27.4** present the locations of each LCA located within the respective study areas of SEP and DEP.

167. The ZTV studies for each wind farm site (see **Figures 27.9** and **27.10**) show that SEP and / or DEP could theoretically be visible from all of the LCAs.

168. However, fieldwork has identified that visibility on-the-ground would be far less than theoretically indicated by the ZTVs. Actual visibility would be primarily contained within the broad area of landscape that rises inland from sea (circa 1 - 5km) between Old Hunstanton (to the west) and Cromer (to the east), and to a narrower strip along the coastline between Cromer and Winterton-on-Sea.

169. Based on fieldwork observations, it is judged that effects on landscape character outside this extent of visibility described above would be of negligible scale and there would be no effects on landscape character of the LCAs.
170. From LCAs immediately inland for the coastal LCAs which lie within the ZVI described in [Section 27.5.2](#), or close to it (DCM1: Holkham Drained Marshes, ROF1: Holkham to Raynham, RV1: River Wensum and tributaries, RV4: River Stiffkey and tributaries, RV5: River Glaven and tributaries, RV6: Mundesley Beck, RHA1: Blakeney, Salthouse & Kelling, TF1: North Norfolk Tributary Farmland, WGR1: Wooded Glacial Cromer Ridge, and CP1: Bacton to Waxham Coastal Plain), fieldwork has identified that from the majority of these LCAs there would be little to no visibility of SEP or DEP, with views only available from comparatively small proportion of LCAs within the northern extents of district where intervening vegetation, landform and / or buildings do not screen views. It is judged that the intrinsic, prevailing character of the landscape of the following LCAs would not be discernibly changed by the development of the wind farm sites.
- From DCM1, wind farm sites largely screened by woodland at Holkham Meals (as indicated on the ZTV studies – see [Figures 27.9](#) and [27.10](#)).
  - From ROF1, potential visibility of the wind farm sites would be possible from a small, isolated area of fields north of the A149. Views of the wind farm sites from the larger area of this LCA south of the A149 and Wells-next-the-Sea would be largely screened or filtered by intervening vegetation (including extensive woodland at Holkham Park and many hedgerows) and development at Wells-next-the-Sea. Viewpoint 13 ([Figure 27.33](#)) lies within this area where visual effects area assessed as small scale (SEP) and negligible scale (DEP). Such effects on views from very limited areas of this SCA, where existing offshore wind farms are already visible, would not affect the character of the landscape of ROF1.
  - From River Valley LCAs RV1, RV4, RV5 and RV6, views of the wind farms sites from these low-lying valleys would be screened by intervening landform and vegetation.
  - From RHA1, views of the wind farm sites would be restricted to a limited number of open areas (e.g. fields) on rising landform where intervening vegetation and buildings do not screen or filter views. Where views would be possible, such as at Viewpoint 16 ([Figure 27.36](#)), they would be from limited locations within northern parts of the LCA where gaps in vegetation allow and would include existing wind farms.
  - WGR1 lies inland of areas of settlement at Sheringham and West and East Runton and contains extensive areas of woodland. This development and woodland obscures seaward views from most of the LCA. Views of the wind farm sites would be restricted to a very limited number of locations. Where views of the wind farm sites would be possible, such as at Viewpoint 17 ([Figure 27.27](#)), existing wind farms are already visible.



- CP1 lies along the coast south-east of Mundesley, extending inland up to approximately 3km. Views of the wind farm sites would only be possible from the coastal edge and would be obscured a short distance inland by intervening vegetation and development. The LCA lies over 26km from SEP and over 30km from DEP, and distant views of the proposed wind farm sites from the edge of this LCA would not affect landscape character.

171. Therefore, in order to focus the SVIA on the parts of the landscape that would experience the greatest effects on landscape character and where significant impacts could potentially occur, the following LCAs are taken forward for detailed assessment in **Section 27.6**:

- OCM1. Open Coastal Marshes;
- DCM2. Drained Coastal Marshes; and
- CS1. Coastal Shelf.

#### 27.5.6.3.2 *King's Lynn & West Norfolk Borough Landscape Character Assessment, (2007)*

172. The aim of the King's Lynn & West Norfolk Borough Landscape Character Assessment (Chris Blandford Associates, 2007) (KLWNBLCAs) is to provide an integrated assessment of the landscape character of the Borough, to serve as a baseline inventory to enable a better understanding of King's Lynn and West Norfolk's landscapes and for monitoring change. The KLWNBLCAs is used as part of the Borough's technical evidence base and has informed the Local Development Framework.

173. The KLWNBLCAs describes the King's Lynn and West Norfolk Borough as follows:

*"The Borough is predominantly rural in character and has a very diverse and varied landscape. The north of the area encompasses gently rolling farmland and high plateau, which is fringed by the dramatic coastal landscapes of the Norfolk Coast Area of Outstanding Natural Beauty. Contrast is provided by the undulating parkland and woodlands in the Sandringham area dissected as a series of relatively narrow rivers. To the west of King's Lynn is the coastal landscape of mudflats and saltmarsh that fringe The Wash. Further to the south, the open skies and long ranging horizons of the fenlands dominate the landscape."*

174. 11 LCTs and 61 LCAs are identified within the extent of the KLNWBLCA. **Figures 27.3** and **27.4** present the locations of SEP and DEP in relation to King's Lynn and West Norfolk Borough.

175. The ZTVs for each wind farm site (see **Figures 27.9** and **27.10**) indicate that SEP and / or DEP could theoretically be visible from the LCAs in the northern part of King's Lynn and West Norfolk Borough. The Borough lies over 28km from SEP and 47km from DEP, and SEP and DEP would be seen in the context of existing offshore wind farms where views are possible.

#### 27.5.6.3.2.1 DEP

176. At over 47km, and in the context of the existing offshore wind farms, there would be no potential for DEP to affect landscape character of King's Lynn and West Norfolk Borough, and effects due to DEP on landscape character areas within King's Lynn and West Norfolk Borough are not considered further.

#### 27.5.6.3.2.2 SEP

177. Fieldwork has identified that visibility of SEP on-the-ground would be far less than theoretically indicated by **Figure 27.9**. It has identified that visibility on-the-ground would be primarily contained within the broad area of landscape that rises inland from sea (up to approximately 3km inland) east of Old Hunstanton. Effects on landscape character outside this area would be of negligible scale and there would be no effects on landscape character.
178. In light of the above, it is assessed that the potential for effects on landscape character due to SEP would be contained to the landscape character that is found along the Norfolk coastline between Old Hunstanton and the Borough boundary approximately 2km east of Burnham Overy Staithe. This area is covered by LCTs A: Open Coastal Marshes (LCAs A6, A7, A8 and A9) and C: Coastal Slopes (LCAs C2 and C3). From LCAs immediately inland for the coastal LCAs which lie within the ZVI described in **Section 27.5.3** (such as C1 Heacham, C2 Holme next the Sea to Brancaster, C3 Burnham Overy, J1 Docking, I1 Burnham Market, I2 Ringstead Downs, I3 Ringstead, I4 Burnham Thorpe and the Creakes), fieldwork has identified that there would be little to no visibility of the SEP wind farm site from the majority of the LCAs, with views only potentially possible from small parts of the LCAs where intervening vegetation, landform and / or buildings do not screen views. Existing offshore wind farms are already available in these views. Should views to the proposed wind farm sites be possible – for example at Viewpoint 11 (**Figure 27.31**) which lies on elevated ground within LCA J1 Docking - the intrinsic, prevailing character of the landscape would not be changed through the construction of the wind farm sites. Effects due to SEP at Viewpoint 11 area assessed as Small-negligible scale, and such small effects on views from limited areas would not affect landscape character.
179. Therefore, in order to focus the SVIA on the parts of the landscape that would experience the greatest effects on landscape character and where significant impacts could potentially occur, the following LCAs are taken forward for detailed assessment in **Section 27.6**:
- LCT A – Open Coastal Marshes
  - A6. Holme next the Sea;
  - A7. Thornham and Titchwell;
  - A8 Brancaster; and
  - A9. Overy Creek
180. Fieldwork has identified that a similar degree of effect is likely to occur from each LCA within LCT A: Open Coastal Marshes and they are therefore assessed collectively.



### 27.5.7 Visual Receptors

181. Visual receptors are “*the different groups of people who may experience views of the development*” (GLVIA3 (Landscape Institute and IEMA, 2013) para 6.3). In order to identify those groups who may be significantly affected, ZTV studies, baseline desk study and site visits have been used to inform the professional judgements made in this assessment.
182. The different types of receptors assessed within this chapter encompass local residents; people using key routes such as roads; cycle ways; long distance walking routes; people within accessible or recreational landscapes; people using Public Rights of Way (PRoW); people visiting key viewpoints; and people on boats or ships.
183. 18 representative viewpoints have been selected and agreed with the relevant local authorities and statutory bodies to assess the effects on visual receptors. Detail of the consultations held are set out in [Section 27.2](#).
184. Visual receptors are assessed under the following categories:
  - Offshore visual receptors (ferry passengers and crew, users of recreational vessels, and workers on fishing boats or other craft and on existing wind farm sites and gas rigs);
  - Settlements (comprising the larger settlements);
  - Roads and Rail;
  - Recreational routes (long distance walking routes and national and regional cycle routes); and
  - Visual receptor groups (comprising users of PRoW; users of accessible and recreational landscapes; local residents or visitors at the smaller coastal settlements; users of local roads and recreational railways).

#### 27.5.7.1 Offshore Visual Receptors

185. The North Sea is an active seascape and includes a number of visual receptors that may be affected by the wind farm sites. These visual receptors include the following:
  - Ferry passengers and crew;
  - Users of recreational vessels; and
  - Workers on fishing boats or other craft, and on existing wind farm sites and gas rigs.
186. The ZTV studies ([Figures 27.9](#) and [27.10](#)) indicate that there would be extensive visibility from the North Sea with the study areas. The visual receptors listed above are assessed in further detail in [Section 27.6](#).

#### 27.5.7.2 Settlements

187. There is a number of settlements located within the SEP and DEP study areas. Potential visual effects on settlements include all of the publicly accessible routes, public spaces, homes and businesses within them.
188. The following towns lie within the study areas of SEP and / or DEP:
  - Aylsham;
  - Cromer;

- Dereham;
  - Fakenham;
  - Holt;
  - Hunstanton;
  - North Walsham;
  - Sheringham;
  - Skegness;
  - Stalham; and
  - Wells-next-the-Sea
189. The following larger villages lie within the study areas:
- Briston / Melton Constable;
  - Hoveton / Wroxham; and
  - Mundesley
190. Between each of these larger settlements, a number of smaller villages are located along the Norfolk coastline or inland from the coast, which might experience a degree of visibility of the wind farm sites. As set out in **Section 27.5.7**, smaller villages are assessed as part of the visual receptor groups in **Section 27.6**.
191. Potential effects on the village of Weybourne, where the location of the landfall site is proposed, are considered in greater detail as part of the onshore cable corridor assessment set out in **Chapter 28 Landscape and Visual Impact Assessment**.
192. The ZTVs (**Figures 27.9** and **27.10**) indicate that there could theoretically be visibility of the wind farm sites from northern parts of all the settlements. However, fieldwork observations have identified that, as described in **Section 27.5.3**, visibility would not be as widespread as the ZTV theoretically indicates and there would be little to no visibility of SEP or DEP from the following settlements:
- Aylsham;
  - Dereham;
  - Fakenham;
  - Holt;
  - Hunstanton;
  - North Walsham;
  - Skegness;
  - Stalham;
  - Briston / Melton Constable; and
  - Hoveton

193. Should visibility to the wind farm sites be possible from any of the settlements listed above, it is judged the visual effects would be no greater than negligible scale and **minimal significance**. If the wind farm sites are visible from any locations they would be mostly screened by intervening landform, vegetation and development, and barely perceptible within the context of the existing offshore wind farms, and views would remain fundamentally unchanged.
194. Fieldwork has indicated that from the following larger settlements along the Norfolk coastline, a degree of visibility of either one or both of SEP and DEP would be experienced and these settlements will be assessed in more detail in **Section 27.6**. They lie within the study areas of SEP and DEP.
- Cromer;
  - Sheringham;
  - Wells-next-the-Sea; and
  - Mundesley

### 27.5.7.3 Roads and Rails

#### 27.5.7.3.1 Key Routes

195. The following main road and rail routes lie within or pass through the study areas of SEP and / or DEP:

##### 27.5.7.3.1.1 A-Roads

###### Norfolk

- A1042;
- A1062;
- A1065;
- A1067;
- A1151;
- A140;
- A148;
- A149; and
- A47

###### Lincolnshire

- A52; and
- A158

##### 27.5.7.3.1.2 Rail

- Norwich – Sheringham Railway; and
- Grantham – Skegness Railway

196. The ZTVs (**Figures 27.9** and **27.10**) indicate that there could theoretically be visibility of SEP and DEP from all of these routes. However, fieldwork observations have indicated that, as described in **Section 27.5.3**, visibility would not be as widespread as the ZTV theoretically indicates and there would be little to no visibility from the any of these routes apart from the A149.
197. Should visibility of the wind farm sites be possible from any of these routes (except the A149 which is discussed separately below), it is judged the visual effects for SEP and / or DEP would be no greater than negligible magnitude and **minimal significance**. Views of SEP and / or DEP would be limited to short sections of these roads and, where visible they would be barely perceptible within the context of the existing offshore wind farms, and the views would remain fundamentally unchanged. Therefore, the routes listed above are not assessed in further detail.
198. The A149 runs along the north Norfolk coast within the ZVI between Old Hunstanton and Cromer. It is the main coast road and well used by local people and tourists. The road runs slightly inland from the coast and views out to sea are mostly obscured by roadside hedgerows and other vegetation, and development and landform. Fieldwork has identified that visibility of the wind farm sites would be possible from limited sections of the A149 where gaps in the roadside vegetation and other features allow. However, from the majority of the route views would be obscured by intervening vegetation, development and landform. Whilst views of the wind farm sites would be possible, they would be limited to short sections of the road, and the wind farm sites would be seen in the context of existing offshore wind farms, and overall effects on road users would be no greater than negligible magnitude and **minimal significance**.
199. Therefore, no key routes are taken forward for further assessment in **Section 27.6**.

#### 27.5.7.4 Recreational Routes

##### 27.5.7.4.1 Long Distance Walking Routes

200. The following Long Distance Walking Routes are located within the extents of the SEP and DEP study areas:
- Peddars Way, Norfolk Coast Path and England Coast Path;
  - Weavers Way; and
  - Nar Valley Way
201. Peddars Way, Norfolk Coast Path and England Coast Path follow the same route along the Norfolk coast through the study area and are assessed together. The England Coast Path is a proposed National Trail around all of England's coast which Natural England is establishing under the provisions of Part 9 of the Marine and Coastal Access Act 2009 (UK Legislation (2010)). Some sections are open and others have yet to be implemented.

202. Two sections defined by Natural England lie within the study areas where impacts could occur; Sea Palling to Weybourne and Weybourne to Hunstanton. The section from Sea Palling to Weybourne is open to the public. The section from Weybourne to Hunstanton has been approved by the Secretary of State for the Environment, Food & Rural Affairs and has not yet been implemented but is due to be implemented before the wind farm sites would be developed. The route broadly follows the Peddars Way, Norfolk Coast Path which runs from Hunstanton to Sea Palling and these routes are therefore assessed together and referred to as the Coast Path. Further information is available at [www.gov.uk/government/publications/england-coast-path-in-the-east-of-england](http://www.gov.uk/government/publications/england-coast-path-in-the-east-of-england) (accessed 28/10/2020).
203. The ZTV studies (**Figures 27.9** and **27.10**) indicate that SEP and / or DEP could theoretically be visible from the Coast Path. The Coast Path lies mainly within the ZVI and is taken forward for more detailed assessment in **Section 27.6**.
204. Both Weavers Way and Nar Valley Way lie further inland, beyond the extent of the ZVI and the area in which the principal visual effects are likely to occur. Whilst it may be possible to see SEP and / or DEP from elevated parts of these routes, it is judged that visual effects would be no greater than negligible scale and **minimal significance**. If SEP and / or DEP are visible from any locations parts of them are likely to be screened by intervening landform, vegetation and development, and they would be barely perceptible within the context of the existing offshore wind farms, and views would remain fundamentally unchanged. Therefore, neither of these routes are assessed in further detail in **Section 27.6**.

#### 27.5.7.4.2 National and Regional Cycle Routes

205. The following National and Regional Cycle Routes are located within the SEP and DEP wind farm sites' study areas.
- National Cycle Network Route (NCN) 1 – Dover to the Highlands of Scotland (Harwich to Fakenham to Hull section).
  - Regional Cycle Network Route (RCN) 30; and
  - RCN 33.
206. NCN 1, RCN 30 and RCN 33 extend close to the north Norfolk coast and are shown on **Figures 27.6, 27.7** and **27.8**.
207. The ZTVs (**Figures 27.9** and **27.10**) indicate that SEP and / or DEP could potentially be visible from each of these cycle routes. However, fieldwork observations have indicated that, as described in **Section 27.5.3**, visibility would not be as widespread as the ZTVs theoretically imply, and most of these routes lie outside the ZVIs.
208. Fieldwork has identified that that visibility of SEP and / or DEP would be possible from parts of each of these cycle routes where they are close to the coast and where breaks in the intervening vegetation allow.
209. NCN 1 route makes a loop around Holkham and Wells-Next-the-Sea, within the area close to the coast where visual effects in general are greater than further inland. However, fieldwork and review of aerial photography and the ZTVs has indicated that woodland vegetation around Holkham Park and between the route and the beach at Holkham Meals and other smaller-scale vegetation, development and landform would largely screen views of the proposed offshore wind farms.

210. Whilst view of the proposed wind farm sites would be possible from some sections of these routes, they would be limited to short stretches of each route and, where they are visible, the SEP and DEP wind farm sites would be seen within the context of existing offshore wind farms. Overall visual effects on users of each route due to SEP and / or DEP would be no greater than negligible scale and **minimal significance**. These cycle routes are not assessed further.

#### 27.5.7.5 Visual receptor groups

211. Visual effects are assessed for groups of onshore visual receptors within close proximity of each other, where it has been judged that they would experience a similar degree of visual effects as a result from the wind farm sites. Selected visual receptors have been grouped together into broad geographic areas, are reflective of the visual scale of effects likely to be experienced, and the ZVI set out in **Section 27.5.3**. They are as follows, ordered from west to east along the Norfolk coastline:

- Old Hunstanton to Wells-Next-The-Sea;
- Wells-Next-The-Sea to Blakeney;
- Blakeney to Mundesley; and
- Mundesley to Winterton-on-Sea

212. These visual receptor groups include the following receptors:

- Users of the PRoW network;
- Users of accessible and recreational landscapes (including the beach);
- Local residents and visitors at the smaller coastal settlements;
- Users of local roads; and
- Users of recreational railways.

213. Fieldwork has identified that a degree of visibility of either one or both of wind farm sites would be experienced from these receptor groups and they will be assessed in more detail in **Section 27.6**.

214. For those visual receptors located outside of the visual receptor groups identified above and / or located beyond the broad area of landscape that rises inland from sea (circa 1-5km) between Old Hunstanton (to the west) and Cromer (to the east) and the narrower coastline between Cromer and Winterton-on-Sea, there would be little to no visibility of SEP or DEP. Whilst views may be possible, they would be limited to small areas and, where they are visible, SEP and / or DEP would be seen within the context of existing offshore wind farms. Overall visual effects due to SEP and / or DEP outside these receptor groups would be no greater than negligible scale and **minimal significance**.

#### 27.5.7.6 Specific Viewpoints

215. The following Specific Viewpoints have been identified from Ordnance Survey mapping as being located within the extents of the SEP and DEP study areas:

- Viewing Gazebo, Oak Wood near Sheringham Hall



216. At the time of assessment (September 2020), the viewing gazebo was closed with no indication of when it may be open again. Whilst it was not possible to visit the specific viewpoint in person, an alternative view was recorded from the ground where surrounding vegetation made available seaward views – see Viewpoint 17 (**Figure 27.37**) – and in combination with the previous SVIA undertaken in the area for Sheringham Shoal Wind Farm project which also used this viewpoint, it has been judged that a reasonable / fair professional assessment can be made.
217. The specific viewpoint at the viewing Gazebo, Oak Wood is taken forward for more detailed assessment in **Section 27.6**.

#### 27.5.7.7 Dark Sky Discovery Sites

218. Dark Sky Discovery Sites form a nationwide network of places that are accessible by everyone and provide views of the dark skies and landscapes. Nominated by local groups and organisations, they are nationally recognised as places so dark, that it is possible to see the Milky Way or the constellation of Orion with the naked eye. Recognised and promoted by the Norfolk Coast Partnership (<http://www.norfolkcoastaonb.org.uk/partnership/dark-sky-discovery-sites/1160> (accessed 21/12/2020)), these sites aim to raise awareness and appreciation of dark skies and in doing so, will encourage the reduction light pollution on the Norfolk Coast.
219. **Figures 27.1** and **27.2** identify the locations of four Dark Sky Discovery Sites located within the study areas of SEP and / or DEP, all of which fall within the extent of the ZVI between Hunstanton and Paston identified in **Section 27.5.3** and are taken forward for consideration in **Section 27.6**. These are as follows:
- RSPB Titchwell Marsh Nature Reserve (located in SEP study area);
  - Barrow Common, Brancaster (located in SEP study area);
  - Wiveton Downs (located in SEP and DEP study areas); and
  - Kelling Health Holiday Park (located in SEP and DEP study areas)

#### 27.5.8 Designated and Defined Landscapes

##### 27.5.8.1 Designated Landscapes

220. As shown on **Figures 27.1** and **27.2**, two nationally designated landscapes lie within the extent of the study areas of the wind farm sites. These are:
- Broads National Park (Broads NP); and
  - Norfolk Coast AONB.
221. Both the Broads NP and Norfolk Coast AONB are landscapes of national importance with the primary purposes to conserve and enhance the natural beauty of the landscape, with an additional purpose for NPs to promote opportunities for the understanding and enjoyment of the special qualities of those areas by the public, in accordance with National Parks and Access to the Countryside Act 1949 (UK Legislation, 2013).



222. Analysis of the ZTVs (**Figures 27.9** and **27.10**) identifies that, SEP and / or DEP could theoretically be visible from the Norfolk coast and elevated inland landform within the extents of the Norfolk Coast AONB. Fieldwork has indicated that whilst visibility on-the-ground would be less than theoretically indicated (as set out in **Section 27.5.3**), views of SEP and / or DEP would be possible from the Norfolk Coast AONB, mainly restricted to within the extent of the ZVI. The AONB is divided into three discrete geographical areas. The westerly area north of Kings Lynn is outside of the study areas of SEP and DEP and is scoped out. The central largest area runs along the north Norfolk coast between Hunstanton and Paston and includes land within the ZVI and is taken forward for further detailed assessment in **Section 27.6**.
223. The ZTV studies (**Figures 27.9** and **27.10**) identify that theoretical visibility of SEP and DEP from the Broads National Park and the eastern section of the AONB is more limited, and generally limited to wind turbine blades only. The ZTVs indicate that blades and hubs of SEP and DEP would theoretically be visible from the narrow coastline of the National Park and this section of the AONB (e.g. dunes and beach) but much less inland. Site assessment has identified that views of SEP and / or DEP would be restricted to a small area of the National Park and this section of the AONB along the shoreline. Viewpoint 7 (**Figure 27.27**) is located on the elevated dunes on this section of coast where visual effects are assessed as small-negligible scale for SEP, DEP and both projects together. Such small scale effects on views from very limited parts of the National Park or section of AONB would not result in effects greater than negligible scale and **minimal significance** for SEP and / or DEP. Therefore, the Broads National Park and the eastern section of the Norfolk Coast AONB are not taken forward for further detailed assessment in **Section 27.6**.

#### 27.5.8.2 Defined Landscapes

224. As shown on **Figures 27.1** and **27.2**, an area of Heritage Coast (The North Norfolk Heritage Coast (NNHC)) is located within the study areas of SEP and DEP. It covers a section of the Norfolk coast from Holme-next-the-Sea to Weybourne and extends approximately 1.5km offshore.
225. The NNHC is a non-statutory landscape definition (although recognised in the statutory planning system), which was defined by agreement between local authorities and the Countryside Commission (now part of Natural England) in 1975, recognising this section of coastline as one of the finest stretches of undeveloped coast in England and Wales.
226. The NNHC is referred to on the Norfolk Coast Partnership's web site, which sets out the objectives for this non-statutory landscape:
- *“to conserve protect and enhance the natural beauty of the coasts, including their terrestrial, littoral and marine flora and fauna, and their heritage features of architectural, historical and archaeological interest;*
  - *to facilitate and enhance their enjoyment, understanding and appreciation by the public by improving and extending opportunities for recreational, educational, sporting and tourist activities that draw on, and are consistent with the conservation of their natural beauty and the protection of their heritage features;*

- *to maintain, and improve where necessary, the environmental health of inshore waters affecting Heritage Coasts and their beaches through appropriate works and management measures; and*
- *to take account of the needs of agriculture, forestry and fishing, and of the economic and social needs of the small communities on these coasts, through promoting sustainable forms of social and economic development, which in themselves conserve and enhance natural beauty and heritage features.”*  
(<http://www.norfolkcoastaonb.org.uk/management-plan/mp11.php#objective>  
[accessed 6 November 2020])

227. As shown on the ZTV studies (**Figures 27.9** and **27.10**), SEP and DEP could theoretically be visible from the NNHC. Fieldwork has confirmed that whilst visibility on-the-ground would be less than theoretically indicated by the ZTVs, views of SEP or DEP would be possible from the NNHC mainly within the extent of the ZVI.

#### 27.5.8.3 Local Landscape Value

228. Within the study areas of SEP and DEP there are a number of designations, features and other factors that contribute to the value of the local landscape, such as the Norfolk Coast AONB, the PRow network, long distance walking routes, cycle routes, specific viewpoints, accessible and recreational landscapes, and the popularity of the area as a tourist destination.

229. The Broads National Park, Norfolk Coast AONB and North Norfolk Heritage Coast encompass part of the landscape within the study areas of SEP and DEP. These landscapes are nationally designated or defined and afforded legislative protection. They are assessed to be of national value.

230. Outside of these designated landscapes, numerous landscape features are valued by the local community. Where none of these assets are considered to demonstrate that the landscape is more valued beyond the local community the value of the landscape is community value. However, the Norfolk coast is a popular tourist destination, and an attraction for activities such as walking, bird watching and sailing, and outside designated landscapes the landscape is assessed to be of local / district value.

#### 27.5.9 Climate Change and Natural Trends

231. The existing environment of the landscape in the study areas of the wind farm sites is likely to change in the future as a result of the effects of climate change, land use policy, environmental improvements and development pressures, regardless of whether the either the SEP and DEP wind farm sites progresses to construction or not.

232. A range of policies impact on the management of the landscape, ranging from European Directive, national policy and regulation, through to community strategies and development frameworks. Landscape planning policies covering the coastal landscape within the study areas, such as the National Park and AONB, generally seek to conserve and enhance the natural beauty of the area, while recognising the need to adapt to inevitable change over time, particularly in such a dynamic coastal landscape shaped by coastal processes, and the need to respond to development pressures that reflect the changing needs of society.

233. There is overwhelming evidence that global climate change, influenced by the human use of fossil fuels, raw materials and intensive agriculture, is occurring. Any notable change in climate is likely to present potential changes to the coastline of the study areas in a variety of ways.
234. Norfolk County Council has produced ‘Norfolk Climate Change Strategy’ (Norfolk Climate Change Partnership, 2008) which presents a summary of the County’s Climate Change Strategy.
235. The strategy notes the likely changes that will occur on the natural environment should trends climate change continue:
- “...by the 2080s Norfolk is likely to experience:*
- An average temperature rise of 1-5C
  - Hotter, drier summers
  - Wetter winters
  - Sea level rise of up to 0.88m
  - More extreme events heatwaves, gales storms, tidal surges and intense rainfall.
- Over the coming decades, this could result in:*
- Greater flood risk
  - Water scarcity
  - Coastal erosion
  - Change or reduction in biodiversity and rare habitats
236. Potential changes to the landscape and seascape as a result of climate change and natural trends have been considered but would not change the assessment of impacts presented in this chapter.

## 27.6 Potential Impacts

### 27.6.1 Introduction

237. This section sets out the effects that the proposed SEP and / or DEP would have on seascape, landscape and visual receptors during their operational phases.
238. The principal seascape, landscape and visual effects would occur during the 35-year operational lifetimes of the SEP and DEP wind farms and are reversible. At the end of their lifespans, the wind farms can each be decommissioned, and the sites restored to their existing conditions.
239. Those effects identified for the operational phases of SEP and / or DEP would extend beyond the duration ‘long-term’ described in the methodology of this assessment and is defined in the methodology as permanent (**Section 27.4**). However, the wind farm sites would be temporary and would be removed after their proposed operating life of 35 years. Operational effects would thus extend beyond being ‘Long-term’ (defined as up to 25 years) but not be permanent.
240. All operational identified effects included within this chapter are summarised in **Table 27-20** and **Table 27-21** in **Section 27.12**. All construction and decommissioning phase effects are summarised in **Annex 27.5**.

241. With consideration of the potential impact of lighting of the wind farm sites at night, it is anticipated that any additional lighting during operation would not be dissimilar to the nature of lighting currently occurring at the existing wind farm sites and would be seen in the context of this lighting and other lighting which is present out to sea (ships, boats, gas rigs, buoys) and along the coastline. Potential night-time effects have been considered in reaching judgements throughout this assessment.
242. With regard to potential residual effects, no mitigation beyond the embedded mitigation not to include the SEP AfL between the southern edge of the existing Sheringham Shoal wind farm and the Norfolk coast due to the proximity of sensitive land-based receptors has been proposed. Further mitigation will be considered post-PEIR submission and, if appropriate, included in the DCO application. As such, the residual effects will be the same as those described for the operational effects of SEP and / or DEP in **Section 27.6.2**, and summarised for the construction and decommissioning effects of SEP and / or DEP in **Annex 27.5**.

## 27.6.2 Potential Impacts during Operation

### 27.6.2.1 Effects on Seascape Character

243. As set out in **Section 27.5**, parts of the SEP and DEP wind farm sites are located within the following SCAs:
- SEP wind farm site
    - East Midlands Coastal Waters (Seascape Character Area 7) (SCA7: EMCW);
    - Norfolk Coastal Waters (Seascape Character Area 9) (SCA9: NCW); and
    - East Midlands Offshore Gas Fields (Seascape Character Area 3) (SCA3: EMOGF).
  - DEP wind farm site
    - Norfolk Coastal Waters (Seascape Character Area 9) (SCA9: NCW); and
    - East Midlands Offshore Gas Fields (Seascape Character Area 3) (SCA3: EMOGF).
244. These SCAs, as set out in the MMO's 'Seascape character area assessment: East Inshore and East Offshore marine plan areas' (MMO SCA) (MMO, 2012) are shown on **Figures 27.3** and **27.4**.
245. The SEP and DEP wind farm sites are located within an area of the North Sea, off the Norfolk coast, which comprises a number of existing wind farms within the study areas of both wind farm sites. Existing wind farms include Sheringham Shoal, Dudgeon, Race Bank, Triton Knoll (under construction) and Lincs / Inner Dowsing / Lynn. The location of the SEP and DEP wind farm sites in relation to these existing wind farm schemes are shown on **Figures 27.11** and **27.12**.
246. Each of these existing wind farms have a localised effect on the existing seascape character, creating broad zones in which 'being at a wind farm' or 'being near a wind farm' are experienced.

247. Large scale effects are typically experienced within the extent of a wind farm or in its immediate context; and would constitute a zone in which the experience of 'being at a wind farm' would be felt. Medium scale effects would extend to a wider zone from a wind farm (i.e. beyond its immediate context) where the feeling of 'being near a wind farm' would be experienced.
248. The relevance of these experiences is as follows.
249. SEP and DEP would be located within parts of the seascape that are already influenced by the existing wind farms present in the North Sea, which is presently perceived as a 'wind farm seascape'.
250. In this instance, SEP and DEP would be located adjacent to the operational wind farms at Sheringham Shoal and Dudgeon. These already influence the seascape character.
251. As such, it is assessed that the current SCAs where SEP and DEP are proposed are already influenced by the adjoining wind farms, and the proposed wind farm sites would be located within zones where the experience is already one of being 'at a wind farm' and / or 'near a wind farm'.
252. In addition, the seascape to the west / north-west of both wind farm sites is already influenced by Race Bank, Triton Knoll and Lincs / Inner Dowsing / Lynn wind farms.
253. Consequently, the scale of effects that would arise from the addition of SEP and / or DEP would be less than if there were no existing wind farms present.
254. It is assessed that there are unlikely to be any large scale effects arising as a result of SEP and / or DEP on the seascape character, as the proposed wind farm sites are located within zones that already have an experience of 'being at a wind farm' or 'near a wind farm'.
255. Effects on seascape character within the wind farm sites and their immediate context, arising from SEP and / or DEP would be at most of a medium scale. Beyond the immediate context of both the wind farm sites, effects on the seascape character would gradually reduce with distance as follows.
256. Within the wider zone of the SEP wind farm site, effects on seascape character would be at most of a small scale as this zone extends towards the coastline in a southwards direction. A similar reduction in effects would be experienced to a comparable extent to the east and west of the SEP wind farm site.
257. Within the wider zone of the DEP wind farm site, effects on seascape character would be at most of a small scale, gradually reducing to a small-negligible scale as this zone extends towards the coastline in a southwards direction. A similar reduction in effects would be experienced to a comparable extent to the north, east and west of the DEP wind farm site.
258. With regard to the seascape located between the SEP and DEP wind farm sites, it is judged that, given their proximity to each other and the prevailing experience of 'being at a wind farm' / 'being near a wind farm' as a result of the existing wind farms within this area of the North Sea, effects arising in this area of the seascape due to either SEP or DEP would up to small-negligible scale.



259. Beyond the approximate areas described above effects on seascape character would rapidly decrease to negligible scale. It is judged that the intrinsic and prevailing characteristics of the SCAs would not be discernibly affected through the proposed SEP or DEP wind farm sites in addition to those that already form part of the baseline seascape character. Whilst the proposed SEP and / or DEP wind farm sites may be visible from locations beyond the approximate area described above, they would be seen at a distance and within a wider context of other wind arrays.
260. Descriptions for each of the assessed seascape character areas are briefly summarised below, along with further observations from onshore site-based fieldwork.
261. With consideration to the various operational scenarios of SEP and / or DEP (set out in [Section 27.3](#)), it has been assessed that the potential effects on seascape character arising from either SEP or DEP would not materially differ from the judgements set out above should the SEP and DEP operate in isolation or together.
262. It should be noted that the MMO's 'Seascape character area assessment: East Inshore and East Offshore marine plan areas' (MMO SCA) (MMO, 2012) was undertaken at a time when fewer offshore wind farms existed than are present today off the north Norfolk coast. Of the existing wind farms within the study areas Lincs, Inner Dowsing and Lynn would have been operational, and Sheringham Shoal could have been under construction. Dudgeon, Race Bank and Triton Knoll did not exist. Seascape character will therefore be more strongly influenced by offshore wind farms today than it was when the seascape character assessment was undertaken.
- 27.6.2.1.1 *East Midlands Coastal Waters (Seascape Character Area 7)*
263. Only the SEP wind farm site lies within SCA7: EMCW.
264. SCA7: EMCW covers a large proportion of the seascape to the south and west of the study areas, as shown on [Figures 27.3](#) and [27.4](#).
265. The key characteristics defined in the MMO SCA (MMO, 2012) are set out below:
- "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 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.
- Extensive areas of salt marsh, and grazing marsh.“

266. Onshore fieldwork has observed that the description of SCA7: EMCW conforms to the key and prevailing characteristics as described in the MMO SCA (MMO, 2012). The existing Sheringham Shoal, Lincs, Inner Dowsing and Lynn offshore wind farms lie within this character area as shown on **Figure 27.3**.

267. The MMO SCA (MMO, 2012) does not provide any specific assessment criteria for sensitivity of SCA7:EMCW to offshore wind farm development.

268. An assessment of the susceptibility of the SCAs to the proposed wind farm sites has been undertaken in accordance with the criteria set in ‘An approach to seascape sensitivity assessment (MMO1204)’ (MMO, 2019A Annex C). This assessment is set out in detail in **Annex 27.3** and summarised below.

269. The SCA plays an important role in views from and the setting of the north Norfolk coast, the Norfolk AONB and the North Norfolk Heritage Coast, and the coast is a popular destination for visitors who appreciate these views. It is also an area used for recreational sailing. It is a large-scale open coast and seascape. However, existing offshore wind farms are characteristic of these views and the setting of the north Norfolk coast, the AONB and the Heritage Coast. The SCA also contains European protected sites (ecological designations). It is assessed that SCA7: EMCW is of medium sensitivity to the proposed developments.

#### 27.6.2.1.1.1 SEP in isolation

270. Whilst the SEP wind farm site would introduce new turbines to the edge of the SCA, these would occupy a comparatively small proportion of the entire SCA and within an area already influenced by existing wind farms and offshore commercial activities.



271. Medium scale effects would occur within the SEP wind farm site and its immediate context at the edge of the SCA, reducing to small scale beyond the immediate context of the wind farm site, and then negligible scale with increasing distance. Effects to the west would lessen rapidly with increasing distance from the wind farm site due to the influence of existing wind farms at Sheringham Shoal, Race Bank, Lincs, Inner Dowsing and Lynn on the prevailing character. These effects on SCA7: EMCW would occur to a localised extent of the overall SCA. Combining scale, duration and extent, effects due to SEP would be of medium-low magnitude and **moderate-slight significance**. Effects would be adverse.

27.6.2.1.1.2 DEP in isolation

272. Effects on SCA7: EMCW as a result of the DEP wind farm site would be no greater than negligible scale and magnitude, **minimal significance** and neutral. Given the proximity of the existing wind farms at Sheringham Shoal and Dudgeon the experience of 'being at a wind farm' / 'being near a wind farm' already exists within this part of the seascape and the DEP wind farm site would be characteristic of the existing environment.

27.6.2.1.1.3 SEP and DEP together

273. The effects of SEP and DEP together would be the same as SEP on its own; medium-low magnitude, **moderate-slight significance** and adverse.

27.6.2.1.2 Norfolk Coastal Waters (Seascape Character Area 9)

274. Parts of both the SEP and DEP wind farm sites lie within the edge of SCA9: NCW.

275. SCA9: NCW covers a proportion of the seascape to the south-east the study areas, as shown on **Figures 27.3** and **27.4**.

276. The key characteristics defined in the MMO SCA (MMO, 2012) are set out below:

- "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.
- Important area for marine mammals.”

277. Onshore fieldwork has observed that the description of SCA9: NCW conforms to the key and prevailing characteristics as described in the MMO SCA (MMO, 2012). The existing Scroby Sands offshore wind farm lies within this character area, beyond the study areas to the south-east, and the existing Sheringham Shoal and Dudgeon offshore wind farms lie just outside the SCA.
278. The MMO SCA (MMO, 2012) does not provide any specific assessment criteria for sensitivity for SCA9: NCW to offshore wind farm development.
279. An assessment of the susceptibility of the SCAs to the proposed wind farm sites has been undertaken in accordance with the criteria set in ‘An approach to seascape sensitivity assessment (MMO1204)’ (MMO, 2019A Annex C). This assessment is set out in detail in **Annex 27.3** and summarised below.
280. As can be seen on **Figure 27.3**, SCA9: NCW already contains one offshore wind farm at Scroby Sands, and there is a degree of influence exerted by the nearby existing wind farms at Sheringham Shoal and Dudgeon, such that the fringes of SCA9: NCW (where the proposed SEP and DEP wind farms would be located) would be within a zone that would experience the sense of ‘being near a wind farm’. The SCA plays an important role in views from and the setting of the north Norfolk coast and the Norfolk AONB, and the coast is a popular destination for visitors who appreciate these views. However, existing offshore wind farms are characteristic of these views and the setting of the north Norfolk coast and the AONB. It is a large-scale open coast and seascape. The SCA also contains European protected sites (ecological designations). It is assessed that SCA9: NCW is of medium sensitivity to the proposed developments.

#### 27.6.2.1.2.1 All operational scenarios

281. Whilst the SEP and / or DEP wind farm sites would introduce new turbines to the edge of the SCA, these would occupy a comparatively small proportion of the entire SCA and within an area already influenced by existing wind farm sites and other commercial activities.
282. Medium scale effects would occur within the SEP and / or DEP wind farm sites and their immediate contexts, reducing to small scale beyond the immediate context of the wind farm sites, and then negligible scale with increasing distance from them. These effects on SCA9: NCW would occur to a localised extent of the overall SCA, due to either project on its own or both projects together. Combining scale, duration and extent, effects would be of medium-low magnitude and **moderate-slight significance** due to either project on its own, or both projects together. Effects would be adverse.

### 27.6.2.1.3 *East Midlands Offshore Gas Fields (Seascape Character Area 3)*

283. A small part of the SEP wind farm site and the majority of the DEP wind farm site lies within SCA3: EMOGF.
284. SCA3: EMOGF covers a large proportion of the seascape to the north, north-east and east of the study areas, as shown on **Figures 27.3** and **27.4**.
285. The key characteristics defined in the MMO SCA (MMO, 2012) are set out below:
- “Concentrations of offshore gas extraction and aggregate extraction activities.
  - Extensive shallow offshore waters generally below 30 metres.
  - Represents some of the UK’s most extensive stores of shallow subtidal sediments.
  - Series of submerged long straight sand banks and tidal sand ridges which pose navigational difficulties.
  - Widespread sand bank habitats that support large fish spawning and fish nursery grounds.
  - Commercial offshore activities such as fishing, dredging and dumping have a localised influence on benthic and pelagic environments.
  - Significant fisheries areas.
  - Important archaeological features present.”
286. There were no offshore wind farms within this SCA when the MMO SCA was published in 2012. Race Bank and Dudgeon offshore wind farms have subsequently been constructed within this SCA, and Triton Knoll offshore wind farm is currently under construction (see **Figures 27.3** and **27.4**). Offshore wind farms are now a key characteristic of SCA3: EMOGF. Fieldwork has observed that the description of SCA3: EMOGF conforms to the key characteristics as described in the MMO SCA (MMO, 2012), with the addition of offshore wind farms as a new key characteristic.
287. The MMO SCA (MMO, 2012) does not provide any specific assessment criteria for sensitivity for SCA3: EMOGF to offshore wind farm development.
288. An assessment of the susceptibility of the SCAs to the proposed wind farm sites has been undertaken in accordance with the criteria set in ‘An approach to seascape sensitivity assessment (MMO1204)’ (MMO, 2019A Annex C). This assessment is set out in detail in **Annex 27.3** and summarised below.

289. This SCA already contains three offshore wind farms within the study area, and there is a degree of influence exerted by other existing offshore wind farms outside the SCA. The areas of SCA3: EMOGF where the proposed SEP and DEP wind farms would be located would be within a zone that would experience the sense of 'being at a wind farm' or 'being near a wind farm'. The SCA plays a role in distant views from and the setting of the north Norfolk coast, the Norfolk AONB and the North Norfolk Heritage Coast, and the coast is a popular destination for visitors who appreciate these views. The area is used for recreational sailing. However, existing offshore wind farms are characteristic of views and the setting of the north Norfolk coast, the AONB and the Heritage Coast, and the SCA is located approximately 20km+ from these lessening its influence on them compared to SCA7: EMCW and SCA9: NCW which adjoin the coast to the south. The SCA also contains European protected sites (ecological designations). It is assessed that SCA3: EMOGF is of a medium-low sensitivity to the proposed developments.

#### 27.6.2.1.3.1 SEP in isolation

290. Medium scale effects would occur within the SEP wind farm site and its immediate context, reducing to small scale beyond the immediate context of the wind farm site, and then negligible scale with increasing distance from it. These effects would occur to a limited extent of the SCA, due to only a small part of the SEP site being within the edge of the SCA, and the influence of existing wind farms on the area that would be affected by SEP (see **Figure 27.3**). Combining scale, duration and extent, effects would be of a low magnitude and **slight significance**. Effects would be adverse.

#### 27.6.2.1.3.2 DEP in isolation

291. Medium scale effects would occur within the DEP wind farm site and its immediate context, reducing to small scale beyond the immediate context of the wind farm site, and then negligible scale with increasing distance from it. Medium and small scale effects would extend for a greater distance to the north and east of DEP within the SCA than would occur due to SEP, due to the absence of existing wind farms in these directions (see **Figure 27.4**). These effects would occur to a localised extent of the SCA. Combining scale, duration and extent, effects would at most be of a medium-low magnitude and **moderate-slight significance**. Effects would be adverse.

#### 27.6.2.1.3.3 SEP and DEP together

292. The effects of SEP and DEP together would be the same as DEP on its own; medium-low magnitude, **moderate-slight significance** and adverse.

### 27.6.2.2 Effects on Landscape Character

293. **Section 27.5** has identified those LCAs which are assessed in detail in this section. The principal effects would occur indirectly and relate to views from the landscape character and contained to LCAs located along Norfolk coastline between Old Hunstanton and Mundesley.

294. It has been assessed that at most, small scale effects on landscape character would occur from locations along the Norfolk coastline between Old Hunstanton and Mundesley where views to the proposed developments are possible.

295. Further inland, effects would reduce with distance from each of the wind farm sites, to negligible scale or no effects. Whilst visibility to both SEP and DEP wind farm sites might be possible from parts of the inland LCAs or LCAs further along the coastline, seaward views only form one element of the prevailing landscape characteristics. In combination with generally limited views towards the wind farm sites, as a consequence of intervening landform and / or landscape elements such as vegetation and development, it is judged that the intrinsic and prevailing characteristics of the inland LCAs or LCAs further along the coastline would not be discernibly affected through the introduction of the SEP and / or DEP wind farm sites in addition to the existing wind farms visible off the Norfolk coast.
296. Local landscape character areas, as described in the landscape character assessments – the North Norfolk Landscape Character Assessment (Land Use Consultants, 2018) (all LCAs shown) and King’s Lynn’s & West Norfolk Borough Landscape Character Assessment (Chris Blandford Associates, 2007) (only the northern LCAs shown) – are shown on **Figures 27.3** and **27.4**. Descriptions for each of the assessed landscape character areas that are relevant to this SVIA are summarised below, along with further observations fieldwork.
- 27.6.2.2.1 *North Norfolk Landscape Character Assessment (Land Use Consultants, 2018)*
- 27.6.2.2.1.1 *OCM1. Open Coastal Marshes (19km south west from SEP, 35 km south west from DEP)*
297. **Figures 27.3** and **27.4** show the location of OCM1 in relation to the SEP and DEP wind farm sites.
298. A descriptive summary of the overarching landscape character type (LCT) is set out below; alongside a list of relevant key characteristics of landscape character area (LCA) OCM1. Quotations are from the>NNLCA (Land Use Consultants, 2018).
299. Summary of overarching LCT:
300. *“The Open Coastal Marshes Type is characterised by an open, low-lying and naturally dynamic coastal barrier beach system with one of the largest single areas of undrained saltmarsh in Europe. Extensive areas of saltmarsh, with characteristic creek patterns, have formed behind a protective barrier of sand and shingle bars, which in some areas have led to the formation of significant areas of dune habitat... There is one area of Open Coastal Marsh in North Norfolk, in the north-west of the District: OCM1 – North Norfolk Open Coastal Marshes”*
301. Summary of relevant key characteristics of the LCT:
- “Flat, open landscape of saltmarshes, creeks, sand bars and mudflats ...
  - A constantly changing natural landscape.
    - *The whole dynamic of the marsh, creeks and dunes is constantly changing, both with the tides and through growth / shrinkage over longer timescales.*
    - ...
  - Little human interference and absence of settlement



- ... *At Wells, an outer harbour has been developed that now hosts maintenance vessels that service the offshore wind farms. The maintenance boats and dredging vessel is now a prominent detracting feature.*
- Boats are a feature, their masts prominent in the flat landscape ...
- Absence of roads but many footpaths and trackways ...
- Long, uninterrupted views.
  - *Long views across the open marshes to rising dune lands on the seaward side of the Type and to rising land in inland areas to the south. There is an open and expansive skyline in which boat masts are a characteristic feature.*

302. Valued Features and Qualities relevant to this assessment are:

- “Natural character and nature conservation value
  - *Extensive natural and semi-natural habitats including coastal saltmarsh, coastal sand dunes and mud flats are relatively rare and provide internationally important biodiversity and geodiversity, reflected in the high number of statutory designations. The natural character provides a contrast to the intensely managed farmland which occupies the inland areas.*
- Relative absence of human settlement and intervention
  - *The general absence of settlement and human intervention provides a strong sense of remoteness, tranquillity and wildness (and dark skies at night).*
- The sense of openness, large skies, and quality of coastal light
  - *These characteristics provide a sense of space and long views.*
- Recreational value
  - *The beaches, footpaths, bird hides and boat moorings provide significant recreational value and enable managed enjoyment of the landscape by visitors.*

303. The>NNLCA (Land Use Consultants, 2018) states:

- “Many of the Valued Features and Qualities of the Open Coastal Marshes are considered to contribute positively to Key Qualities of Natural Beauty of the Norfolk Coast AONB, as set out within the current AONB Management Plan. These Key Qualities include:
  - *Dynamic character and geomorphology of the coast*
  - *Strong and distinctive links between land and sea*
  - *Exceptionally important, varied and distinctive biodiversity, based on locally distinctive habitats*
  - *Sense of remoteness, tranquillity and wildness.*”

304. Forces for Change / Detractors include recreational pressure, development inland, climate change and coastal change. Renewable energy development is also noted as follows:
- “Sheringham Shoal wind farm and other new off shore wind farms (e.g. Dudgeon) are visible from this remote landscape and have the potential to affect its perception of remoteness and/or create a ‘limit’ to the skyline and horizon.”
305. Whilst there would be no potential for direct or permanent change to the existing landscape character, the susceptibility of OCM1 to the wind farm sites is medium due to the potential consequences that may arise and affect the “*sense of remoteness, tranquillity and wildness (and dark skies at night)*” and the “*long, uninterrupted views*” and “*open and expansive skyline*”. OCM1 is of national value, given its location within the Norfolk Coast AONB and North Norfolk Heritage Coast, and the other valued features and qualities described in the NNLCA (Land Use Consultants, 2018). Taking both susceptibility and value into account, it is assessed that OCM1 would be of a high – medium sensitivity to the proposed developments.
306. The wind farm sites would only affect the landscape character in relation to changes to views offshore, leading to indirect effects. These changes would occur where offshore wind farms are already typical of the prevailing character.
307. The greatest effects on OCM1 would arise on the shoreline and other locations where seaward views are more readily available. Further inland, fieldwork has shown that effects would reduce from many areas as a result of intervening vegetation and low-level landform that screen or filter seaward views, although the wind farm sites would be visible from some inland locations, often of the upper parts of the turbines only.
308. From the shoreline and some areas inland, views of SEP and / or DEP would be possible, albeit seen alongside the existing wind farms at Sheringham Shoal and Dudgeon and other existing wind farms in the North Sea. Viewpoints 1, 2, 14 and 15 (**Figures 27.21, 27.22, 27.34, and 27.35**) represent such available views from within this LCA, where the scale of effects on views from these locations are assessed as follows **Table 27-14**:

Table 27-14: Summary of Effects on Viewpoints for OCM1

Viewpoint Reference	Distance & Direction	Scale of Effect		
		SEP In isolation	DEP In isolation	SEP + DEP Together
Viewpoint 1 Wells-next-the-Sea	SEP: SW, 26.7km DEP: SW, 44.7km	Small	Negligible	Small
Viewpoint 2 Morston Quay	SEP: SW, 22.9km DEP: SW, 37.9km	Medium – Small	Negligible	Medium – Small
Viewpoint 14 Blakeney Car Park	SEP: SW, 21.6km DEP: SW, 36.3km	Medium – Small	Negligible	Medium – Small
Viewpoint 15 Peddars Way, Norfolk Coast	SEP: SW, 20.1km DEP: SW, 34.9km	Medium	Small – Negligible	Medium



Viewpoint Reference	Distance & Direction	Scale of Effect		
		SEP In isolation	DEP In isolation	SEP + DEP Together
Path and England Coast Path, Blakeney				

309. The character of the land within the LCA would be unaltered. The only effects would be to views offshore, of the expansive seascape and skyline.

27.6.2.2.1.1.1 SEP in isolation

310. Effects on landscape character arising from SEP (in isolation) on areas where there are expansive views out to sea would be at most small scale, given the proximity of the SEP to the existing Sheringham Shoal wind farm and other wind farms visible offshore. This would affect a localised extent of the overall LCA and be of low magnitude and **slight significance**. It is judged effects would be, on balance, adverse, as whilst there is visible presence of other offshore wind farms, there would a discernible difference in turbine size and density (spacing) between the existing and new turbines, as can be seen at Viewpoint 2 (**Figure 27.22**), for example.

27.6.2.2.1.1.2 DEP in isolation

311. Effects on landscape character arising from DEP (in isolation) are judged to be at most negligible scale, given its greater distance offshore, the more limited visibility of the turbines as a consequence of the earth’s curvature, the presence of Sheringham Shoal wind farm in the foreground, and the fact that due to distance the larger-sized proposed turbines would not appear out of scale with the smaller Sheringham Shoal turbines in these views, as can be seen at Viewpoints 1 and 2 (**Figures 27.21 and 27.22**). Effects would be of negligible magnitude, **minimal significance** and neutral.

27.6.2.2.1.1.3 SEP and DEP together

312. The effects on landscape character of SEP and DEP together would be the same as SEP on its own; low magnitude, **slight significance** and adverse.

27.6.2.2.1.2 DCM2. Drained Coastal Marshes (18km south from SEP, 32 km south west from DEP)

313. **Figures 27.3 and 27.4** show the location of DCM2 in relation to both the SEP and DEP wind farm sites.

314. A descriptive summary of the overarching landscape character type (LCT) is set out below; alongside a list of relevant key characteristics of LCA DCM2. Quotations are from the>NNLCA (Land Use Consultants, 2018).

315. Summary of overarching LCT:

*“The Drained Coastal Marshes Type are areas of former Open Coastal Marsh (intertidal marsh) that have been drained and enclosed, forming a flat open landscape comprising some important grazing marsh habitat as well as sand dunes, pine woodland and arable farmland. All parts of the Type fall within the Norfolk Coast AONB. The Drained Coastal Marshes are protected from the sea by a shingle bank (at Cley), clay banks and a 16m high extensive dune system at Holkham - the ‘Holkham Meals’. Beyond these natural and man-made defences, lie the undrained Open Coastal Marshes. ... There are two geographically distinct areas of Drained Coastal Marsh in North Norfolk: DCM1 - Holkham Drained Marshes and DCM2 - Blakeney, Wiveton, Cley and Salthouse Drained Marshes”.*

316. Summary of relevant key characteristics of the LCT:

- “A flat, open low lying landscape dominated by grazing marsh and drained farmland ...
- Enclosed by natural (sand dunes, shingle banks) or man-made (clay) banks which keep the sea out ...
- dynamic and changing landscape ...
- A remote, peaceful landscape, but with some ‘honeypots’ of activity and built development ...
- Nature conservation interest, notably the freshwater marsh which is a haven for breeding birds ...
- Evidence of past land use including historic farmsteads and field patterns, salt pans, medieval fisheries and water mills ...
- Access provided by tracks and footpaths, and occasional roads
  - *The Peddars Way long distance path and Norfolk Coast National Trail provide access along the seaward edge of the drained marshes. Lady Ann’s Drive provides access to a car park and Orientation Centre at Holkham Gap, while Beach Road in Wells provides public access to the beach and Pinewoods Caravan Park. There are public footpaths across the marsh to the coast in the Cley/ Salthouse area.*
- Large skies and long views
  - *The open and expansive sky is significant wherever one is within this landscape type, accentuated by the colour and reflection from the sea. The proximity to the sea, and sea view opportunities are a feature of this Type, especially from the top of the banks that enclose the area.”*

317. NNLCA (Land Use Consultants, 2018) identifies some additional characteristics unique to LCA DCM2. Those of relevance to this assessment are:

- “The drained coastal marshes at Cley and Salthouse have been claimed from saltmarshes behind a shingle ridge
  - *The shingle ridge extends from Blakeney Point to Kelling Hard and has a steeply sloping, constantly eroding beach on the other side.*
- Relatively little access and settlement compared to DCM1”

318. Site assessment has confirmed that the description of the>NNLCA (Land Use Consultants, 2018) conforms to the key characteristics of DCM2.
319. Valued Features and Qualities relevant this assessment are:
- “Areas of coastal grazing marsh, reedbeds, rush pastures, saline lagoons and shingle banks
    - *The remaining natural and semi-natural habitats including coastal grazing marsh, reedbeds, rush pastures, saline lagoons and shingle banks are relatively rare and are unique identifying features of this Type as well as being internationally important biodiversity, reflected in the high number of statutory designations. Grazing marsh is of great ecological importance due to its salinity gradient created by saline seepage and freshwater springs, but it is also among the most fragile habitats of the north Norfolk coastline. The naturalistic character provides a contrast to the intensely managed farmland which occupies the inland areas.*
  - The sense of openness, large skies, and quality of coastal light
    - *These characteristics provide a sense of space and long views. Expansive views from the sea walls are also valued.*
  - Relative absence of human settlement and remote, peaceful nature
    - *The relative absence of settlement (except in focussed ‘honeypots’) provides a strong sense of remoteness and tranquillity (especially the dark night skies) which provide a contrast to the more developed parts of the coast.*
  - Historic features including remnant historic buildings, historic field patterns, salt pans, medieval fisheries and water mills ...
  - Recreational value
    - *The long-distance Peddars Way and Norfolk Coast Path National Trail provide continuous access along the seaward edge. Occasional access via road and track also enables enjoyment of the landscape by visitors.”*
320. The assessment states:
- “Many of the Valued Features and Qualities of the Drained Coastal Marshes are considered to contribute positively to Key Qualities of Natural Beauty of the Norfolk Coast AONB, as set out within the current AONB Management Plan. These Key Qualities include:
    - *Dynamic character and geomorphology of the coast*
    - *Strong and distinctive links between land and sea*
    - *Exceptionally important, varied and distinctive biodiversity, based on locally distinctive habitats*
    - *Sense of remoteness, tranquillity and wildness*
    - *Richness of archaeological heritage and historic environment, particularly that relating to the coast and its character.”*

321. Forces for Change / Detractors include recreation-related development and visitor pressures, changes in neighbouring areas inland affecting views and climate change. Renewable energy development is also noted as follows:
- “ Renewable energy development
    - *The growth in renewable energy has resulted in continued pressure for offshore wind turbines, that could be visible from this remote landscape, affecting its perception of remoteness and or create a ‘limit’ to the skyline and horizon.”*
322. Whilst there would be no potential for direct or permanent change to the existing landscape character, the susceptibility of DCM2 to the wind farm sites is medium due to the potential consequences that may arise and affect the LCA’s “large skies and long views” and “perception of remoteness and or create a ‘limit’ to the skyline and horizon”. DCM2 is of national value, given its location within the extents of the Norfolk Coast AONB and North Norfolk Heritage Coast, and the other valued features and qualities described in the NNLCA (Land Use Consultants, 2018). Taking both susceptibility and value into account, it is assessed that DCM2 would be of a high – medium sensitivity to the proposed developments.
323. The wind farm sites would only affect the landscape character in relation to changes to views offshore, leading to indirect effects. These changes would occur where offshore wind farms are already typical of the prevailing character.
324. The greatest effects on DCM2 would arise on the shoreline and other locations where seaward views are more readily available. Further inland, fieldwork has shown that effects would reduce from many areas as a result of intervening vegetation and landform that screen or filter seaward views, although views of the wind farm sites would remain possible from some inland locations.
325. From the shoreline and some area inland from the shore, views of one or both the SEP and DEP would be possible, albeit seen alongside the existing wind farms at Sheringham Shoal and Dudgeon and other existing wind farms in the North Sea. Viewpoints 10 and 15 (Figures 27.30 and 27.35) lie on elevated land within this LCA, and Viewpoint 14 (Figure 27.34) lies on elevated land adjacent to the south-west corner of the LCA, where the scale of effects on views from these locations are assessed as follows in Table 27-15:

Table 27-15: Summary of Effects on Viewpoints for DCM2

Viewpoint Reference	Distance & Direction	Scale of Effect		
		SEP In isolation	DEP In isolation	SEP+DEP Together
Viewpoint 10 Gramborough Hill	SEP: SW, 18.1km DEP: SW, 32.4km	Medium	Small	Medium
Viewpoint 14 Blakeney Car Park	SEP: SW, 21.6km DEP: SW, 36.3km	Medium – Small	Negligible	Medium – Small
Viewpoint 15 Peddars Way, Norfolk Coast	SEP: SW, 20.1km DEP: SW, 34.9km	Medium	Small – Negligible	Medium

Viewpoint Reference	Distance & Direction	Scale of Effect		
		SEP In isolation	DEP In isolation	SEP+DEP Together
Path and England Coast Path, Blakeney				

326. Viewpoint 15 is on a raised flood / coastal defence features protecting the lower-lying marsh areas inland from where views out to sea are obscured by the raised features. Expansive views offshore are available from the beach on the seaward side of these raised features (e.g. Viewpoint 14).

327. The character of the land within the LCA would be unaltered. The only effects would be to views offshore, of the expansive seascape and skyline.

27.6.2.2.1.2.1 SEP in isolation

328. Effects on landscape character arising from SEP (in isolation) on areas where there are expansive views out to sea are judged to be at most of a small scale, being that views would be altered to a degree, but remain largely unchanged given the proximity of the SEP to the existing Sheringham Shoal wind farm and other wind farms visible offshore. This would affect a localised extent of overall LCA and be of low magnitude and **slight significance**. It is judged effects would be, on balance, adverse, as whilst there is visible presence of other offshore wind farms, there would a discernible difference in scale between the existing and new turbines, as can be seen on Viewpoint 10 (**Figure 27.30**) for example.

27.6.2.2.1.2.2 DEP in isolation

329. Effects on landscape character arising from DEP (in isolation) are judged to be at most of a negligible scale, given its greater distance offshore and the more limited visibility of the turbines as a consequence of the earth’s curvature, the presence of Sheringham Shoal wind farm in the foreground, and the fact that due to distance the larger-sized proposed turbines would not appear out of scale with the smaller Sheringham Shoal turbines in these views as can be seen at Viewpoints 10 and 15 (**Figures 27.30** and **27.35**). Effects would be of a negligible magnitude, **minimal significance** and neutral.

27.6.2.2.1.2.3 SEP and DEP together

330. The effects on landscape character of SEP and DEP together would be the same as SEP on its own; low magnitude, **slight significance** and adverse.

27.6.2.2.1.3 CS1. Coastal Shelf (15km south from SEP, 27 km south from DEP)

331. **Figures 27.3** and **27.4** show the location of CS1 in relation to both the SEP and DEP wind farm sites.

332. A descriptive summary of the overarching landscape character type (LCT) is set out below; alongside a list of relevant key characteristics of LCA CS1. Quotations are from the NNLCA (Land Use Consultants, 2018).

333. Summary of overarching LCT:



*“The Coastal Shelf type is characterised by a coastal strip of land, around 12 miles in length yet only 1 mile deep, which incorporates some of the District’s principal settlements, sandwiched between the Cromer Ridge and the sea. Settlement is nestled within pockets of arable farmland and woodland, some of which are markedly rural and unspoilt. The presence of the historic holiday towns of Sheringham and Cromer, combined with the sandy beaches and frequent cliffs along the coast, creates a strong focus for tourism.*

*The more undeveloped parts of the Coastal Shelf type lie within the Norfolk Coast AONB, whilst the main settlements (Sheringham, Cromer, Overstrand and Mundesley) and their immediate surroundings are excluded from this designation. .... The western edge of the type is adjacent to, but outside, the North Norfolk Heritage Coast... There is a single continuous area of Coastal Shelf in North Norfolk: CS1 – Weybourne to Mundesley Coastal Shelf”*

334. Summary of relevant key characteristics of the LCT:

- “Dramatic and distinctive topography
  - *The Coastal Shelf occupies a ledge of elevated, undulating land which meets the sea in a series of dramatic cliffs between Weybourne and Mundesley, and is enclosed on the inland side by the generally steep scarp slope of the Wooded Ridge type, which rises to 103m AOD at Roman Camp. The topography is highly irregular and undulating, resulting in intimate areas often screened from one another by fingers of higher land, formed of superficial glacial deposits, reaching towards the coast. The sense of enclosure created by the landform emphasises views seawards.*
  - ...
- Tourism and leisure-related settlement and land use along the coast
  - *Tourism has had a significant impact on this coastal area over a long period of time. Settlements which developed with nucleated cores (usually associated with the fishing industry) have subsequently expanded so that distances between them are small – i.e. the Sheringham – Beeston Regis – West Runton – East Runton – Cromer stretch.*
  - *Large areas of caravan parks dominate many cliff top sites between and adjoining settlements, and there are a number of golf courses and fields used for camping. There is a fairly extensive network of public rights of way, with the Norfolk Coast Path National Trail and a number of other footpaths linking the coast with the Wooded Ridge and further inland, together with areas of Open Access Land, e.g. Beeston Regis Common. ...*
- Open farmland and semi-natural habitats provide important biodiversity and visual separation between settlements ...
- More open character at the eastern end of the Coastal Shelf
  - *Development in the vicinity of Mundesley, Trimingham and Sidestrand is less nucleated than is the case further west.*
- Less developed character at the western end of the Coastal Shelf

- ... *At this western end of the Coastal Shelf, large areas of woodland on the rising land of the Cromer Ridge limit views inland and enclose the settlements...*
- Busy road network ...
- Trimingham Radome
  - *The area to the south east of Trimingham has been a site of radar transmitters since WW2 and quite extensive areas of hilltop contain abandoned block houses and high security fencing. The Trimingham Radome is visible for many miles to the south and west.*
- Panoramic views of the coast and Wooded Glacial Ridge
  - *Views within the Type vary significantly, depending on the degree of elevation and enclosure provided by landform and land cover, but there are many locations offering extensive panoramas either out to the sea, along the coastal cliffs or inland to the wooded ridge which provides a green backdrop to the busy coastal strip – e.g. Incleborough Hill between East and West Runton, and Beeston Bump near Sheringham.” (Representative Viewpoint 4 (**Figure 27.24**) is located on Incleborough Hill.)*

335. Valued Features and Qualities relevant to this assessment are:

- “Coastal character
  - *The dynamic and visually striking cliffs stretching along the coastline of the Type, which vary between strongly eroding and non or low eroding, provide a strong sense of place and elevated long views, as well as internationally important biodiversity and geodiversity (a number of geological SSSIs are designated along this coastline). The presence of the sea defines views throughout much of the Type, providing a sense of openness and particular quality of coastal light to contrast with the enclosure provided by the backdrop of the mostly wooded Cromer Ridge. ...*
- Distinctive skyline features
  - *Distinctive skyline features such as the Weybourne windmill, Cromer lighthouse and numerous church towers provide visual landmarks and visual interest.*
- Unspoilt, traditional character between Kelling Heath and Sheringham
  - *The visual interplay between the wooded, undulating hills around Sheringham Park, the attractive village of Weybourne, with its landmark windmill and railway, the undeveloped surrounding countryside and the sea give this area an appealing character.*
- Recreational opportunities



- *The extensive recreational opportunities provided by the network of footpaths, tracks and Open Access Land throughout the Type, including the Norfolk Coast Path National Trail, which provide good access along the coast and inland to the Cromer Ridge. The North Norfolk Railway, which runs from Sheringham to Holt via Weybourne, is a popular attraction.”*

336. The assessment states:

- “Many of the Valued Features and Qualities of the Coastal Shelf are considered to contribute positively to Key Qualities of Natural Beauty of the Norfolk Coast AONB, as set out within the current AONB Management Plan. These Key Qualities include:
  - *Dynamic character and geomorphology of the coast*
  - *Strong and distinctive links between land and sea*
  - *Diversity and integrity of landscape, seascape and settlement character*
  - *Nationally and internationally important geology*
  - *Sense of remoteness, tranquillity and wildness.”*

337. Forces for Change / Detractors include intensive coastal development, continuing coastal erosion, intensification of visitor-related pressure, telecoms masts and wind turbines in prominent elevated locations and climate change. Renewable energy development is also noted as follows:

- “The continuing development of large scale off-shore wind farms has resulted in temporary disturbance caused by trenching for cable routes through this Landscape Type, with links from both the Dudgeon and Sheringham Shoal wind farms coming ashore at Weybourne Hope. The introduction of permanent structures associated with any such future development would potentially have greater impact.”

338. Whilst there would be no potential for direct or permanent change to the existing landscape character, the susceptibility of CS1 to the wind farm sites is medium due to the potential consequences that may arise and affect the *“The sense of enclosure created by the landform emphasise(ing) views seawards”, “extensive panoramas ... out to the sea”, “The presence of the sea define(ing) views throughout much of the Type, providing a sense of openness and particular quality of coastal light to contrast with the enclosure provided by the backdrop of the mostly wooded Cromer Ridge”* and *“Distinctive skyline features such as the Weybourne windmill, Cromer lighthouse and numerous church towers provide visual landmarks and visual interest”*. CS1 is of national value, given that much of it is located within the Norfolk Coast AONB, and the other valued features and qualities described in the NNLCA (Land Use Consultants, 2018). Taking both susceptibility and value into account it is assessed that CS1 would be of a high – medium sensitivity to the proposed developments.

339. The wind farm sites would only affect the landscape character in relation to changes to views offshore, leading to indirect effects. These changes would occur where offshore wind farms are already typical of the prevailing character.

340. The greatest effects on CS1 would arise on the shoreline and cliff tops and locations where seaward views are more readily available. Further inland, fieldwork has shown that effects would reduce from many areas as a result of intervening vegetation, development and landform that screen or filter seaward views, although views of the wind farm sites would remain possible from some inland locations, often of the upper parts of the turbines only.
341. From the shoreline, cliff tops and some other areas inland, views of SEP and / or DEP would be possible, albeit seen alongside the existing Sheringham Shoal and Dudgeon wind farms and other existing wind farms in the North Sea. Representative Viewpoints 3, 4, 5, 6 and 18 (**Figures 27.23, 27.24, 27.25, 27.26** and **27.38**) represent available views from within this LCA, where scale of effects on views from these locations are assessed as in **Table 27-16**:

*Table 27-16: Summary of Effects on Viewpoints for CS1*

Viewpoint Reference	Distance & Direction	Scale of Effect		
		SEP In isolation	DEP In isolation	SEP+DEP Together
Viewpoint 3 Sheringham Promenade	SEP: S, 16.1km DEP: S, 28.6km	Large – Medium	Medium	Large – Medium
Viewpoint 4 Incleborough Hill	SEP: S, 17.1km DEP: S, 28.3km	Large – Medium	Medium	Large – Medium
Viewpoint 5 Cromer Pier	SEP: S, 17.4km DEP: S, 27.1km	Large – Medium	Medium	Large – Medium
Viewpoint 6 Trimingham	SEP: SE, 22.6km DEP: SE, 29.1km	Medium	Medium	Medium
Viewpoint 18 Coast Path (Cromer-Overstead)	SEP: S, 18.8km DEP: S, 27.5km	Large – Medium	Medium	Large – Medium

342. The character of the land within the LCA would be unaltered. The only effects would be to views offshore.

**27.6.2.2.1.3.1 SEP in isolation**

343. Effects on landscape character arising from SEP (in isolation) on areas where there are clear views out to sea would be at most of a small scale. This would affect a localised extent of overall LCA and be of a low magnitude and **slight significance**. It is judged effects would be, on balance, adverse, as whilst there is visible presence of other offshore wind farms, there would a discernible difference in turbine size and density (spacing) between the existing and new turbines, as can be seen at Viewpoint 5 (**Figure 27. 25**), for example.

### 27.6.2.2.1.3.2 DEP in isolation

344. Effects on landscape character arising from DEP (in isolation) are also judged to be at most of a small scale. As can be seen at Viewpoints 3, 4, 5 and 6 (**Figures 27.23, 27.24, 27.25 and 27.26**), the DEP wind farm site would extend the lateral spread of turbines across the horizon and be noticeably different in scale to the existing turbines at Dudgeon offshore wind farm. This would affect a localised extent of the overall LCA and be of a low magnitude and **slight significance**. It is judged that effects would be, on balance, adverse, given the discernible difference in scale between the existing turbines at Dudgeon offshore wind farm and new turbines.

### 27.6.2.2.1.3.3 SEP and DEP together

345. The effects on landscape character of SEP and DEP together would be the same as either project on their own; low magnitude, **slight significance** and adverse.

### 27.6.2.2.2 King's Lynn & West Norfolk Borough Landscape Character Assessment (Chris Blandford Associates, 2007)

#### 27.6.2.2.2.1 Landscape Character Type A – Open Coastal Marshes (29km south west from SEP, 47 km south west from DEP)

346. DEP has been scoped out of detailed assessment as described in **Section 27.5.6.3.2.1**, because over 47km, and in the context of the existing offshore wind farms, there would be no potential for DEP to affect landscape character. Effects due to DEP would be negligible magnitude, **minimal significance** and neutral.

347. Within the extent of the King's Lynn and West Norfolk Borough, the Landscape Character Type A – Coastal Marshes and the following associated LCAs are assessed for SEP.

- A6. Holme next the Sea;
- A7. Thornham and Titchwell;
- A8 Brancaster; and
- A9. Overy Creek.

348. Effects would be similar from each of these coastal LCAs, and as such, as are assessed together as a group. **Figure 27.3** shows the location of the LCAs listed above in relation to the SEP wind farm site.

349. The King's Lynn & West Norfolk Borough Landscape Character Assessment (Chris Blandford Associates, 2007) was undertaken at a time when no offshore wind farms existed off the north Norfolk coast, and no offshore wind farms would have been visible from these LCAs. Lynn, Inner Dowsing, Lincs, Triton Knoll, Race Bank, Dudgeon and Sheringham Shoal offshore wind farms can all now be seen from these LCAs and influence landscape character indirectly.

350. Summary of relevant key characteristics of the LCT:

*“A medium scale landscape defined by extensive areas of salt marsh, shingle banks, sand dunes, brackish lagoons and reed beds marking the transition between land and sea. Although expansive and open, small details such as the winding creeks and small fishing boats reduce the sense of scale overall.*

- Low lying with elevation predominantly ranging between 0 and 5m AOD.

- A flat landform providing distant and open views across the marsh towards both the sea and inland. ...
- The coastal skyline is largely uninterrupted and smooth – giving way to wide open skies. ...
- Visible built structures are limited – only evident at Brancaster Beach where there are a number of public facilities including Brancaster Golf clubhouse and toilets.
- Boat masts and posts carrying overhead wires form the main vertical elements. There are no obvious landmark features or strong points of focus. ...
- These are areas of immense ecological value and scenic beauty – reflected in the landscape (AONB) and biodiversity (SSSI) designations.
- Strong sense of remoteness, tranquillity and wildness – a fluid, dynamic spectacle of sea, saltmarsh, sand and sky.”

351. Certain characteristics have changed since the introduction of offshore wind farms which now extend across the sea horizon. They now add visible built vertical structures and movement across the seascape seen from this LCT.

352. Whilst there would be no potential for direct or permanent change to the existing landscape character, the susceptibility of each of the LCAs to the wind farm sites is medium due to the potential consequences that may arise and affect the “... *distant and open views across the marsh towards ... the sea ...*” and the “*strong sense of remoteness, tranquillity and wildness ...*”. The LCAs are of National value, given their location within the extents of the Norfolk Coast AONB and North Norfolk Heritage Coast. Taking both susceptibility and value into account, it is assessed that LCAs would be of a high – medium sensitivity.

353. The wind farm sites would only affect the landscape character in relation to changes to views offshore, leading to indirect effects. These changes would occur where offshore wind farms are already typical of the prevailing character.

#### 27.6.2.2.2.1.1 *SEP in isolation*

354. The greatest effects on the LCAs would arise on the shoreline and other locations where seaward views are more readily available. Views to SEP would be possible, albeit seen alongside the existing wind farms in the North Sea. Viewpoints 8 and 12 (**Figures 27.28** and **27.32**) represent such available views from within this LCA, where the scale of effects on views from these locations are assessed as negligible for SEP (and also for DEP). Negligible effects on views, and no other effects on landscape character, would lead to effects of negligible magnitude, **minimal significance** and neutral.

#### 27.6.2.2.2.1.2 *SEP and DEP together*

355. The effects of SEP and DEP together would be the same as either project on their own; negligible magnitude, **minimal significance** and neutral.

### 27.6.2.3 Effects on Visual Receptors

#### 27.6.2.3.1 Visual Aids

356. Wireline visualisations have been used to aid the assessment. These were generated from a three-dimensional model of the proposed wind turbines and wind farm sites, using key landmarks and compass bearings to match the modelled views to the photographs.
357. The photographs and wirelines are shown on figures supporting this SVIA (See **Figures 27.21 – 27.38**). A detailed description of the methods by which wirelines and photomontages are prepared is included in **Annex 27.2**.
358. The figures are numbered according to the viewpoint that they show (e.g. **Figure 27.21** for Viewpoint 1), with a suffix indicating the type of visualisation. In this instance, the suffix ‘BP’ has been used, which represents a baseline panorama and wireline (incl. cumulative schemes).
359. Viewpoint descriptions are set out in **Annex 27.4** with the scale of effects summarised below in **Table 27-17: Effects at Representative Viewpoints**. The locations of each viewpoint are shown on **Figure 27.9** and **27.10**.
360. Photomontages of the worst case scenarios for SEP and DEP assessed in this chapter, and of potential alternative schemes for SEP and DEP using a larger number of smaller turbines, are also included in **Annex 27.7**. These illustrate how two alternative illustrative schemes for SEP, and two alternative schemes for DEP, could appear if different sized turbines were used. These have been produced from selected viewpoints (Viewpoints 1, 2, 3, 4, 5, 10, 13, 14 and 18) to inform the consultation exercise at PEIR stage. Only the worst case scenario is assessed in this chapter, as described in **Section 27.3.2**.

#### 27.6.2.3.2 Scale of visual effects at Representative Viewpoints

361. The scale of visual effects at each viewpoint is summarised in **Table 27-17**:

*Table 27-17: Effects at Representative Viewpoints*

Viewpoint Reference	Distance & Direction	Scale of Visual Effect		
		SEP In isolation	DEP In isolation	SEP + DEP Together
Viewpoint 1 Wells-next-the-Sea	SEP: SW, 26.7km DEP: SW, 44.7km	Small	Negligible	Small
Viewpoint 2 Morston Quay	SEP: SW, 22.9km DEP: SW, 37.9km	Medium – Small	Negligible	Medium – Small
Viewpoint 3 Sheringham Promenade	SEP: S, 16.1km DEP: S, 28.6km	Large-Medium	Medium	Large-Medium
Viewpoint 4 Incleborough Hill	SEP: S, 17.1km DEP: S, 28.3km	Large – Medium	Medium	Large – Medium
Viewpoint 5 Cromer Pier	SEP: S, 17.4km DEP: S, 27.1km	Large – Medium	Medium	Large – Medium
Viewpoint 6	SEP: SE, 22.6km	Medium	Medium	Medium

Viewpoint Reference	Distance & Direction	Scale of Visual Effect		
		SEP In isolation	DEP In isolation	SEP + DEP Together
Trimingham	DEP: SE, 29.1km			
Viewpoint 7 Horsey Gap beach	SEP: SE, 45.8km DEP: SE, 46.4km	Small – Negligible	Small – Negligible	Small – Negligible
Viewpoint 8 Brancaster beach	SEP: SW, 35.5km DEP: SW, 54.0km	Small	Negligible	Small
Viewpoint 9 Ingoldmells Point	SEP: W, 45.5km DEP: W, 57.4km	Negligible	Negligible	Negligible
Viewpoint 10 Gramborough Hill	SEP: SW, 18.1km DEP: SW, 32.4km	Medium	Small	Medium
Viewpoint 11 Peddars Way National Trail, Brancaster	SEP: SW, 38.2km DEP: SW, 56.8km	Small – Negligible	Negligible	Small – Negligible
Viewpoint 12 Burnham Harbour (Gun Hill)	SEP: SW, 29.3km DEP: SW, 48.1km	Small	Negligible	Small
Viewpoint 13 Gallow Hill (South of Wells)	SEP: SW, 30.2km DEP: SW, 46.6km	Small	Negligible	Small
Viewpoint 14 Blakeney Car Park	SEP: SW, 21.6km DEP: SW, 36.3km	Medium – Small	Negligible	Medium – Small
Viewpoint 15 Peddars Way, Norfolk Coast Path and England Coast Path, Blakeney	SEP: SW, 20.1km DEP: SW, 34.9km	Medium	Small – Negligible	Medium
Viewpoint 16 Bard Hill (Salt House Heath)	SEP: SW, 19.6km DEP: SW, 33.9km	Medium	Small – Negligible	Medium
Viewpoint 17 Oak Wood, Sheringham Hall	SEP: S, 17.9km DEP: S, 31.1km	Medium	Small	Medium
Viewpoint 18 Coast Path (Cromer-Overstead)	SEP: S, 18.8km DEP: S, 27.5km	Large – Medium	Medium	Large – Medium



362. Each of the viewpoints is a ‘sample’ of the potential effects, representing a wide range of receptors – including not only those actually at the viewpoint, but also those nearby, at a similar distance and / or direction.
363. As set out in **Section 27.5.3**, the anticipated main area of visibility from locations onshore, which has been established through fieldwork observations and desk-based studies of aerial photography, terrain data and the ZTVs (**Figures 27.9** and **27.10**), would be primarily contained within the broad area of landscape that rises inland from sea (circa 1-5km) between Old Hunstanton (to the west) and Cromer (to the east), and a narrower strip along coastline between Cromer and Winterton-on-Sea.
364. Desk-study / fieldwork has shown that the landform gradually rises inland to a height above 40-50m AOD, before levelling out or falling further inland, and as a consequence, visibility of the wind farm sites further south would rapidly diminish. East of Cromer visibility of the wind farm sites would be contained to a narrower strip along the coastline due to factors including landform rising more rapidly closer to the coast (between approximately Cromer and Mundesley) or being flatter and of lower elevation (south-east of Mundesley), and features such as development, woodland or coastal dunes obscuring views from inland.
365. In light of this area of potential visibility, and from the judgements reached on the scale of visual effect from each representative viewpoint, effects would be greatest along the coastline between approximately Sheringham and the cliff tops east of Cromer, with effects gradually reducing with distance from either SEP or DEP.
366. The greatest scale of visual effects would be as follows:
- Due to SEP, visual effects would be of large – medium scale, from locations predominantly south of the wind farm site – along the Norfolk coastline between Sheringham and the cliff-tops east of Cromer; and from elevated locations inland such as Inceborough Hill. These locations are generally the closest viewpoints to the wind farm site.
  - Due to DEP, visual effects would be of medium scale within the same area, but also extending further east from a narrow coastal strip to the vicinity of Trimingham.
367. Visual effects would gradually reduce further with distance from either SEP or DEP, along the coast to the east and west of this area.
368. To the west effects due to SEP would be as follows:
- Medium scale effects would extend along the coastline west of Sheringham to the Peddars Way, Norfolk Coast Path and England Coast path north of Blakeney. From south of Blakeney Point and the Blakeney Channel effects would reduce to medium-small scale. West of Blakeney effects would continue to reduce to small scale at Wells-next-the-Sea and along the coast to Brancaster beach.
369. To the west effects due to DEP would be as follows:



- Effects due to DEP would reduce to small scale west of Sheringham reducing further to small-negligible in the vicinity of the Peddars Way, Norfolk Coast Path and England Coast path north of Blakeney. From south of Blakeney Point and the Blakeney Channel, and at all locations further west effects would be of negligible scale.

370. To the east of the cliff top path east of Cromer:

- Effects due to SEP would reduce to medium scale as assessed at Trimingham (Viewpoint 6), reducing further with distance along the coast becoming small-negligible scale before Horsey Gap (Viewpoint 7).
- As noted above, effects due to DEP would remain at medium magnitude as far as Trimingham. Effects would reduce with distance along the coast becoming small-negligible scale before Horsey Gap.

371. Inland, seaward views of SEP or DEP would be more obscured by vegetation, development and landform than from the coast. From locations where views of SEP or DEP would be possible effects would be of a similar scale to assessed on the nearby coast where views of SEP or DEP are open, but lower where intervening vegetation, development and / or landform partially or completely obscures SEP or DEP.

372. Southward of the broad area of rising landscape between Old Hunstanton and Cromer, and the narrower strip along the coastline between Cromer and Winterton-on-Sea, visual effects would rapidly diminish as a result of the screening effects of intervening vegetation, buildings and landform, and effects would be of a negligible scale for SEP or DEP and not give rise to any significant visual effects.

#### 27.6.2.3.3 *Marine Visual Receptors*

373. The wind farm sites are located within an area of the North Sea, off the Norfolk coast, which includes a number of existing wind farms and a wind farm under construction (all referred to as existing wind farms hereafter) within approximately 30km of both SEP and DEP comprising Sheringham Shoal, Dudgeon, Race Bank and Triton Knoll. The location of SEP and DEP in relation to these existing wind farms, and other wind farms beyond 30km, are shown on **Figures 27.11** and **27.12**.

374. With regard to potential visual effects on marine receptors, which include recreational boaters, workers on fishing vessels and ferry passengers / crew, views are already influenced by the existing wind farms.

375. **Figures 14.1 to 14.19** in **Appendix 15.1 Navigation Risk Assessment** show the pattern of vessel movement within the vicinity of SEP and DEP. It can be seen that by far the greatest movement of vessels within close proximity to the SEP and DEP wind farm sites are undertaking work including cargo vessels, tankers, oil and gas activity, wind farm activity, marine aggregate activity and fishing activity (**Figures 14.1 to 14.15**). Recreational vessel activity is far less frequent as shown on **Figure 14.16**, with the greatest concentration close to the coast and not close to the SEP or DEP wind farm sites. **Figure 14.18** shows the Royal Yacht Association boating area lies immediately offshore from the North Norfolk Coast and does not extend close to the SEP or DEP sites.

376. Where marine visual receptors are within the proposed wind farm sites or in close proximity to them, views already include the operational wind farms at Sheringham Shoal and Dudgeon close to the receptor, and visual effects would generally be of up to large-medium scale, where the foreground of open sea would be occupied by proposed wind turbines.
377. Beyond the immediate context of both the wind farm sites, visual effects would gradually reduce with distance as described below.
378. To the east and south-east of both SEP and DEP wind farm sites and to the north-east of DEP, where the proposed developments would lie closer to receptors than the existing Sheringham Shoal and Dudgeon wind farms, and where the other existing wind farms are also more distant than the proposed wind farm sites, visual effects would remain large-medium scale up to approximately 20km, where they would reduce to medium scale and then gradually reduce further with increasing distance.
379. To the west of both SEP and DEP wind farm sites effects would reduce more rapidly due to the presence of the existing wind farms at Race Bank and Triton Knoll. To the south-west of SEP and DEP effects would reduce more rapidly due to the existing Sheringham Shoal and Dudgeon wind farms.
380. Workers at existing wind farm sites and gas rigs would not experience significant effects because they are at locations where views are already strongly influenced by the developments where they work, and they would expect to see such developments in views and these effects not assessed further.
381. Recreational boaters are assessed to be of high-medium sensitivity (local / district value and high susceptibility). Appreciation of views are an important part of their experience. Workers on boats working outdoors (including commercial fishermen) and people on ferries are assessed to be of medium-low sensitivity (limited value and medium susceptibility).
382. Effects on some receptors would be transient as vessels pass through the area. Effects on others (e.g. recreational sailors launching from harbours, marinas and quays along the Norfolk coast and sailing onto the open North Sea) would be more continuous.

#### 27.6.2.3.3.1 SEP or DEP in isolation

383. Effects on recreational boaters due to SEP or DEP in isolation would be up to medium magnitude and **moderate significance**. Effects would be, on balance, adverse, as whilst existing wind farms would be visible, there would a discernible difference in scale and spacing compared to the existing turbines.
384. Effects on workers on boats/ships working outdoors and passengers on ferries due to SEP or DEP in isolation would be up to medium magnitude and **moderate-slight significance**. Effects would be, on balance, adverse, as whilst existing wind farms would be visible, there would a discernible difference in scale between the existing and new turbines.

#### 27.6.2.3.3.2 SEP and DEP together

385. Should both SEP and DEP be in operation together, effects on visual amenity would not give rise to impacts greater than those set out above for either SEP or DEP in isolation.

#### 27.6.2.3.4 *Settlements*

386. This assessment focuses primarily on effects on the settlement as a whole, on the visual amenity of public spaces, though views from groups of dwellings will also be noted in the descriptions. Effects on private residential amenity are a separate matter, and only require assessment when a development is likely to be ‘overwhelming’ or ‘overbearing’, which is not the case in respect of this development.
387. Residents and visitors within settlements are assessed as high-medium sensitivity.

##### 27.6.2.3.4.1 Cromer

388. The town of Cromer is located on the north Norfolk coast, to the south of the proposed wind farms – circa 17.5km from SEP and 27km from DEP. It forms one of the predominant settlements within the extent of the study area, having developed during the C19<sup>th</sup> as a resort (NNLCA, (Land Use Consultants, 2018)). The sea front, promenade, beach and pier are popular attractions and provide a focus for the settlement, and views of the seascape and along the coast are important to people’s enjoyment of the town.
389. The greatest visual effects from this settlement would occur along its northern extents and adjoining coastline, where visual receptors would experience views (weather / atmospheric condition permitting) of both wind farm sites. These visual receptors are represented by Viewpoint 5 (**Figure 27.25**) at the sea front in Cromer. A short distance inland from the coast views of the sea become obscured by development and the proposed wind farms would not be visible. Therefore, visual effects are generally limited to the northern edge.

##### 27.6.2.3.4.1.1 SEP in isolation

390. Effects arising from SEP (in isolation) from the public coastal areas along the northern extent of Cromer are judged to be at most of a large - medium scale. As shown on Viewpoint 5 (**Figure 27.25**), whilst SEP would be visible within the context of other existing wind farms, the size and spacing of the SEP turbines would be noticeably different in comparison to the existing wind turbines at Sheringham Shoal. They would appear larger and more widely spaced, most noticeably the south-eastern wind turbines. The south-eastern wind turbines could be up to approximately 2km closer to the settlement than the existing wind turbines but appear to be even closer due to their larger size. This would affect a limited extent of the overall settlement (being only along its northern edge) and be of medium magnitude and **major-moderate significance**. Effects would be on balance adverse, as whilst there is visible presence of other wind farm sites, there would be a discernible difference in scale and spacing between the existing and new turbines, and the wind farm site would extend the presence of turbines across the horizon.

#### 27.6.2.3.4.1.2 DEP in isolation

391. Effects arising from DEP (in isolation) from the public coastal areas along the northern extent of Cromer are judged to be at most of a medium scale. As shown on Viewpoint 5 (**Figure 27.25**), whilst DEP would be visible within the context of other existing wind farms, the scale of the DEP turbines are noticeably different in comparison to the existing wind turbines at Dudgeon and extend the lateral extent of turbines across the horizon. They would appear larger and more widely spaced, most noticeably the eastern wind turbines. This would affect a limited extent of overall settlement (being only along its northern edge), and result in visual effects of medium – low magnitude and **moderate significance**. Effects would be adverse, as whilst there is visible presence of other wind farm sites, there would a discernible difference in scale and spacing between the existing and new turbines, and the wind farm site would extend the presence of turbines across the horizon.

#### 27.6.2.3.4.1.3 SEP and DEP together

392. The effects of SEP and DEP together would be the same as SEP on its own; medium magnitude, **major-moderate significance** and adverse.

#### 27.6.2.3.4.2 Sheringham

393. The town of Sheringham is located on the Norfolk coast, to the south of the proposed wind farms – circa 16km from SEP and 28.5km from DEP. It forms one of the predominant settlements within the extent of the study area, having developed from its fishing village origin to become a resort similar to Cromer, but with a distinctly different architecture. (NNLCA, (Land Use Consultants, 2018)). The sea front, promenade and beach are popular attractions and provide a focus for the settlement, and views of the seascape and along the coast are important to people’s enjoyment of the town.

394. The greatest visual effects from this settlement would occur along its northern extents and adjoining coastline, where visual receptors would experience views (weather / atmospheric condition permitting) of both wind farm sites. These visual receptors are represented by Viewpoint 3 (**Figure 27.23**) at the sea front in Sheringham. A short distance inland from the coast views of the sea become obscured by development and the proposed wind farms would not be visible. Therefore, visual effects are generally limited to the northern edge.

#### 27.6.2.3.4.2.1 SEP in isolation

395. Effects arising from SEP (in isolation) from the public coastal areas along the northern extent of Sheringham are judged to be at most of a large-medium scale. As shown on Viewpoint 3 (**Figure 27.23**), whilst SEP would be visible within the context of other existing wind farms, the scale and spacing of the SEP turbines would be noticeably different in comparison to the existing wind turbines at Sheringham Shoal. They would appear larger and more widely spaced, most noticeably the south-eastern wind turbines. The eastern wind turbines would be up to approximately 1km closer to the settlement than the existing wind turbines but appear to be even closer due to their larger size. This would affect a limited extent of the overall settlement (being only along its northern edge) and be of medium magnitude and **major-moderate significance**. Effects would be adverse, as whilst there is visible presence of other wind farm sites, there would be a discernible difference in scale and spacing between the existing and new turbines, and the wind farm site would extend the presence of turbines across the horizon.

#### 27.6.2.3.4.2.2 DEP in isolation

396. Effects arising from DEP (in isolation) from the public coastal areas along the northern extent of Sheringham are judged to be at most of a medium scale. As shown on Viewpoint 3 (**Figure 27.23**), whilst DEP would be visible within the context of other existing wind farms, the scale of the DEP turbines noticeably different in comparison to the existing wind turbines at Dudgeon and extend the lateral extent of turbines across the horizon. They would appear larger and more widely spaced, most noticeably the south-eastern wind turbines. This would affect a limited extent of the overall settlement (being only along its northern edge), and result in visual effects of medium – low magnitude and **moderate significance**. Effects would be adverse, as whilst there is visible presence of other wind farm sites, there would a discernible difference in scale and spacing between the existing and new turbines, and the wind farm site would extend the presence of turbines across the horizon.

#### 27.6.2.3.4.2.3 SEP and DEP together

397. The effects of SEP and DEP together would be the same as SEP on its own; medium magnitude, **major-moderate significance** and adverse.

#### 27.6.2.3.4.3 Mundesley

398. The village of Mundesley is located on the Norfolk coast, to the south-east / south of the proposed wind farms – circa 26.3km from SEP and 31.4km from DEP. It forms one of the larger villages within the study areas.

399. The greatest visual effects from this settlement would occur along its northern extents and adjoining coastline, where visual receptors would experience views (weather / atmospheric condition permitting) of both wind farm sites. Viewpoint 6 (**Figure 27.26**) lies approximately 3km closer to the wind farm sites than Mundesley but is representative of views from a similar direction and north-east facing section of coastline. However, due to the increased distance visual effects would be slightly less than assessed at Viewpoint 6. A short distance inland from the coast views of the sea become obscured by development within Mundesley and the proposed wind farms would not be visible. Therefore, visual effects are generally limited to the northern edge.



#### 27.6.2.3.4.3.1 SEP in isolation

400. Effects arising from SEP (in isolation) from the public coastal areas along the northern extent of Mundesley would be at most of a medium scale from small areas and medium-small scale from the majority of coastal areas. Whilst SEP would be visible within the context of other existing wind farms, the scale and spacing of the SEP turbines would be noticeably different in comparison to the existing wind turbines at Sheringham Shoal and Dudgeon. They would appear larger and more widely spaced, most noticeably the south-eastern wind turbines, and extend the spread of turbines across the horizon. This would affect a limited extent of the overall settlement (being only along its northern edge) and be of low magnitude and **moderate-slight significance**. Effects would be adverse, as whilst there is visible presence of other wind farm sites, there would a discernible difference in scale and spacing between the existing and new turbines.

#### 27.6.2.3.4.3.2 DEP in isolation

401. Effects arising from DEP (in isolation) from the public coastal areas along the northern extent of Mundesley would be at most of a medium scale from small areas and medium-small scale from the majority of coastal areas. Whilst DEP would be visible within the context of other existing wind farms, the scale and spacing of the DEP turbines would be noticeably different in comparison to the existing wind turbines at Sheringham Shoal and Dudgeon. They would appear larger and more widely spaced, most noticeably the south-eastern wind turbines, and extend the spread of turbines across the horizon. This would affect a limited extent of the overall settlement (being only along the village's northern extents) and result in visual effects of low magnitude and **moderate-slight significance**. Effects would be adverse, as whilst there is visible presence of other wind farm sites, there would a discernible difference in scale and spacing between the existing and new turbines.

#### 27.6.2.3.4.3.3 SEP and DEP together

402. The effects of SEP and DEP together would be the same as SEP on its own; medium – low magnitude, **moderate-slight significance** and adverse.
403. Inland from the coast there would be no impacts on the majority of the settlement as the wind farm sites would be obscured by development.

#### 27.6.2.3.4.4 Wells-next-the-Sea

404. The town of Wells-next-the-Sea is located on the Norfolk coast, to the south-west of the proposed wind farms – circa 28.5km from SEP and 46.4km from DEP. It originated from a seaport and is now a seaside resort. The town is set back from the coast inland of salt marshes, connected to the sea by a tidal waterway. The beach where Viewpoint 1 (**Figure 27.21**) is located, which is a popular visitor destination with a large car park, lies approximately 1.8km north of the town itself.
405. The wind farm sites would be visible (weather / atmospheric condition permitting) from the northern edge of the town, seen beyond the extensive mud flats. A short distance inland from the northern edge of Wells-next-the-Sea views across the marshes of the wind farm sites would be obscured by development. Therefore, visual effects are generally limited to the northern edge.



#### 27.6.2.3.4.4.1 SEP in isolation

406. Effects arising from SEP (in isolation) from the public coastal areas along the northern extent of Well-next-the-Sea would be at most of a small scale. As shown on Viewpoint 1 (**Figure 27.21**) – taken from the beach north of Wells-next-the-Sea – the SEP would be seen in the context of existing wind farms, although they would appear larger than the existing SEP turbines. This would affect a limited extent of the overall settlement (being only along its northern edge), and result in visual effects of negligible magnitude, **minimal significance** and neutral. Although it would be possible to see a difference in scale and spacing between the existing turbines at Sheringham Shoal offshore wind farm and the new turbines at SEP, at this distance and direction, this would not lead to adverse effects.

#### 27.6.2.3.4.4.2 DEP in isolation

407. Effects arising from DEP (in isolation) from the public coastal areas along the northern extent of Well-next-the-Sea would be of negligible scale and magnitude, **minimal significance** and neutral. As shown on Viewpoint 1 (**Figure 27.21**) – taken from the beach at north of Wells-next-the-Sea – the DEP would be barely perceptible within the context of other existing wind farms.

#### 27.6.2.3.4.4.3 SEP and DEP together

408. The effects of SEP and DEP together would be the same as SEP on its own; negligible magnitude, **minimal significance** and neutral.

#### 27.6.2.3.5 Roads and Rail

409. As identified in **Section 27.5.7.3**, it has been assessed that potential visual effects arising as a consequence of the SEP and / or DEP wind farm sites would not give rise to any significant effects. Impacts would be of negligible magnitude, **minimal significance** and neutral.

#### 27.6.2.3.6 Recreational Routes - Long Distance Walking Routes

##### 27.6.2.3.6.1 Peddars Way, Norfolk Coast Path and England Coast Path (the Coast Path)

410. The Peddars Way and Norfolk Coast Path is a National Trail that combines two long distance walking trails - Peddars Way and the Norfolk Coast Path. The England Coast Path broadly follows the same route along the Norfolk coast through the study area or will do so when it is all implemented.

411. Peddars Way starts in Suffolk at Knettishall Heath Country Park and follows the route of a Roman road and reaches the coast at Holme-next-the-Sea, from where the Trail follows the Norfolk Coast Path and England Coast Path eastwards along the Norfolk coast. The Norfolk Coast Path provides 135km of walking from Hunstanton to Hopton-on-Sea and is noted for its “*fantastic scenery and landscape*” (National Trail, 2020: Paragraph ‘About the Trail’). The majority of the Norfolk Coast Path runs through the Norfolk Coast AONB.

412. Effects due to SEP and / or DEP would only occur to the sections of Peddars Way, Norfolk Coast Path and England Coast Path that run along the north Norfolk coast, referred to as the Coast Path.

413. The assessment focuses on the areas in which the principal visual effects have potential to arise, which in relation to the Coast Path, would occur within the SEP and DEP study areas along the Norfolk coast between Old Hunstanton and Winterton-on-Sea. From locations inland from the coast, Coast Path users would experience little to no visibility of either wind farm site, and are not assessed in detail.
414. The Coast Path has been divided into four sections where effects would be broadly similar for the purpose of assessing impacts, before concluding on an overall assessment of the whole Coast Path as it passes through the SEP and DEP study areas. They are as follows, ordered from west to east along the Norfolk coastline:
- Old Hunstanton to Wells-next-the-Sea;
  - Wells-next-the-Sea to Blakeney;
  - Blakeney to Mundesley; and
  - Mundesley to Winterton-on-Sea.
415. The Coast Path passes through the Norfolk AONB and the North Norfolk Heritage Coast. The Coast Path is an important route from which walkers can experience the special qualities of the AONB. Although the Coast Path does not lie within these designated and defined landscapes for the full length within the study areas, it is assessed as national value. The susceptibility of users of the Coast Path to the proposed wind farm sites is judged to be of medium susceptibility due to the presence of existing offshore wind farms in views. Coast Path users would be of a high-medium sensitivity.

#### 27.6.2.3.6.2 Coast Path – Old Hunstanton to Wells-next-the-Sea

416. Views of the SEP and DEP wind farm sites would be experienced (weather / atmospheric condition permitting) from the sections of the Coast Path that run along the coastline and where intervening landform, development or vegetation does not intervene. For example, the Coast Path runs along the beach or along raised sea defence embankments with open sea views for some sections, but inland or within woodland (e.g. north of Wells-next-the-Sea) with obscured views on other sections. Viewpoints 1, 8 and 12 (**Figure 27.21, 27.28** and **27.32**) are representative of open views from the coastline towards the SEP and DEP wind farm sites, albeit Viewpoints 1 and 8 are not located on the Coast Path itself. Effects are assessed as small scale (SEP) and negligible scale (DEP) at these viewpoints and represent the greatest visual effects on the Coast Path between Old Hunstanton to Wells-next-the-Sea.
417. Viewpoint 11 (**Figure 27.31**) is at a location where the Coast Path runs along elevated landform approximately 2.5km inland from the coast, where effects are assessed as small-negligible scale (SEP), as vegetation and landform partially obscure views of the wind farm site, and negligible scale (DEP). Viewpoint 11 is located at a gap in a hedgerow; from the majority of inland sections of the Coast Path foreground vegetation would provide greater screening.

#### 27.6.2.3.6.3 Coast Path – Wells-next-the-Sea to Blakeney

418. There would be frequent views of the wind farm sites (weather / atmospheric condition permitting) from the Coast Path as it broadly follows the coastline where views out to sea are mostly possible. From the western part of this section of the Coast Path the SEP and DEP wind farm sites would be seen across salt marshes in the foreground (which are covered by the sea at high tide) and open sea beyond. From the eastern part of this section of the Coast Path the wind farm sites would be seen across salt marshes in the foreground and the sand and shingle spit at Blakeney Point in the distance; this spit would obscure lower parts of proposed wind turbines. Viewpoints 2 and 14 (**Figure 27.22** and **27.34**) lie on the Coast Path at Morston quay and Blakeney where effects are assessed as medium-small scale (SEP) and negligible scale (DEP). Visual effects would be at greatest medium-small scale (SEP) and negligible scale (DEP) on users of the Coast Path between Wells-next-the-Sea and Blakeney.

#### 27.6.2.3.6.4 Coast Path – Blakeney to Mundesley

419. Along this stretch of the Coast Path, views to the SEP and DEP wind farm sites would be experienced (weather / atmospheric condition permitting) as the Coast Path broadly follows the shoreline / coastline, including on slightly raised sea defence embankments, cliff tops, and along the promenades / sea fronts in the settlements of Sheringham and Cromer. Viewpoints 15, 10, 3, 5, 18 and 6 (**Figures 27.35, 27.30, 27.23, 27.25, 27.38** and **27.26**) (from west to east) lie on the Coast Path within this section, from locations where there would be open views of the wind farm sites. Scale of effects are assessed as follows at these viewpoints:

- 15: SEP Medium, DEP small-negligible;
- 10: SEP Medium, DEP small;
- 3: SEP Large-Medium, DEP medium;
- 5: SEP Large-Medium, DEP medium;
- 18: SEP Large-Medium, DEP medium; and
- 6: SEP Medium, DEP medium

420. It can be seen that the scale of effects increases traveling eastwards where the Coast Path lies closer to the wind farm sites, before reducing further east as it moves away from the SEP and DEP sites. Travelling eastwards from Blakeney, the eastern turbines of SEP and DEP wind farm sites would become closer to the receptor and the difference in size and spacing between the proposed wind turbines and existing wind turbines at Sheringham Shoal and Dudgeon would become more apparent. In the region of Trimingham (Viewpoint 6) the scale of effect due to SEP reduces as the receptor moves further away from the wind farm site, but the scale of effect due to DEP remains medium due to the presence of the eastern group of wind turbines in views.

#### 27.6.2.3.6.5 Coast Path – Mundesley to Winterton-on-Sea

421. Along this stretch of the Coast Path, views to the SEP and DEP wind farm sites would be experienced (weather / atmospheric condition permitting) as the Coast Path broadly follows the shoreline / coastline. Some sections lie slightly inland from the coast where sea views are obscured by intervening features such as vegetation, development, or sand dunes. Viewpoint 7 (**Figure 27.27**) is located near the Coast Path towards the south-eastern end of this section of Coast Path, although on elevated sand dunes with open sea-views whereas the Coast Path lies to the west where sea views are obscured by the dunes. Effects at Viewpoint 7 would be small-negligible scale for both SEP and DEP wind farm sites individually. Effects would be of medium scale for both SEP and DEP wind farm sites individually at the northern edge of Mundesley, reducing to small and then negligible scale travelling further south-west, or where views are obscured by intervening features.

#### 27.6.2.3.6.6 Assessment

422. In summary, visual effects would occur to a wide extent of the Coast Path along the Norfolk coast, ranging from large-medium scale to negligible scale for SEP and DEP in isolation. The greatest scale of visual effects would occur to a section closest to the SEP and DEP wind farm sites along approximately 10km of coastline in the vicinity of Sheringham and Cromer, representing a localised extent of the Coast Path along the Norfolk coast.

423. The greatest scale of effects due to SEP and DEP in isolation would occur to relatively short sections that lie within the Norfolk AONB west of Sheringham and east of Cromer; the longest length where the greatest effects would occur due to SEP and DEP in isolation would be outside the AONB within and between Sheringham and Cromer.

##### 27.6.2.3.6.6.1 SEP in isolation

424. Effects arising from SEP on users of the Coast Path along the Norfolk coast would be up to high-medium magnitude and **major-moderate significance**. Effects would be, on balance, adverse, as whilst there is visible presence of other wind farm sites, there would a discernible difference in scale and spacing between the existing and new turbines that would adversely affect views from the sections of coast closest to the wind farm sites. From more distant locations effects would be neutral, but overall effects on the whole route along the Norfolk coast path would be, on balance, adverse.

##### 27.6.2.3.6.6.2 DEP in isolation

425. Effects arising from DEP on users of the Coast Path along the Norfolk coast would be up to medium magnitude and **moderate significance**. Effects would be, on balance, adverse, as whilst there is visible presence of other wind farm sites, there would a discernible difference in scale and spacing between the existing and new turbines that would adversely affect views from the sections of coast closest to the wind farm site. From more distant locations effects would be neutral, but overall effects on the whole route along the Norfolk coast path would be, on balance, adverse.

#### 27.6.2.3.6.6.3 SEP and DEP together

426. The effects of SEP and DEP together would be the same as SEP on its own; up to high-medium magnitude, **major-moderate significance** and, on balance, adverse.

#### 27.6.2.3.7 National and Regional Cycle Routes

427. As identified in **Section 27.5.7.4.2**, it has been assessed that potential visual effects arising as a consequence of the SEP and / or DEP wind farm sites would not give rise to any significance impacts. Impacts would be of negligible magnitude, **minimal significance** and neutral.

#### 27.6.2.3.8 Visual Receptor Groups

428. As set out in **Section 27.6.2.3**, onshore visual receptors comprising users of PRow, users of accessible and recreational landscapes, local residents of or visitors to the smaller coastal settlements, users of local roads and recreational railways have been grouped together geographically into broad areas identified as likely to experience a similar degree of scale of visual effect as a result of the wind farm sites. They are as follows, ordered from west to east along the Norfolk coastline:

- Old Hunstanton to Wells-Next-The-Sea;
- Wells-Next-The-Sea to Blakeney;
- Blakeney to Mundesley; and
- Mundesley to Winterton-on-Sea.

429. Where visual receptor groups lie within the Norfolk Coast AONB, they are assessed high-medium sensitivity (national value and medium susceptibility). Where visual receptor groups lie outside the Norfolk Coast AONB and North Norfolk Heritage Coast and are assessed as high-medium sensitivity (local / district value and medium susceptibility). Value outside the AONB is local / district due to the popularity of the area as a tourist destination. Susceptibility is medium due to the existing offshore wind farms visible in views.

#### 27.6.2.3.8.1 Visual Receptor Group – Old Hunstanton to Wells-next-the-Sea

430. **Figure 27.6** shows the landscape context between Old Hunstanton and Wells-next-the-Sea.

431. From the smaller coastal villages, PRow and accessible landscape between Old Hunstanton and Wells-next-the-Sea (located to the south-west of the proposed wind farm sites) visual effects would mainly be restricted to the northern extents of the villages and public areas / routes and the beach to the north of the A149 where intervening landscape features do not screen / filter seaward views. There would be open views from the areas of beach which extend along the coastline which is part of the proposed coastal margin.



432. Visual effects would reduce inland, as intervening landscape features such as vegetation, buildings and landform filter or screen views of the wind farm sites. There would be little to no visibility of either wind farm site from the majority of inland locations. Extensive areas of woodland at Holkham Meals and Holkham Park would screen or filter views of the wind farm sites from extensive inland areas within the eastern part of this receptor group, as can be seen on the ZTVs **Figures 27.9** and **27.10**. The closest village within this group is Holkham, which is approximately 28.9km from SEP and approximately 47.9 km from DEP.
433. Visual receptors within these public areas and routes would experience a degree of visibility (weather / atmospheric condition permitting) of both wind farm sites. Viewpoints 8, 12 and 1 (from west to east) (**Figures 27.28, 27.32** and **27.21**) lie at coastal locations where there would be open views of the wind farm sites within this receptor group and effects are assessed as small scale (SEP) and negligible scale (DEP).
434. Viewpoints 11 and 13 (**Figures 27.31** and **27.33**) lie on elevated landform inland from the coast where effects area assessed as follows:
- 11: SEP small-negligible, DEP negligible
  - 13: SEP small, DEP negligible
435. Viewpoints 11 and 13 are located at gaps in hedgerows where views towards the sea are possible; from the majority of inland locations that are accessible to the public, foreground vegetation, landform and / or development would provide greater screening.

#### 27.6.2.3.8.1.1 SEP in isolation

436. Effects arising from SEP would be at most of a small scale. This would affect an intermediate extent of the receptor group and result in visual effects of a low magnitude and **slight significance**. Effects would be neutral.

#### 27.6.2.3.8.1.2 DEP in isolation

437. Effects arising from DEP would be of negligible magnitude, **minimal significance** and neutral.

#### 27.6.2.3.8.1.3 SEP and DEP together

438. The effects of SEP and DEP together would be the same as SEP on its own; low magnitude, **slight significance** and neutral.

#### 27.6.2.3.8.2 Visual Receptor Group – Wells-next-the-Sea to Blakeney

439. **Figures 27.6** and **27.7** show the landscape context between Wells-next-the-Sea and Blakeney.
440. From the coastal villages, PRowS and accessible landscape between Wells-next-the-Sea and Blakeney (located to the south-west of the proposed wind farm sites) visual effects would be mainly restricted to the northern extents of the villages and public areas / routes and the beach to the north of the A149 where intervening landscape features do not screen / filter seaward views. There would be open views from the areas of beach which extend along the coastline which is part of the proposed coastal margin.



441. Visual effects would reduce inland, as intervening landscape features such as vegetation, buildings and landform filter or obscure views of the SEP and DEP wind farm sites. There would be little to no visibility of either SEP and DEP wind farm site from the majority of inland locations. The closest village within this group is Blakeney, which is approximately 20.3km from SEP and approximately 36.1km from DEP.
442. Visual receptors within these public areas and routes would experience a degree of visibility (weather / atmospheric condition permitting) of both SEP and DEP wind farm sites. Viewpoints 2 and 14 (**Figures 27.22** and **27.34**) lie on the Coast Path at Morston quay and Blakeney where effects area assessed as medium-small scale (SEP) and negligible scale (DEP). Effects at Blakeney Point to the north of these viewpoints would be up to medium scale (SEP) and small-negligible scale (DEP) although it is remote and access is restricted.
443. Further inland, from the majority of the receptor group, the visibility of SEP and DEP wind farm sites would rapidly diminish as result of the intervening vegetation, landform and buildings. Viewpoint 13 (**Figure 27.33**) lies on elevated landform inland from the coast at the western edge of this receptor group where effects area assessed as small scale (SEP) and negligible scale (DEP). Viewpoint 13 is located at a gap in a hedgerow where views towards the sea are possible; from the majority of inland locations that are accessible to the public, foreground vegetation, landform and / or development would provide greater screening.

#### 27.6.2.3.8.2.1 SEP in isolation

444. Effects arising from SEP are judged to be medium scale from a small and remote part of the receptor group at Blakeney Point, and medium-small scale from most coastal areas from where open views towards the wind farm sites would be possible. This would affect an intermediate extent of the receptor group and result in visual effects of a medium-low magnitude and **moderate significance**. Effects would be neutral. As shown on Viewpoints 2 (Morston quay) and 14 (Blakeney) (**Figures 27.22** and **27.34**), SEP would be visible within the context of other existing wind farms. While the size and spacing of the SEP turbines would be discernibly different in comparison to nearest existing turbines at Sheringham Shoal, from this distance and direction it is not considered that this would lead to effects being adverse.

#### 27.6.2.3.8.2.2 DEP in isolation

445. Effects arising from DEP would be of negligible scale for all areas except at Blakeney Point where effects would be of small-negligible scale. Overall visual effects would be of negligible magnitude, **minimal significance** and neutral.

#### 27.6.2.3.8.2.3 SEP and DEP together

446. The effects of SEP and DEP together would be the same as SEP on its own medium-low magnitude and **moderate significance** and neutral.

#### 27.6.2.3.8.3 Visual Receptor Group – Blakeney to Mundesley

447. **Figures 27.7** and **27.8** show the landscape context between Blakeney and Mundesley.
448. This is the receptor group where the greatest visual effects would occur, due to the closer proximity to the wind farm sites.

449. At around Salthouse / Weybourne the coastal edge changes from extensive flat coastal salt marshes protected by a low shingle ridge and beach, with landform rising up from south of the coastal villages and A149, to a shingle beach and cliff with higher land close to the coastal edge. The cliffs and higher land restrict visibility of the sea from inland to a greater degree than the flat, lower coastal edge further west. There are also more extensive areas of woodland and settlement east of Salthouse / Welbourne than west of this area providing further screening of sea views. It can be seen from the ZTVs (**Figures 27.9** and **27.10**) that potential visibility of the wind farm sites would extend further inland west of Salthouse / Welbourne than inland east of this area. Potential visibility inland from the coast becomes particularly restricted east of Cromer. Actual visibility on the ground would be considerably less than indicated by the ZTVs due to the extensive smaller scale vegetation and development not modelled into the ZTV.
450. From the smaller coastal villages, PRoWs and accessible landscape between Blakeney and Mundesley (located primarily to the south of the proposed wind farms) visual effects would be mainly restricted to coastal areas, the northern extents of the villages and public areas / routes to north of the A149 where intervening landscape features do not screen / filter seaward views. There would be open views from the areas of beach and cliff-tops which extend along the coastline including the coastal margin.
451. Visual effects would reduce inland, as intervening landscape features such as vegetation, buildings and landform filter or obscure views of the wind farm sites. The closest village within this group is Weybourne, which is approximately 17.5km from SEP and approximately 31.2km from DEP.
452. The greatest visual effects would arise within the northern extents of some villages and the PRoWs and accessible landscapes in coastal areas including the beach and cliff tops, where seaward views are available and not screened / filtered by intervening landscape features.
453. The following Viewpoints listed west to east lie within this receptor group where scale of effects are assessed as:
- 15: SEP medium, DEP small-negligible;
  - 16: SEP medium, DEP small-negligible;
  - 10: SEP medium, DEP small;
  - 17: SEP medium, DEP small;
  - 3: SEP large-medium, DEP medium;
  - 4: SEP large-medium, DEP medium;
  - 5: SEP large-medium, DEP medium;
  - 18: SEP large-medium, DEP medium; and
  - 6: SEP medium, DEP medium

454. It can be seen that the scale of effects increases from west to east where the coast lies closer to the SEP and DEP wind farm sites, before reducing further east as it moves away from the sites. Eastwards from Blakeney, the eastern turbines of both SEP and DEP would become closer to the receptor and the difference in size and spacing between the proposed wind turbines and existing wind turbines at Sheringham Shoal and Dudgeon would become more apparent. In the region of Trimingham (Viewpoint 6) (**Figure 27.26**) the scale of effect due to SEP reduces as the receptor moves further away from the wind farm site, but the scale of effect due to DEP remains medium due to the presence of the eastern group of wind turbines in views.
455. The greatest visual effects (large-medium scale (SEP) and medium scale (DEP)) would occur along the coastal edge in the vicinity of Sheringham and east of Cromer. This scale of effect would be restricted to the beach and narrow coastal edge such as along cliff-tops, or at occasional high points such as Inceborough Hill (Viewpoint 4) (**Figure 27.24**). A short distance inland from this zone the wind turbine sites would become largely or completely obscured by intervening features or landform.

#### 27.6.2.3.8.3.1 SEP in isolation

456. Effects arising from SEP would be at most of a large-medium scale in the areas described above, reducing to medium scale at other locations along the coast and inland. This would affect a localised extent of the receptor group and result in visual effects of a medium magnitude and **major-moderate significance**. Effects would be, on balance, adverse, as whilst there is visible presence of other wind farm sites, there would a discernible difference in size and spacing between the existing and proposed turbines.

#### 27.6.2.3.8.3.2 DEP in isolation

457. Effects arising from DEP would be at most of a medium scale along the coastal edge in the vicinity of Sheringham and east of Cromer, reducing to small scale at other locations along the coast and inland. This would affect a localised extent of the receptor group and result in visual effects of a medium-low magnitude and **moderate significance**. Effects would be, on balance, adverse, as whilst there is visible presence of other wind farm sites, there would a discernible difference in size and spacing between the existing and new turbines.

#### 27.6.2.3.8.3.3 SEP and DEP isolation

458. The effects of SEP and DEP together would be the same as SEP on its own; medium magnitude, **major-moderate significance** and adverse.

#### 27.6.2.3.8.4 Visual Receptor Group – Mundesley to Winterton-on-Sea

459. **Figure 27.8** shows the landscape context between Mundesley and Winterton-on-Sea.

460. From the smaller coastal villages, PRowS and accessible landscape between Mundesley and Winterton-on-Sea (located to the south-east of the proposed wind farms) visual effects would be mainly restricted to the north-eastern extents of the villages and public areas / routes, cliff tops and beaches within coastal areas, where intervening landscape features do not screen / filter seaward views. There would be open views from the areas of beach which extend along the coastline which is part of the proposed coastal margin.
461. Visual effects would rapidly reduce with distance inland, as intervening landscape features such as vegetation, buildings and landform filter or obscure views of the wind farm sites. This group is mostly located outside the Norfolk Coast AONB, with small areas near Mundesley and Horsey Gap located within the AONB. A small area near Horsey Gap is also located within the Broads NP.
462. The greatest visual effects would arise within the northern extents of the villages and the PRowS and accessible landscapes in coastal areas where seaward views are not screened / filtered by intervening features. This is limited to a narrow width of land along the coast.
463. Visual receptors within these public areas and routes would experience a degree of visibility (weather / atmospheric condition permitting) of SEP and DEP wind farm sites. Viewpoint 7 (**Figure 27.27**) is located on elevated sand dunes with open sea-views towards the south-eastern end of this receptor group. Effects at Viewpoint 7 would be small-negligible scale for each wind farm site individually.

#### 27.6.2.3.8.4.1 SEP or DEP in isolation

464. Effects arising from SEP or DEP (in isolation) would be at most of a medium scale on the coast near Mundesley (a very small extent of the receptor group) but reducing a short distance south-east of Mundesley along the coast. This would affect a limited extent of the receptor group and result in visual effects of a low magnitude and **slight significance**. Effects would be, on balance, neutral.

#### 27.6.2.3.8.4.2 SEP and DEP together

465. Should both SEP and DEP be in operation together impacts on visual amenity would not give rise to effects greater than those set out above for either wind farm site. Effects would be low magnitude, **slight significance** and neutral.

#### 27.6.2.3.9 Specific Viewpoints

466. Visitors to the viewing gazebo at Oak Wood, near Sheringham Hall are assessed to be of a high-medium sensitivity (national value and medium susceptibility). The receptor is of national value because it lies within the Norfolk Coast AONB and medium susceptibility due to the presence of existing offshore wind farms in views.
467. As the viewing gazebo was closed at the time of assessment, the assessment is reliant on views from the surrounding landscape, which is at a lower elevation. The assessment is based on the assumption that there would be open views offshore to the wind farm sites, and that trees within the woodland where the gazebo is located would not obscure these views.

468. Viewpoint 17 is located at ground level south of the gazebo where effects are assessed as medium scale (SEP) and small scale (DEP). It can be seen from the wireline from Viewpoint 17 (**Figure 27.37**) that intervening woodland and landform partially obscures the proposed wind farms from this location whereas, it is assumed, there would be open views from the gazebo.

#### 27.6.2.3.9.1 SEP in isolation

469. Effects arising from SEP would be large-medium scale due to the closer south-eastern turbines which would appear of a noticeably larger in size and wider spaced in comparison to nearest existing turbines at Sheringham Shoal wind farm. This would affect a limited extent (affecting only part of the 360 degree view), and result in visual effects of medium magnitude and **major-moderate significance**. It is judged effects would be, on balance, adverse, as whilst there is visible presence of other wind farm sites, there would be a discernible difference in scale and spacing between the existing and new turbines.

#### 27.6.2.3.9.2 DEP in isolation

470. Effects arising from DEP (in isolation) would be at most of a medium scale due to the closer south-eastern turbines. This would affect a limited extent (affecting only part of the 360 degree view), and result in visual effects of medium – low magnitude and **moderate significance**. It is judged effects would be, on balance, adverse, as whilst there is visible presence of other wind farm sites, there would a discernible difference in scale between the existing and new turbines.

#### 27.6.2.3.9.3 SEP and DEP together

471. The effects of SEP and DEP together would be the same as SEP on its own; medium magnitude, **major-moderate significance** and adverse.

#### 27.6.2.3.10 Dark Sky Discovery Sites

472. There are four Dark Sky Discovery Sites located within the SEP or DEP study areas, within the Norfolk Coast AONB. These are shown on **Figures 27.1** and **27.2**. There is potential for navigation and aviation lighting associated with SEP and / or DEP to be visible from these Dark Sky Discovery Sites, affecting their darkness quality. It is not anticipated that navigation and aviation lighting on SEP and / or DEP wind turbines would cause sky-glow. A substantial quantity of existing lighting is visible offshore, including navigation and aviation lights on existing wind farms, shipping and boat activity, gas rigs and buoys.

473. Visitors to the Dark Sky Discovery Sites are assessed to be of a high-medium sensitivity (national value and medium susceptibility). The receptors are of national value because they lie within the Norfolk Coast AONB and medium susceptibility due to the presence of existing offshore wind farms and associated lighting, and lights from other offshore activity in views.

474. The following three Dark Sky Discovery Sites were visited as part of the fieldwork undertaken for the SVIA in October 2020:

- Barrow Common, Brancaster (located in SEP study area);
- Wiveton Downs (located in SEP and DEP study area); and
- Kelling Health Holiday Park (located in SEP and DEP study area).



475. Fieldwork identified that there would be little to no visibility to either SEP and / or DEP from the any of these Dark Sky Discovery Sites as a result of intervening vegetation that obscures seaward views.
476. Access to the fourth Dark Sky Discovery Site, RSPB Titchwell Marsh Nature Reserve (located in SEP study area), was not possible during the visit in October 2020. However, based on fieldwork undertaken in close proximity to the Dark Sky Discovery Site, it is judged that should visibility of SEP and / or DEP lighting be possible, they would form distant and minor elements in existing views, being approximately 37.8km (SEP) and 56.3km (DEP) from the Dark Sky Discovery Site, and seen in the context of existing lighting offshore.

#### 27.6.2.3.10.1 All operational scenarios

477. Additional lighting at SEP and / or DEP would not be dissimilar to the lighting already produced by other existing wind farm developments and activity offshore. If lighting at SEP and / or DEP is visible from any of these Dark Sky Discovery Sites, it would only affect part of seaward views, and be seen in the context of existing lighting. Effects due to SEP and / or DEP would be of negligible scale and magnitude, **minimal significance** and neutral.

#### 27.6.2.4 Designated and Defined landscapes

478. The primary purpose of the landscape designations of National Parks and AONBs is to conserve and enhance the natural beauty of the area. Section 114 of the National Parks and Access to the Countryside Act 1949 (UK Legislation, 2013) states that:
479. *“References in this Act to the preservation or the conservation of the natural beauty of an area shall be construed as including references to the preservation or, as the case may be, the conservation of its flora, fauna and geological or physiographical features”.*
480. This definition was further refined by the Natural Environment and Rural Communities Act 2006 (UK Legislation, 2006). In section 99 of that Act, it is stated that natural beauty in the countryside can consist of or include *“land used for agriculture or woodlands, land used as a park, or any other area whose flora, fauna or physiographical features are partly the product of human intervention in the landscape”.*

#### 27.6.2.4.1 Norfolk Coast Area of Outstanding Natural Beauty

481. The Norfolk Coast of AONB is described in its Management Plan 2014-19 (Norfolk Coast Partnership, 2014) as follows:



*“The Norfolk Coast Area of Outstanding Natural Beauty was designated in 1968. The final area confirmed (174 square miles, but re-measured in the 1990s as 453 square kilometres) includes the greater part of the remaining unspoiled coastal areas between the Wash and Great Yarmouth. The western outlier, coming within two miles of King’s Lynn, takes in part of Sandringham Estate including Sandringham House, and also about six miles of the south-eastern corner of the Wash. The holiday resort of Hunstanton, and the coast immediately to the south of it, is not included, but from nearby Old Hunstanton a continuous coastal strip, varying in depth between three to five miles, extends eastwards to a point near Bacton, excluding the built-up areas of the resorts of Sheringham, Cromer and Mundesley. The eastern outlier stretches from Sea Palling to Winterton, including the magnificent dune system of Winterton Dunes. Though there are minor instances where boundary features have changed or disappeared, the statutory boundary remains as originally designated.”*

482. The assessment of effects on the Norfolk Coast AONB focuses on the documented ‘key qualities of natural beauty’ of the designated area in relation to landscape / seascape character and views. Consideration is also given to information contained in the Norfolk Coast AONB Integrated Landscape Guidance (Norfolk Coast Partnership, 2009).
483. Seven key qualities of natural beauty of the Norfolk Coast AONB are described in the ‘Norfolk Coast Area of Outstanding Natural Beauty Management Plan 2014-19 (Norfolk Coast Partnership, 2014). Three are of relevance to this assessment and are discussed below.
484. *“2. Strong and distinctive links between land and sea*  
*The area’s distinctive and unique character is based on the visual, ecological, socio-economic and functional links between land and sea.”*
485. The proposed wind farm sites would affect views from land (within the AONB) to sea (outside the AONB). These views are already influenced by existing offshore wind farms. The assessment of the condition of the area’s natural beauty in section 3.2 of the AONB Management Plan Strategy (Norfolk Coast Area of Outstanding Natural Beauty Management Plan Strategy 2014-19) (Norfolk Coast Partnership, 2014) states *“Panoramic coastal views and seascapes remain distinctive in character, although the wilderness quality of the seascapes of the North Norfolk Heritage Coast has been affected recently by the development of offshore wind farms, with additional wind farms consented (see QNB 6).”* Existing offshore wind farms therefore already affect panoramic coastal views and seascapes and wilderness quality of the seascapes.
486. *“3. Diversity and integrity of landscape, seascape and settlement character*  
*Key quality is based on maintaining diversity of character types rather than uniformity across the area, including landscapes and seascapes, settlement pattern, building materials and styles.”*
487. The proposed wind farm sites would not directly affect the character of landscape character types within the AONB, and only potentially affect them indirectly by affecting views of the seascape from them.

488. The assessment of the condition of the area’s natural beauty in section 3.2 of the AONB Management Plan Strategy (Norfolk Coast Partnership, 2014) states *“The wilderness character of seascapes on a large proportion of the undeveloped coast, principally the North Norfolk Heritage Coast, has been adversely affected by the development of offshore wind farms.”* Existing offshore wind farms therefore already affect the wildness character of parts of the landscape within the AONB.
489. *“6. Sense of remoteness, tranquillity and wildness*  
*A low level of development and population density for lowland coastal England, leading to dark night skies and a general sense of remoteness and tranquillity away from busier roads and settlements and, particularly for undeveloped parts of the coast, of wildness.”*
490. The proposed wind farm sites would not directly affect the sense of remoteness, tranquillity and wildness but, by affecting views of the seascape from the AONB, would indirectly affect these qualities from some areas. Offshore wind farms are, however, already visible from these areas, including aviation and navigation lights at night. Four Dark Sky Discovery Sites – Barrow Common, Wiveton Downs, Kelling Health Holiday Park and RSPB Titchwell Marsh Nature Reserve – lie within the Norfolk Coast AONB as shown on **Figures 27.1** and **27.2** and are assessed in **Section 27.6.2.3.10** where it is concluded that visual effects due to SEP and / or DEP would be negligible magnitude, **minimal significance** and neutral.
491. The assessment of the condition of the area’s natural beauty in section 3.2 of the AONB Management Plan Strategy (Norfolk Coast Partnership, 2014) states *“Recent development of wind farms off the north Norfolk coast have had a significant negative impact on the wilderness quality of the undeveloped coast, as noted by local observers.”* Existing offshore wind farms therefore already affect the wilderness quality of the undeveloped coast within the AONB.
492. In summary, the proposed wind farm sites would affect each of the above three key qualities of natural beauty of the AONB to some degree. Each of these key qualities is already affected by offshore wind farm development.
493. Site observations and baseline research undertaken as part of the SVIA concur with the key qualities of natural beauty and condition descriptions of the AONB Management Plan Strategy (Norfolk Coast Partnership, 2014).
494. The Norfolk Coast AONB is judged to be of high sensitivity to the proposed SEP and DEP developments.
495. As set out in **Section 27.5.3**, the ZTV studies and observations made in the field indicate there would be a degree of visibility of the SEP and DEP wind farm sites from parts of the Norfolk Coast AONB. Visibility would be primarily contained within the broad area of landscape that rises inland from sea (circa 1 - 5km inland from the coast) between Old Hunstanton (to the west) and Cromer (to the east), and a narrower strip along coastline east of Cromer. Fieldwork has identified that as visibility of the SEP and DEP wind farm sites would reduce with distance inland, as a result of intervening development, vegetation and landform, effects would also reduce. Where views of the SEP and DEP wind farm sites remain possible from elevated landform or breaks in the intervening landscape features, views already include existing offshore wind farms.

496. Following on from the assessment of effects on landscape character and visual receptors in the preceding sections, it has been assessed that there would be varying scale of effects across the extent of the Norfolk Coast AONB within the study areas of the SEP and DEP wind farm sites.
497. The greatest effects on the Norfolk Coast AONB would occur due to changes to views from the coast between Blakeney and Mundesley where open seaward views are available, and where the Norfolk Coast AONB is closest to the wind farm sites. Significant effects receptor group Blakeney to Mundesley assessed in this area due to SEP, but no significant effects area assessed due to DEP (see [Section 27.6.2.3.8](#)). The large coastal settlements of Sheringham and Cromer and the landscape in between, and the settlement of Mundesley lie within this section of coastline and are excluded from the AONB as can be seen on [Figures 27.7](#) and [27.8](#). Significant effects are also assessed for users of the Coast Path as it passes through the study areas (including the section outside the AONB between Sheringham and Cromer) (see [Section 27.6.2.3.6](#)). However, no significant effects on landscape character are assessed, with the greatest effects being of **slight significance** and adverse on coastal landscape character areas OCM1, DCM2 and CS1 (SEP) and CS1 (DEP) (see [Section 27.6.2.2.1](#)).
498. From the above analysis it can be identified that there would be adverse effects on key qualities of natural beauty “*strong and distinctive links between land and sea*” and “*sense of remoteness, tranquillity and wildness*” due to changes to sea views from part of the AONB due to SEP and / or DEP. Effects on landscape character of the AONB would be more limited.
499. The presence of the SEP and DEP wind farm sites, which would be visible in relatively close proximity to the portion of the AONB between Blakeney and Mundesley, would alter the perception of tranquillity and wildness within that portion of the seaward view, whilst the turbine lighting at night would alter the “*dark night skies*” in views out to sea. However, the dark night skies are already influenced by lighting associated with the existing offshore wind farms, gas rigs, ships, boats and buoys in views of the sea (outside the AONB), and lighting on land (within and outside the AONB). The remaining views across the sea, coast and AONB inland that contribute to defining the key qualities of natural beauty would be unaffected.

#### 27.6.2.4.1.1 SEP in isolation

500. Effects arising from SEP on the Norfolk Coast AONB are judged to be at most – balancing effects on landscape character and visual amenity – of a medium-small scale. This would affect a localised extent of the Norfolk Coast AONB and be of medium-low magnitude and **moderate significance**. Effects would be, on balance, adverse, as whilst there is visible presence of other wind farm sites that already affect the existing views, remoteness, tranquillity and wildness, SEP would introduce additional wind turbines into seascape views which would be discernibly larger and more widely spaced compared to the existing offshore wind farms and introduce additional lighting at night.

#### 27.6.2.4.1.2 DEP in isolation

501. Effects arising from DEP on the Norfolk Coast AONB coastline are judged to be at most – balancing effects on landscape character and visual amenity – small scale, given its greater distance offshore and the more limited visibility of the turbines as a consequence of the earth’s curvature, and because of the existing Sheringham Shoal wind farm closer to this part of the AONB. This would affect a localised extent of the overall area of the Norfolk Coast AONB and be of low-negligible magnitude and **moderate-slight significance**. Effects would be, on balance, adverse, as whilst there is visible presence of other wind farm sites that already affect the existing views, remoteness, tranquillity and wildness, SEP would introduce additional wind turbines into seascape views which be discernibly larger and more widely spaced compared to the existing offshore wind farms and introduce additional lighting at night.

##### 27.6.2.4.1.2.1 SEP and DEP together

502. The effects of SEP and DEP together on the AONB would be the same as SEP on its own; medium-low magnitude, **moderate significance** and adverse.

#### 27.6.2.4.1.3 North Norfolk Heritage Coast

503. As can be seen on **Figures 27.6** and **27.7** the NNHC extends from Holme next the Sea in the west to approximately 8km east of Blakeney in the east; only a short distance into the area where the greatest effects would occur to the Norfolk Coast AONB between Blakeney and Mundesley.

504. Whilst the objectives of the NNHC are broad in their description, and do not specifically refer to landscape character or views per se, it is inferred that elements of the following objectives related to landscape and visual amenity:

- “to conserve protect and enhance the natural beauty of the coasts, including their terrestrial, littoral and marine flora and fauna, and their heritage features of architectural, historical and archaeological interest;
- to facilitate and enhance their enjoyment, understanding and appreciation by the public by improving and extending opportunities for recreational, educational, sporting and tourist activities that draw on, and are consistent with the conservation of their natural beauty and the protection of their heritage features.”

(<http://www.norfolkcoastaonb.org.uk/management-plan/mp11.php#objective>  
[accessed 6 November 2020])

505. The NNHC is judged to be of high sensitivity to SEP and / or DEP.

506. The greatest effects on the NNHC with regard to its objectives would occur within its eastern extent, near Blakeney where seaward views are available, Viewpoint 10 (**Figure 27.30**) is at the far eastern tip of the NNHC where effects would be greatest and visual effects are assessed as medium scale (SEP) and small scale (DEP).

##### 27.6.2.4.1.3.1 SEP in isolation

507. Effects arising from SEP from the eastern part of the NNHC are judged to be at most – balancing effects on landscape character and visual amenity – of a small-negligible scale. This would affect a limited extent of overall area of the NNHC and be of negligible magnitude, **minimal significance** and neutral.

#### 27.6.2.4.1.3.2 DEP in isolation

508. Effects arising from DEP from the eastern part of the NNHC are judged to be at most – balancing effects on landscape character and visual amenity – negligible scale, given its greater distance offshore, the more limited visibility of the turbines as a consequence of the earth’s curvature, and the presence of Sheringham Shoal wind farm in the foreground, negligible magnitude, **minimal significance** and neutral.

#### 27.6.2.4.1.3.3 SEP and DEP together

509. The effects of SEP and DEP together on the NNHC would be the same as SEP or DEP on their own; negligible magnitude, **minimal significance** and neutral.

### 27.7 Cumulative Impacts

510. No cumulative schemes have been identified that require assessment.

### 27.8 Transboundary Impacts

511. Transboundary effects have been scoped out of the SVIA as it has been judged that no significant transboundary effects would arise as a consequence of the SEP and DEP wind farm sites, since the coastlines of other EU members states fall outside of the 50km study areas; and would have no visibility of the construction, operation or decommissioning phases of the wind farm sites.

### 27.9 Inter-relationships

512. Inter-relationships are considered to be the impacts and associated effects of different aspects of the SEP and DEP wind farm sites on the same receptor. In the SVIA, these inter-related effects are considered to be receptor led effects, where specific receptors may be affected as follows:

- seascape, landscape and visual receptors potentially affected by the construction, operation and decommissioning of the offshore infrastructure (including wind farm site, offshore platforms, offshore cable corridor) and the construction, operation and decommissioning of the onshore infrastructure (i.e. onshore substation, onshore cable corridor, landfall location and National Grid infrastructure); and
- the potential for visual receptors to experience inter-relationship effects due to changes in noise, air quality and road or offshore traffic, in addition to changes to views.

#### 27.9.1 **Seascape, landscape and visual inter-relationship effects between offshore and onshore SEP and DEP developments**

513. The SVIA presented in this chapter and **Chapter 28 Landscape and Visual Impact Assessment** together provide an assessment of potential impacts on seascape and landscape character; views and visual amenity; and designated and defined landscapes which might arise as a consequence of SEP and /or DEP both offshore and onshore.
514. Based on the outcomes of both offshore and onshore assessments, it has been judged that the onshore infrastructure of SEP and / or DEP would have no effect on the seascape character offshore. The seascape character would only be affected by the construction, operation and decommissioning of the offshore infrastructure in isolation.



515. The majority of LCAs and landscape designations in the SVIA study areas for SEP or DEP would not experience inter-related effects between onshore and offshore infrastructure, since they have either no visibility, or very limited / distant visibility, of either the construction of the onshore infrastructure or the construction of the offshore infrastructure, and therefore have limited potential for inter-related (or combined) effects to occur.
516. Inter-related effects between SEP and DEP onshore and offshore infrastructure would only potentially occur on those LCAs and landscape designations near the landfall, where the construction of the onshore infrastructure (landfall and onshore cable corridor) would occur in areas that may also be affected by changes resulting from views of the construction of the offshore infrastructure.
517. Based on the offshore assessments of SEP and / or DEP undertaken in **Section 27.6** and in **Annex 27.5**, and onshore assessments undertaken in **Chapter 28 Landscape and Visual Impact Assessment**, it is assessed that inter-related effects would be limited to areas in close proximity to the landfall site at Weybourne. During the construction of the landfall and onshore cable corridor together with the construction of the offshore infrastructure, the construction periods may overlap.
518. In reality, the programming would mean there would likely be some degree of separation between the construction of the onshore infrastructure and construction of the offshore infrastructure. The period over which inter-related effects on seascape, landscape and visual receptors might occur would be limited to a short-term and temporary period during the construction phase and is unlikely to give rise to significant impacts.

#### 27.9.2 Inter-relationship effects due to changes in noise, air quality and road or offshore traffic, in addition to changes to views

519. Inter-relationship effects due to changes in noise, air quality and road or offshore traffic are unlikely to occur to onshore visual receptors during the construction, operation or decommissioning of the offshore SEP and DEP wind farm site. This is due to the distance between the onshore receptors and the source of offshore impacts. There is potential for people in boats to be affected by changes in noise, air quality and offshore traffic, in addition to changes in views. These potential inter-related effects are assessed in the following chapters:
- **Chapter 15 - Shipping and Navigation;**
  - **Chapter 24 – Air Quality;**
  - **Chapter 25 – Noise & Vibration.**

#### 27.10 Interactions

520. The impacts identified and assessed in this chapter have the potential to interact with each other. The areas of potential interaction between impacts are presented in **Table 27-18**. This provides a screening tool for which impacts have the potential to interact. **Table 27-19** provides an assessment for each receptor (or receptor group) as related to these impacts.



521. The significance of each individual impact is determined by the sensitivity of the receptor and the magnitude of effect; the sensitivity is constant whereas the magnitude may differ. Therefore, when considering the potential for impacts to be additive it is the magnitude of effect which is important – the magnitudes of the different effects are combined upon the same sensitivity receptor.

Table 27-18: Interaction between impacts - screening

Potential Interaction between Impacts				
	1 Impacts on seascape character	2. Impacts on landscape character	3. Impacts on views and visual amenity	4. Impacts on designated and defined landscapes
1 Impacts on seascape character	-	Yes	Yes	Yes
2. Impacts on landscape character	Yes	-	Yes	Yes
3. Impacts on views and visual amenity	Yes	Yes	-	Yes
4. Impacts on designated and defined landscapes	Yes	Yes	Yes	-

Table 27-19: Interaction between impacts – phase and lifetime assessment

Receptor	Highest significance level				
	Construction	Operation	Decommission	Phase assessment	Lifetime assessment
Seascape character	Slight, adverse	Moderate -slight, adverse	Slight, adverse	No greater than individually assessed impact	No greater than individually assessed impact.

Receptor	Highest significance level				
	Construction	Operation	Decommission	Phase assessment	Lifetime assessment
					Duration of effect is included in the assessment of magnitude and significance and covers the lifetime of SEP and / or DEP.
Landscape character	Minimal, neutral	Slight, adverse	Minimal, neutral	No greater than individually assessed impact	<p>No greater than individually assessed impact.</p> <p>Duration of effect is included in the assessment of magnitude and significance and covers the lifetime of SEP and / or DEP.</p>
Visual receptors	Moderate, adverse	Major-moderate, adverse	Moderate, adverse	No greater than individually assessed impact	No greater than individually assessed impact

Recept or	Highest significance level				
	Construction	Operation	Decommission	Phase assessment	Lifetime assessment
					Duration of effect is included in the assessment of magnitude and significance and covers the lifetime of SEP and / or DEP.
Designated and defined landscapes	Moderate, adverse	Moderate, adverse	Moderate, adverse	No greater than individually assessed impact	<p>No greater than individually assessed impact.</p> <p>Duration of effect is included in the assessments of magnitude and significance and covers the lifetime of SEP and / or DEP.</p>

## 27.11 Potential Monitoring Requirements

522. No monitoring requirements are identified in light of the conclusions of the SVIA.

## 27.12 Assessment Summary

523. This chapter has provided a characterisation of the existing environment for the seascape and visual impact assessment based on both existing and site specific survey data, which has established that there will be some impacts on seascape, landscape and visual receptors; and on designated and defined landscapes during construction, operation and decommissioning phases as a result of SEP and / or DEP.
524. Realistic worst case scenarios for SEP and / or DEP have been assessed, comprising the largest sized turbines achieving the maximum potential generation capacity likely to be implemented. Larger wind turbines result in fewer and more widely spaced turbines compared to schemes comprising smaller turbines. Larger turbines would be visible from more locations and at further distances than smaller turbines and would contrast in size and spacing when seen adjacent to the existing Sheringham Shoal and Dudgeon wind turbines.
525. This chapter has assessed the worst case scenarios within the Areas for Lease for SEP and DEP, without further mitigation to reduce significant effects. Further mitigation will be considered post-PEIR submission.
526. SEP and / or DEP would extend existing offshore wind farms within areas of sea that are currently influenced by the presence of wind farms adjoining the proposed wind farm sites and in the wider seascape. They would be visible from the sea and the Norfolk coast, seen in the context of existing wind farms at Inner Dowsing, Lincs, Lynn, Race Bank, Triton Knoll, Sheringham Shoal and Dudgeon. Offshore wind farms are already characteristic of the existing seascape character, and of views from and the setting of landscape character areas, the Norfolk Coast Area of Outstanding Natural Beauty and the North Norfolk Heritage Coast.
527. SEP would cause greater or the same effects as DEP, on all receptors except seascape character area 3 East Midlands Offshore Gas Fields. DEP would cause greater effects than SEP on seascape character area 3 East Midlands Offshore Gas Fields.
528. Effects on all landscape and visual receptors except seascape character area 3 East Midlands Offshore Gas Fields, if SEP and DEP were both constructed, operated and decommissioned, would be the same significance as assessed for SEP on its own. Effects on seascape character area 3 East Midlands Offshore Gas Fields, if SEP and DEP were both constructed, operated and decommissioned, would be the same significance as assessed for DEP on its own.
529. Effects that are major-moderate or major are considered to be significant. Significant effects during the operational phase have been identified due to SEP on the settlements of Cromer and Sheringham; the Peddars Way, Norfolk Coast Path and England Coast Path; visual receptor group Blakeney to Mundesley; and the viewing gazebo at Oak Wood. No significant effects have been identified for DEP during the operational phase.

530. A summary of the potential impacts that would arise as a consequence of the construction and decommissioning phases are set out in **Annex 27.5**. No significant effects have been identified for SEP or DEP in isolation, or SEP and DEP together during the construction and decommissioning phases.
531. Operational effects would be greater than effects during construction and decommissioning phases of SEP and / or DEP. Operational effects are summarised below.

### 27.12.1 Seascape effects – operational phase

532. SEP or DEP in isolation, or SEP and DEP together, would affect three seascape character areas. Existing wind farms are located within each of these seascape character areas and the main effects due to SEP and / or DEP would occur within areas where seascape character is already influenced by wind farms.
533. SEP would cause effects of medium-low magnitude, moderate-slight significance and adverse on seascape character areas 7 East Midlands Coastal Waters and 9 Norfolk Coastal Waters. SEP would cause effects of medium-low magnitude, slight significance on seascape character area 3 East Midlands Offshore Gas Fields.
534. DEP would cause effects of negligible magnitude, minimal significance and neutral to seascape character area 7 East Midlands Coastal Waters. DEP would cause effects of medium-low magnitude, moderate-slight significance and adverse on seascape character areas 9 Norfolk Coastal Waters and 3 East Midlands Offshore Gas Fields.
535. Each Project would cause effects of medium-low magnitude and slight significance to seascape character area 3 East Midlands Offshore Gas Fields.

### 27.12.2 Landscape effects – operational phase

536. SEP and DEP would affect landscape character indirectly by introducing additional wind turbines into views of the seascape containing existing wind farms. SEP would cause effects of low magnitude, slight significance and adverse to three landscape character areas (OCM1 Open Coastal Marshes, DCM2 Drained Coastal Marshes and CS1 Coastal Shelf). DEP would cause effects of low magnitude, slight significance and adverse to one landscape character area (CS1 Coastal Shelf).

### 27.12.3 Visual effects – operational phase

#### 27.12.3.1.1 *Marine visual receptors*

537. Effects on marine-based receptors would be the same for both SEP and DEP. Effects on recreational boaters would be medium magnitude, moderate significance and adverse. Effects on marine-based workers on boats/ships and ferry passengers would be medium magnitude, moderate-slight significance and adverse.

#### 27.12.3.1.2 *Settlements*

538. Cromer and Sheringham lie on the section of coast closest to the wind farm sites. The sea fronts and beaches are popular attractions and provide a focus for the settlements, and views of the seascape and along the coast are important to people's enjoyment of the towns. Effects due to SEP would be medium magnitude, major-moderate significance (significant) and adverse. Effects due to DEP would be medium-low magnitude, moderate significance and adverse.
539. Effects on Mundesley would be low magnitude, moderate-slight significance and adverse due to SEP or DEP.

540. Effects on Wells-next-the-sea due would be negligible magnitude, minimal significance and neutral due to SEP or DEP.

#### 27.12.3.1.3 *Peddars Way, Norfolk Coast Path and England Coast Path (the Coast Path)*

541. The Coast Path runs along the Norfolk coast through the study areas of SEP and DEP, through the Norfolk Coast AONB and the North Norfolk Heritage Coast. There are extensive views out to sea from the Coast Path and it is an important route from which walkers can experience the special qualities of the AONB. Effects due to SEP would be high-medium magnitude, major-moderate significance (significant) and adverse. Effects due to DEP would be medium magnitude, moderate significance and adverse.

#### 27.12.3.1.4 *Visual receptor groups*

542. The greatest effects on onshore visual receptors comprising users of PRoW, users of accessible and recreational landscapes, local residents of or visitors to the smaller coastal settlements, users of local roads and recreational railways would occur to receptor group Blakeney to Mundesley, where the coast lies closest to the SEP and DEP wind farm sites. Effects on receptor group Blakeney to Mundesley due to SEP would be medium magnitude, major-moderate significance (significant) and adverse. Effects on receptor group Blakeney to Mundesley due to DEP would be medium-low magnitude, moderate significance and adverse.

543. Effects due to SEP and DEP on receptor groups to the west (Old Hunstanton to Wells-Next-The-Sea and Wells-Next-The-Sea to Blakeney) and east (Mundesley to Winterton-on-Sea) of this most affected receptor group would be lower and not significant.

#### 27.12.3.1.5 *Specific Viewpoint: viewing gazebo at Oak Wood*

544. This specific viewpoint was closed at the time of the assessment. The assessment is based on the assumption that there are open panoramic views of the sea and wind farm sites from the gazebo and that they are not obscured by trees within Oak Wood. Effects due to SEP would be medium magnitude, major-moderate significance (significant) and adverse. Effects due to DEP would be medium-low magnitude, moderate significance and adverse.

#### 27.12.3.1.6 *Dark Sky Discovery Sites*

545. Effects on visitors to the four Dark Discovery Sky Sites assessed would be negligible magnitude, minimal significance and neutral due to SEP or DEP.

#### 27.12.3.1.7 *Norfolk Coast Area of Outstanding Natural Beauty*

546. The greatest effects on the Norfolk Coast AONB would occur due to changes to views from the coast between Blakeney and Mundesley where open seaward views are available, and where the Norfolk Coast AONB is closest to the wind farm sites. Effects on landscape character would be more limited than effects on views. Other areas of the AONB would be less affected and SEP and DEP would not be visible from many areas of the AONB. Effects due to SEP would be medium-low magnitude, moderate significance and adverse. Effects due to DEP would be low-negligible magnitude, moderate-slight significance and adverse.



#### 27.12.3.1.8 North Norfolk Heritage Coast

547. Effects due to SEP or DEP would be negligible magnitude, minimal significance and neutral.

#### 27.12.4 Assessment summary tables – operational phase

548. Effects during the operational phase are summarised in **Table 27-20** and **Table 27-21**. Significant effects are in bold.

*Table 27-20: Summary of potential impacts on seascape, landscape and visual resources during operation - SEP*

Potential impact	Receptor	Sensitivity	Magnitude	Pre-mitigation impact	Mitigation measures proposed	Residual impact
Seascape character	SCA7 East Midlands Coastal Waters	Medium	Medium-low reducing to negligible with distance	Moderate-slight, adverse	None	Moderate-slight, adverse
Seascape character	SCA9 Norfolk Coastal Waters	Medium	Medium-low reducing to negligible with distance	Moderate-slight, adverse	None	Moderate-slight, adverse
Seascape character	SCA3 East Midlands Offshore Gas Fields	Medium-low	Medium-low reducing to negligible with distance	Slight, adverse	None	Slight, adverse
Landscape character	LCA OCM1 Open Coastal Marshes	High-medium	Low	Slight, adverse	None	Slight, adverse
Landscape character	LCA DCM2 Drained Coastal Marshes	High-medium	Low	Slight, adverse	None	Slight, adverse
Landscape character	LCA CS1 Coastal Shelf	High-medium	Low	Slight, adverse	None	Slight, adverse
Landscape character	LCT A Open Coastal Marshes	High-medium	Negligible	Minimal, neutral	None	Minimal, neutral

Potential impact	Receptor	Sensitivity	Magnitude	Pre-mitigation impact	Mitigation measures proposed	Residual impact
Visual amenity	Marine: recreational boaters	High-medium	Medium	Moderate, adverse	None	Moderate, adverse
Visual amenity	Marine: workers on boats/ships, ferry passengers	Medium-low	Medium	Moderate-slight, adverse	None	Moderate-slight, adverse
Visual amenity	Settlement: Cromer	High-medium	Medium	<b>Major-moderate, adverse</b>	None	<b>Major-moderate, adverse</b>
Visual amenity	Settlement: Sheringham	High-medium	Medium	<b>Major-moderate, adverse</b>	None	<b>Major-moderate, adverse</b>
Visual amenity	Settlement: Mundesley	High-medium	Low	Moderate-slight, adverse	None	Moderate-slight, adverse
Visual amenity	Settlement: Wells-next-the-Sea	High-medium	Negligible	Minimal, neutral	None	Minimal, neutral
Visual amenity	Roads and Rail	Medium	Negligible	Minimal, neutral	None	Minimal, neutral

Potential impact	Receptor	Sensitivity	Magnitude	Pre-mitigation impact	Mitigation measures proposed	Residual impact
Visual amenity	Peddars Way, Norfolk Coast Path and England Coast Path	High-medium	High-medium	<b>Major-moderate, adverse</b>	None	<b>Major-moderate, adverse</b>
Visual amenity	National and Regional Cycle Routes	Medium	Negligible	Minimal, neutral	None	Minimal, neutral
Visual amenity	Receptor group: Old Hunstanton to Wells-Next-The-Sea	High-medium	Low	Slight, neutral	None	Slight, neutral
Visual amenity	Receptor group: Wells-Next-The-Sea to Blakeney	High-medium	Medium-low	Moderate, neutral	None	Moderate, neutral
Visual amenity	Receptor group: Blakeney to Mundesley	High-medium	Medium	<b>Major-moderate, adverse</b>	None	<b>Major-moderate, adverse</b>
Visual amenity	Receptor group: Mundesley to Winterton-on-Sea	High-medium	Low	Slight, neutral	None	Slight, neutral

Potential impact	Receptor	Sensitivity	Magnitude	Pre-mitigation impact	Mitigation measures proposed	Residual impact
Visual amenity	Specific Viewpoint: viewing gazebo at Oak Wood	High-medium	Medium	<b>Major-moderate, adverse</b>	None	<b>Major-moderate, adverse</b>
Visual amenity	Dark Sky Discovery Sites	High	Negligible	Minimal, neutral	None	Minimal, neutral
Character and views	Norfolk Coast Area of Outstanding Natural Beauty	High	Medium-low	Moderate, adverse	None	Moderate, adverse
Character and views	North Norfolk Heritage Coast	High	Negligible	Minimal, neutral	None	Minimal, neutral

Table 27-21: Summary of potential impacts on seascape, landscape and visual resources during operation - DEP

Potential impact	Receptor	Sensitivity	Magnitude	Pre-mitigation impact	Mitigation measures proposed	Residual impact
Seascape character	SCA7 East Midlands Coastal Waters	Medium	Negligible	Minimal, neutral	None	Minimal, neutral

Potential impact	Receptor	Sensitivity	Magnitude	Pre-mitigation impact	Mitigation measures proposed	Residual impact
Seascape character	SCA9 Norfolk Coastal Waters	Medium	Medium-low reducing to negligible with distance	Moderate-slight, adverse	None	Moderate-slight, adverse
Seascape character	SCA 3 East Midlands Offshore Gas Fields	Medium-low	Medium-low reducing to negligible with distance	Moderate-slight, adverse	None	Moderate-slight, adverse
Landscape character	LCA OCM1 Open Coastal Marshes	High-medium	Negligible	Minimal, neutral	None	Minimal, neutral
Landscape character	LCA DCM2 Drained Coastal Marshes	High-medium	Negligible	Minimal, neutral	None	Minimal, neutral
Landscape character	LCA CS1 Coastal Shelf	High-medium	Low	Slight, adverse	None	Slight, adverse
Landscape character	LCT A Open Coastal Marshes	High-medium	Negligible	Minimal, neutral	None	Minimal, neutral
Visual amenity	Marine: recreational boaters	High-medium	Medium	Moderate, adverse	None	Moderate, adverse
Visual amenity	Marine: workers on boats/ships, ferry passengers	Medium-low	Medium	Moderate-slight, adverse	None	Moderate-slight, adverse
Visual amenity	Settlement: Cromer	High-medium	Medium-low	Moderate, adverse	None	Moderate, adverse



Potential impact	Receptor	Sensitivity	Magnitude	Pre-mitigation impact	Mitigation measures proposed	Residual impact
Visual amenity	Settlement: Sheringham	High-medium	Medium-low	Moderate, adverse	None	Moderate, adverse
Visual amenity	Settlement: Mundesley	High-medium	Low	Moderate-slight, adverse	None	Moderate-slight, adverse
Visual amenity	Settlement: Wells-next-the-Sea	High-medium	Negligible	Minimal, neutral	None	Minimal, neutral
Visual amenity	Roads and Rail	Medium	Negligible	Minimal, neutral	None	Minimal, neutral
Visual amenity	Peddars Way, Norfolk Coast Path and England Coast Path	High-medium	Medium	Moderate, adverse	None	Moderate, adverse
Visual amenity	National and Regional Cycle Routes	Medium	Negligible	Minimal, neutral	None	Minimal, neutral
Visual amenity	Receptor group: Old Hunstanton to Wells-Next-The-Sea	High-medium	Negligible	Minimal, neutral	None	Minimal, neutral
Visual amenity	Receptor group: Wells-Next-The-Sea to Blakeney	High-medium	Negligible	Minimal, neutral	None	Minimal, neutral
Visual amenity	Receptor group: Blakeney to Mundesley	High-medium	Medium-low	Moderate, adverse	None	Moderate, adverse

Potential impact	Receptor	Sensitivity	Magnitude	Pre-mitigation impact	Mitigation measures proposed	Residual impact
Visual amenity	Receptor group: Mundesley to Winterton-on-Sea	High-medium	Low	Slight, neutral	None	Slight, neutral
Visual amenity	Specific Viewpoint: viewing gazebo at Oak Wood	High-medium	Medium-low	Moderate, adverse	None	Moderate, adverse
Visual amenity	Dark Sky Discovery Sites	High	Negligible	Minimal, neutral	None	Minimal, neutral
Character and views	Norfolk Coast Area of Outstanding Natural Beauty	High	Low-negligible	Moderate-slight, adverse	None	Moderate-slight, adverse
Character and views	North Norfolk Heritage Coast	High	Negligible	Minimal, neutral	None	Minimal, neutral

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