Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects

Environmental Statement

Volume 1

Chapter 25 - Seascape and Visual Impact Assessment

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Glossary of Acronyms

AfL	Area for Lease
AOD	Above Ordnance Datum
AONB	Area of Outstanding National Beauty
AtoN	Aid to Navigation
BEIS	Department for Business, Energy and Industrial Strategy
CAA	Civil Aviation Authority
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 Offshore Wind Farm Extension Project
DML	Deemed Marine Licence
DOW	Dudgeon Offshore Wind Farm
EELF	East of England Landscape Framework
EIA	Environmental Impact Assessment
EMCW	East Midlands Coastal Waters
EMOGF	East Midlands Offshore Gas Fields
EPP	Evidence Plan Process
ES	Environmental Statement
ETG	Expert Topic Group
GIS	Geographical Information System
HAT	Highest Astronomical Tide
HSC	Historic Seascape Characterisation
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IEMA	Institute of Environmental Management and Assessment
IPC	Infrastructure Planning Commission
IR	Infrared
KLWNBLCA	King's Lynn & West Norfolk Borough Landscape Character Assessment
km	Kilometre
LCA	Landscape Character Area
LCT	Landscape Character Types

LVIA	Landscape and Visual Impact Assessment
MCA	Maritime and Coastguard Agency
MMO	Marine Management Organisation
MW	Megawatts
NCA	National Character Area
NCAONB	Norfolk Coast Area of Outstanding National Beauty
NCN	National Cycle Network
NCW	Norfolk Coastal Waters
NE	Natural England
NNDC	North Norfolk District Council
NNHC	North Norfolk Heritage Coast
NNLCA	North Norfolk Landscape Character Assessment
NP	National Park
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSCA	National Seascape Character Areas
NSIP	Nationally Significant Infrastructure Project
NVIS	Night Vision Imaging Systems
OESEA	Offshore Energy Strategic Environmental Assessment
OS	Ordnance Survey
OWF	Offshore Wind Farm
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
PRoW	Public Right of Way
RCN	Regional Cycle Network
RNLI	Royal National Lifeboat Institution
RSPB	Royal Society for Protection of Birds
RYA	Royal Yacht Association
SAR	Search and Rescue
SCA	Seascape Character Area
SEP	Sheringham Shoal Offshore Wind Farm Extension Project
SNH	Scottish Natural Heritage
SOW	Sheringham Shoal Offshore Wind Farm

SSSI	Site of Special Scientific Interest
SVIA	Seascape and Visual Impact Assessment
THLS	Trinity House Lighthouse Service
UK	United Kingdom
ZTV	Zone of Theoretical Visibility
ZVI	Zone of Visual Influence

Glossary of Terms

Dudgeon Offshore Wind Farm Extension Project (DEP)	The Dudgeon Offshore Wind Farm Extension onshore and offshore sites including all onshore and offshore infrastructure.
DEP offshore site	The Dudgeon Offshore Wind Farm Extension consisting of the DEP wind farm site, interlink cable corridors and offshore export cable corridor (up to mean high water springs).
DEP North array area	The wind farm site area of the DEP offshore site located to the north of the existing Dudgeon Offshore Wind Farm
DEP South array area	The wind farm site area of the DEP offshore site located to the south of the existing Dudgeon Offshore Wind Farm
DEP wind farm site	The offshore area of DEP within which wind turbines, infield cables and offshore substation platform/s will be located and the adjacent Offshore Temporary Works Area. This is also the collective term for the DEP North and South array areas.
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.
Expert Topic Group (ETG)	A forum for targeted engagement with regulators and interested stakeholders through the EPP.
Horizontal directional drilling (HDD)	Trenchless technique used to install cables – in this case referring to the installation of the export cables at the landfall.
Horizontal directional drilling (HDD) zones	The areas within the onshore cable route which would house HDD entry or exit points.
Landfall	The point at the coastline at which the offshore export cables are brought onshore, connecting to the onshore cables at the transition joint bay above mean high water.
Offshore export cable corridor	This is the area which will contain the offshore export cables between offshore substation platform/s and landfall, including the adjacent Offshore Temporary Works Area.
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 presented at Scoping stage that encompassed all planned offshore infrastructure, including landfall options at both Weybourne and Bacton, allowing sufficient room for receptor identification and environmental surveys. This has been refined following further site selection and consultation for the PEIR and ES.
Offshore substation platform (OSP)	A fixed structure located within the wind farm site/s, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
Offshore Temporary Works Area	An Offshore Temporary Works Area within the offshore Order Limits in which vessels are permitted to carry out activities during construction, operation and decommissioning encompassing a 200m buffer around the wind farm sites and a 750m buffer around the offshore cable corridors. No permanent infrastructure would be installed within the Offshore Temporary Works Area.
Sheringham Shoal Offshore Wind Farm Extension Project (SEP)	The Sheringham Shoal Offshore Wind Farm Extension onshore and offshore sites including all onshore and offshore infrastructure.
SEP offshore site	Sheringham Shoal Offshore Wind Farm Extension consisting of the SEP wind farm site and offshore export cable corridor (up to mean high water springs).
SEP wind farm site	The offshore area of SEP within which wind turbines, infield cables and offshore substation platform/s will be located and the adjacent Offshore Temporary Works Area.
Study area	Area where potential impacts from the project could occur, as defined for each individual Environmental Impact Assessment (EIA) topic.
The Applicant	Equinor New Energy Limited

25 SEASCAPE AND VISUAL IMPACT ASSESSMENT

25.1 Introduction

1. This chapter of the Environmental Statement (ES) considers the potential impacts of the proposed Dudgeon Offshore Wind Farm Extension Project (DEP) and Sheringham Shoal Offshore Wind Farm Extension Project (SEP) on seascape, landscape and visual resources.
2. The chapter provides an overview of the existing environment for the proposed offshore 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 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 SEP and DEP is provided separately in **Chapter 26 Landscape and Visual Impact Assessment (LVIA)**.
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 25.4**.
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 4 Project Description**;
   - **Chapter 5 EIA Methodology**;
   - **Chapter 14 Offshore Archaeology and Cultural Heritage**; and
   - **Chapter 26 Landscape and Visual Impact Assessment**.
6. Additional information to support the Seascape and Visual Impact Assessment (SVIA) in this Chapter is presented in:
   - **Volume 2, Chapter 25 Seascape and Visual Impact Assessment Figures**. This comprises plans, wireframes and photomontages.
   - **Volume 3 Chapter 25 Seascape and Visual Impact Assessment Appendices**, and includes:
     - **Appendix 25.1 Seascape and Visual Impact Assessment Methodology**;
     - **Appendix 25.2 Visualisations and Zone of Theoretical Visibility Studies Methodologies**;

- **Appendix 25.3 Seascape Character Area Sensitivity Criteria Assessment**;
- **Appendix 25.4 Viewpoint Descriptions**;
- **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**; and
- **Appendix 25.6 View from Oak Wood viewing gazebo**.

25.2 Consultation

7. Consultation with regard to the SVIA has been undertaken in line with the general process described in **Chapter 5 EIA Methodology**. The key elements to date have included scoping and the ongoing Evidence Plan Process (EPP) via the SEP and DEP Landscape and Seascape Expert Topic Group (ETG) meetings on 23rd and 30th March 2020, 21st July 2021, 2nd and 9th February 2022 and responses to the Section 42 consultation. Additional consultation with relevant stakeholders with respect the SVIA's proposed representative viewpoints, study areas and approach to visualisations was also undertaken.

8. The feedback received has been considered in preparing the ES submitted with the Development Consent Order (DCO) application. Full details of the consultation process are also presented in the **Consultation Report** (document number 5.1) alongside the DCO application.

Table 25-1: Consultation Responses

Consultee	Date/ Document	Comment	Project Response
Scoping Responses			
The Planning Inspectorate (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 **Section 25.5.8.1**.
		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. The locations of the representative viewpoints are agreed (including those requested by the consultation bodies) and shown on **Figures 25.9** and **25.10**. Details of the consultation with stakeholders are set out below in this table.
		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. 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.	**Section 25.6** sets out the assessment of effects, which assesses SEP or DEP, and SEP and DEP, with existing offshore wind farms. The assessments assess effects resulting from factors including the differences in height between existing and proposed turbines.
		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'.	These terms are defined in **Section 25.4.3.1.3.**
		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.	This information has been included and considered throughout the SVIA and used to inform the assessment of potential effects on Seascape Character in **Section 25.6.2.1**.
		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. The ES should define the spatial extent of effects close to the coast i.e. at what distance from the coast they become indiscernible. The study areas should be clearly explained and justified within the ES.	Zone of Theoretical Visibility (ZTV) studies have been produced to support the SVIA and are presented on **Figures 25.9** and **25.10**. **Sections 25.5.2** and **25.5.3** describe the extent of theoretical visibility, and likely visibility on the ground, informed on observations made in the field. The spatial extents of potential visibility inland defined in **Sections 25.5.2** and **25.5.3** are taken through the baseline study in **Section 25.5** and the assessment of effects in **Section 25.6**. The study areas have been agreed with relevant consultees as described in this table and defined in **Section 25.3.1**.
		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.	Verified wireframes and photomontages of SEP and DEP are included in **Volume 2, Chapter 25 SVIA Figures**.
		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.	Lighting is described in **Section 25.4.6.1.2**. Effects due to potential lighting are accounted for in the assessment in **Section 25.6**. and **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**.
ETG Meetings pre-PEIR submission and pre-Section 42 consultation			
Natural England, South Norfolk and Broadland District Council, North Norfolk District Council, Norwich City Council	ETG Meeting 1, 23 March 2020	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.	This approach to visuals has been followed in this chapter. Details of the visualisation's methodology is set out in **Appendix 25.2 Visualisations and Zone of Theoretical Visibility Studies Methodologies**.

Consultee	Date/ Document	Comment	Project Response
		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	Effects on these receptors are assessed in **Section 25.6.2.3**.
		High ground areas should be covered by the assessment.	High ground areas are assessed in **Section 25.6** where they coincide with relevant visual receptors.
		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 Area of Natural Beauty (AONB), North Norfolk Heritage Coast and the Norfolk Broads National Park have been assessed in **Section 25.6.2.4**.
		ETG agreed with the following list of data sources: • Seascape character area assessment East Inshore and East Offshore marine plan areas, Marine Management Organisation 2012. • Historic Seascape Characterisation East Yorkshire to Norfolk Section, University of Newcastle unpublished report for English Heritage 2013 • Admiralty charts. • Recorded visibility data Met Office. • Norfolk Coast Area of Outstanding Natural Beauty Management Plan Strategy 2014-2019. • Norfolk Coast Area of Outstanding Natural Beauty Integrated Landscape Guidance.	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 **Section 25.6.2.1**.
		The ETG agreed that viewpoints for assessment of the offshore development will be consulted with North Norfolk Council, Norfolk Coast Partnership and Natural England.	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)
		The ETG agreed with the following list of potential impacts: • Temporary impacts during construction and decommissioning. • Long term impacts during operation. • Effects on seascape character. • Effects on landscape character where offshore elements would be visible from land. • Effects on visual receptors sea based and land based. • Effects on designated landscapes Norfolk Coast AONB, North Norfolk Heritage Coast and, potentially, the Norfolk Broads National Park.	These potential impacts have been addressed within this chapter in **Section 25.6**.

Consultee	Date/ Document	Comment	Project Response
Correspondence pre-Section 42 consultation			
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	Email consulting on SVIA study areas (50km), 9 viewpoints and approach to visualisations at both the PEIR and ES stages, 2 June 2020.	The following stakeholders agreed to the proposals or advised they had no comments: • Norfolk County Council. • South Norfolk Council/Broadland District Council. • Norwich City Council. • East Lindsey District Council. • Lincolnshire County Council. • Kings Lynn and West Norfolk Council. The following stakeholders returned the following suggestions / requests: • Broads Authority suggested a slight refinement to the position of the viewpoint at Horsey Gap (viewpoint 7). • North Norfolk Council agreed with proposals and requested additional viewpoint at Grambrorough Hill. • Norfolk Coast Partnership agreed with proposals and additional viewpoint at Grambrorough Hill. • Natural England agreed with study area and requested additional viewpoints. The following stakeholders did not respond: • Breckland District Council. • Great Yarmouth Borough Council.	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 **Figures 25.21** to **25.38**). 50km study areas for SEP and DEP have been agreed with all consultees who responded on this matter and are used in this chapter. Wirelines and photomontages of the realistic worst-case scenario from the agreed viewpoints have been provided in this chapter (see **Figures 25.21** to **25.38**). Wirelines and photomontages (daytime) are provided for all viewpoints and night-time photomontages are provided from three of these viewpoints (Viewpoints 1 Wells-next-the-Sea, 4 Incleborough Hill and 6 Trimingham). This was agreed by all consultees who responded on this matter.
Section 42 Responses			
Norfolk Coast Partnership	Section 42 Response, 2021	The visual Impact of the turbines differs at different times of the year and different times of the day. Certainly, some days the coastline can look highly industrialised with a continuous line on the horizon. An LVIA needs to show impacts from different conditions.	The SVIA considers the variability of atmospheric conditions that affect the Norfolk Coast; however, it sets out its assessment of effects based on the realistic worst-case scenario and assumes that visibility is at its optimum.
North Norfolk District Council	Section 42 Response, 2021	It may be beneficial to review the data that underpinned the Dudgeon windfarm again to understand whether its visibility from shore is occurring at a greater or lesser extent than was originally predicted which may help inform assumptions for these projects.	A review of the Sheringham Offshore wind farm (SOW) and Dudgeon Offshore wind farm (DOW) assessments has been undertaken and used where appropriate to inform the SVIA. SOW and DOW form part of the baseline for the assessment of SEP and DEP presented in this chapter.
		Whilst the report refers to turbines only being in place for circa 35 years, it is highly probable that turbines will be retained or updated through repowering and with further DCO consent so the assumption that turbines will eventually be removed is only true in the event that generation of electricity from wind were to cease which seems most unlikely.	The assessment presented in this chapter assesses the potential impacts of SEP and DEP only, and for a 40-year period. Potential extensions or repowering are not part of these projects. Any potential extension would be granted under a separate planning application and would be assessed separately on its own merit.
		Whilst the extension to SEP would sit behind the existing turbines but also extend either side (east and west), the DEP extensions would noticeably extend the field of view of turbines east and west of the existing turbine field. The turbine fields as extended would therefore be highly visible both during the day and also during the night as a result of a need for navigation and aviation lighting. Whilst the pre-existence of the Sheringham Shoal and Dudgeon windfarms will be factored in to the assessment of impact, NNDC consider the significant extensions proposed would have an adverse impact on the overall seascape and lighting would also detract from the dark skies character of North Norfolk. Whilst these elements would weigh against the project, it would be a matter for the Examiners and Secretary of State to weigh these matters in the planning balance against the public benefits of the proposal.	We note NNDC's comments and opinion on the potential impact that would arise as a result of SEP and/or DEP. **Section 25.6** presents the assessment of potential effects and includes consideration of the potential effect of SEP and/or DEP on the existing seascape and night-time views/ dark skies, including the presence of existing wind turbine arrays. The factors noted by NNDC have been accounted for in the design of the SEP and DEP, as outlined in **Section 25.3.3**. The Applicant concurs with North Norfolk District Council (NNDC) that it is for the Examiners and Secretary of State to weigh impacts presented in this chapter in the planning balance against the public benefits of the proposal.
Natural England	Section 42 Response, 2021	The turbines of the existing Sheringham Shoal array do have a significant adverse effect on the NCAONB i.e. they do compromise the statutory purpose and have degraded the special qualities of the designation, whereas the turbines within the Dudgeon array do not.	We note Natural England's opinion. Effects on the special qualities of the Norfolk Coast Area of Outstanding Natural Beauty (NCAONB) relating to seascape, landscape and visual qualities are assessed in this chapter (see **Section 25.6.2.4.1**). Effects on all of the special qualities, as defined in the Norfolk Coast Area of Outstanding Natural Beauty Management Plan Strategy 2014-2019.

Consultee	Date/ Document	Comment	Project Response
			(Norfolk Coast Partnership, 2014) are assessed separately in **An Assessment of the Impacts on the Qualities of Natural Beauty of the Norfolk Coast Area of Outstanding Natural Beauty** (document 9.25).
	Section 42 Response, 2021	Design and layout issues Natural England expressed concern on the wind array parameters and design with regards to a number of issues. In summary: • Turbine height and the size contrast with existing smaller turbines (paras 1.2 and 40). • Due to the greater separation distance and the taller turbines used for the Dudgeon array the difference in height will be less apparent for the DEP scheme, but still discernible (para 1.2). • The additional lateral spread of DEP is considerable and will effectively more than double the horizontal extent of the combined Dudgeon/DEP array. However, the greater separation distance from the NCAONB coastline and location of the Sheringham Shoal/SEP arrays in the intervening seascape will help to negate some of the potential for significant effects from this project (paras 1.3 and 16). • The lateral spread of the SEP scheme is more modest. As a clear separation gap between the Race Bank array and western portion of SEP has been maintained the absolute worst-case scenario, the merging together of these arrays has been avoided and is welcomed (paras 1.3 and 16). • The combined visual effect of SEP and DEP and existing arrays will be incoherent and present a confusing vista in views of the sea (paras 1.3, 16 and 62). • SEP turbines too big and too close to the coastline of the AONB (para 62). • NE would like design changes including moving turbines further from the coast, omitting turbines from specified areas and focusing turbines in specified areas (paras 18 to 21).	**Section 25.6** sets out the assessment of effects, which assesses SEP or DEP, and SEP and DEP, with existing offshore wind farms. The assessments assess effects resulting from factors including the differences in height between existing and proposed turbines. The assessment is based on the wind turbine array parameters, and not a specific array design layout. Design Objectives have been identified to help guide detail design, as explained in **Design Statement** (document 9.26).
	Section 42 Response, 2021, Paragraph 1.5	EN-1 (5.9.19) invites comparisons with other consented/built offshore wind arrays. Natural England has significant revisions about the usefulness of such comparisons and the robustness of the conclusions drawn. Previously we have advised that comparisons between different offshore arrays located of the coast of different designated landscapes should only be undertaken when all the parameters of the compared schemes and their specific impacts upon the receiving designated landscapes are included in the comparison exercise. As there is no agreed method for such an exercise the potential for further complication of the issue is highly probable. However, in the case of the DEP and SEP schemes the making of comparisons with existing consented arrays off the coastline of the NCAONB cannot be avoided and should be incorporated into the determination process.	SEP and DEP would be seen in the context of existing offshore wind farms. The existing wind farms are part of the existing baseline, and the assessment of effects of SEP and DEP in **Section 25.6** takes this into account, including comparing the existing wind farms with the realistic worst-case scenarios for SEP and DEP. A key reason why fewer larger turbines was agreed as the realistic worst-case scenarios is because the contrast in turbine size and spacing would be greatest when compared to the existing smaller and more closely spaced existing wind farms, to ensure that the greatest potential effects are assessed. See **Section 25.3.2** on the realistic worst-case scenario.
	Section 42 Response, 2021, Paragraph 11	We agree with the Applicant that scenario 2 is the realistic worst-case scenario. [Larger and more widely spaced turbines]	Realistic worst-case scenarios for SEP and DEP, based on larger and fewer (i.e. more widely spaced) turbines have been assessed in this chapter, as described in **Section 25.3.2**.
	Section 42 Response, 2021, Paragraph 22	SLVIA methodology is suitable for assessing effect on landscape and visual receptors located within the NCAONB and NNHC. We are content that the approach taken by the Applicant is adequate. Natural England prefers for a significance of effect judgement for each special quality assessed (in this case 3) rather that a summated judgement as is the case here (Table 27-20 p.131). However, in this instance we are content that the approach taken by the Applicant represents a sufficiently rigorous method.	Noted. The method presented in **Section 25.4.3**, and the assessment in **Section 25.6**, follows the same approach followed in the PEIR chapter.
	Section 42 Response, 2021, Paragraph 23i	**Public opinion** The information contained in the Plymouth Marine Laboratory data, that a substantial minority of the UK population (47%) do not think that offshore wind farms 'spoil the view' is too be welcomed as the nation seeks to transform its energy production infrastructure in response to the Climate Crisis. We also note that 42% of the UK public do think that offshore wind farms 'spoil the view' whilst 40.6% consider offshore winds farms 'negatively affect the wilderness image of the sea' whereas 35% of respondents do not. Natural England concludes from this data that public opinion is more or less split on these topics and so using the 'precautionary principle' to treat the effects from these machines as adverse in all instances is correct.	As noted in **Paragraph 83** below, visual effects are generally described as being neutral unless specific factors contribute to positive or adverse effects. As noted in **Paragraph 84** below, 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.

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	Section 42 Response, 2021, Paragraph 23 ii	**Visibility** We note the commentary on offshore visibility and the data presented in Table 27-13 (p.48) and offer the following advice on this subject. Offshore visibility is 'very good' (20km to 39km) or 'excellent' (distances beyond 40km) for at least 60% and up to 76% of the time during the peak holiday season months of May to October. Therefore, the turbines of the SEP will be visible for most of the time when views out to sea are valued the most. Generally, people don't value the views out to sea when visibility is limited due to coastal fog, mist, or haze. But does value views out to sea on clear days when views to the far horizon are possible. As the commentary offered by the Applicant makes no reference to when visual receptors value views out to sea the most, we advise that this is in the months of May through to October.	This is factored into the assessment to ensure that 'worst-case' effects are assessed.
	Section 42 Response, 2021, Paragraph 23 ii	Due the substantial height of the machines it is likely that whilst the bases and lower portions of the turbine towers may be shrouded the upper portions and blades will be visible above the upper limit of the off-shore haze, sea fog, mist etc. When visibility out to sea is less than 15km, should the blades be rotating the resulting spectacle would be both noticeable and attract attention due to the strange vista presented. Natural England advises the Applicant to further consider the likelihood and probable frequency of such an occurrence, using the visibility data in Table 25-13 p.48. And if necessary, amend judgements on the significance of effect in the Environmental Statement.	The assessment is based on excellent visibility conditions when effects would be at their greatest to ensure that 'worst-case' effects are assessed. It is not considered that greater effects would occur in times of reduced visibility, including if only parts of the wind turbines are visible.
	Section 42 Response, 2021, Paragraph 24	**Seascape baseline and assessment** agreed for Seascape Character Areas (SCAs) 03, 07 and 09	Noted. Effects on these SCAs are assessed in **Section 25.6.2.1**.
	Section 42 Response, 2021, Paragraphs 25 – 28 and Table 3	**Landscape baseline and assessment** Agreement on offshore assessments for 7 Landscape Character Types (LCTs) (DCM 1, RV, ROF, TF, RHA, WGR and Coastal Slopes).	Noted. Effects on these LTCs are assessed in **Section 25.5.6.3.1**.
	Section 42 Response, 2021, Paragraphs 25 – 31 and Table 3	**Landscape baseline and assessment** Disagreement for 4 LCTs (DCM 2, CS 1, OCM 1 and A Open Coastal Marshes) due to differences with regard to ratings, and judgements leading to disagreement on significance.	Noted. Effects on these LTCs are assessed in **Section 25.6.2.2**.
	Section 42 Response, 2021, Paragraphs 36 – 40 and Table 5	**Viewpoints** Scale of visual effects at each viewpoint (Table 27-17). Judgements for 7 of 14 DEP viewpoints agreed. Judgements for SEP viewpoints disagreed.	Effects on viewpoints are assessed in **Appendix 25.4 Viewpoint Descriptions** and summarised in **Table 25-19**.
	Section 42 Response, 2021, Paragraphs 43 and 44	Single Frame 39.6-degree visualisations sought for 7 VPs (1, 2, 4, 10, 15, 16, 18), with focal points to be agreed.	Single frame 39.6-degree visualisations for these viewpoints are presented in **Figures 25.21. 25.22. 25.24. 25.30. 25.36** and **25.38** using the agreed focal points, which were confirmed with Natural England via email correspondence following the second ETG on 2nd February.
	Section 42 Response, 2021, Paragraphs 45 to 47	**Visual receptor groups sensitivity** NE disagrees with the sensitivity of users of PRoWs, accessible recreational landscapes, valued viewpoints and heritage assets or public parks within a designated landscape given in the PEIR and considers them all to be of high sensitivity (para 45). NE identifies that this is because susceptibility of visual receptors is medium due to the presence of existing wind farms in views (para 47).	The Applicant has reviewed these judgements in the PEIR and has increased susceptibility and sensitivity of these visual receptors within the AONB to high.
	Section 42 Response, 2021, Paragraph 48	Visual receptor groups significance of effect judgement NE disagrees with assessments for some receptor groups and agrees with others.	Natural England's comments have been reviewed and considered in determining judgements presented in this chapter. Effects on visual receptor groups are assessed in **Section 25.6.2.3.8**.
	Section 42 Response, 2021, Paragraphs 50 and 51	Natural England advises that due the apparent height, lateral spread, origination to the coastline, proximity to the coast and the wild, remote, and on calm days, tranquil character of the coastal landscapes of the NCAONB the Sheringham Shoal array has significantly degraded the natural beauty of the designation and thereby compromised the statutory purpose. We therefore consider that the baseline for the assessment of the DEP and SEP is already compromised. Whilst we agree with the Applicant's conclusion that 'existing offshore wind farms therefore already affect the wilderness character of parts of the landscape within the AONB' (paragraphs 488 p.116,	The **Design Statement** (submitted with the DCO, see document 9.26) demonstrates how SEP and DEP will fulfil requirements for 'good design' as set out within the National Policy Statement for Energy (NPS EN-1) (draft, 2021). It explains the design evolution of the offshore works to date and the considerations that will inform the detailed design of the final offshore works in a clear and structured way. Careful consideration of the potential to affect sensitive environmental resources, , will form an integral

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		491 p.139 and other instances) the presence of the Sheringham Shoal array does not justify or make acceptable the introduction of further turbines into the seascape setting of the designation. The statutory purpose of the NCAONB is to conserve and enhance natural beauty; it is not to neglect and make natural beauty worse. Each scheme should be judged on the scale of the predicted impact upon the statutory purpose of the designation and not simply against the existing landscape/seascape baseline, which in this case is already compromised. As currently configured the DEP and SEP schemes will further harm the natural beauty of the designation and further erode the reason why the area was designated in the first place. Our assessment of the effects on the landscape receptors which underpin the key qualities of natural beauty of the NCAONB and the effects on the visual receptors who visit to enjoy these key qualities and the visual amenity afforded by views within and from the designation support this conclusion.	part of the final design development of SEP and/or DEP post DCO-consent. Effects on the special qualities of the NCAONB relating to seascape, landscape and visual qualities are assessed in this chapter (see **Section 25.6.2.4.1**). The existing SOW and DOW form part of the baseline for the assessment of SEP and DEP presented in this chapter. Effects on all of the special qualities, as defined in the Norfolk Coast Area of Outstanding Natural Beauty Management Plan Strategy 2014-2019 (Norfolk Coast Partnership, 2014), are presented separately in '**An Assessment of the Impacts on the Qualities of Natural Beauty of the Norfolk Coast Area of Outstanding Natural Beauty**' (document 9.25) and draws from all relevant topics within the ES.
	Section 42 Response, 2021, Paragraph 57	**Norfolk Coast AONB (NCAONB)** NE disagrees with the Applicant's judgement that effects on the NCAONB will not be significant. The effect of the SEP scheme, and south-east portion of the DEP scheme, will have a significant adverse effect on the statutory purpose of the NCAONB. The assessment has also concluded that adverse effects (moderate) will occur on the 'character and views' (Table 27-20 p.131) of the NCAONB. There is in fact little difference between the Applicant's judgement and our own. We suggest this simply a matter of a difference in professional judgement and interpretation of the evidence.	Effects on the Norfolk Coast AONB are assessed in **Section 25.6.2.4.1**.
	Section 42 Response, 2021, Section 2.10 North Norfolk Heritage Coast, Paragraph 59	**North Norfolk Heritage Coast (NNHC)** NE advises that the effect of the SEP scheme, and south-east portion of the DEP scheme, will have a significant adverse effect on the special character of the NNHC. We disagree therefore with the Applicant's judgement.	Effects on the NNHC are assessed in **Section 25.6.2.4.2**.
ETG Meetings post-PEIR submission and post-Section 42 consultation			
Natural England, North Norfolk District Council	ETG Meeting 2, 1 July 2021 Note: Section 42 (S42) consultation responses were one of the issues discussed. Where the S42 topics discussed at this ETG meeting have already been addressed under the heading **Section 42 Responses** above, these are not repeated here.	It was confirmed that the ETG agreed with the following, as presented in PEIR Chapter 27: • The data sources (i.e. character assessment, SPDs and Management Plans) used for the SVIA. • The seascape, landscape character areas/types identified and assessed in the SVIA. • The visual receptors identified and assessed in the SVIA. • The designated landscapes identified and assessed in the SVIA. • The list of potential impacts assessed for the offshore development. • The approach to the assessment of effects on the Special Qualities of Natural Beauty of the AONB within the LVIA. • The proposed approach to the visualisations.	These data sources, receptors and approaches have been followed in this chapter.
		The Norfolk Coast AONB was due to publish a new 5-year management plan which would be a useful reference for the project	It was confirmed by the Norfolk Coast Partnership (via email on 23 February 2022) that the 'Norfolk Coast Area of Outstanding Natural Beauty Five Year Strategy 2019-2024' remains the current management plan for the Norfolk Coast AONB at the time of this assessment and is used to inform the SVIA.
		Discussed and agreed on the importance of following the most recent guidance and to learn from these previous examples. Referenced recently published reports by White Associates - which compared predicated and actual visual impacts of windfarms off the Welsh Coast. This research was considered important in calibrating professional judgement when undertaking the assessments of the project, along with experience of other developments, including Dudgeon.	The White Associates report (White Consultants for Hartley Anderson, 2020) and the SLVIAs for DOW and SOW (Dudgeon Offshore Wind Ltd, 2009 and Scira Offshore Energy Ltd, 2006) have been referred to in informing professional judgements presented in this chapter.
		NE's position in that they consider there to be a potential significant impact to the special qualities of the AONB. Their position is unlikely to change because the site is already being significantly impacted by the presence of Sheringham Shoal offshore wind farm. The inferred 'test' is the additional harm that would be caused as a result of the proposed DEP and SEP schemes.	The Applicant notes Natural England's comment. The SVIA has considered the SOW and DOW as part of the baseline environment. Therefore, the potential effects on relevant landscape character, visual receptors and designated landscape as a result of SEP and/or DEP have been assessed (see **Section 25.6**).

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		Discussed the potential turbine heights of 325m and 246m and the discernability of these heights from the shore. LB confirmed that even at 246m these would be discernible from the shore and would be considered by NE as negatively impacting the special qualities of the AONB.	The Applicant notes Natural England's comment. Taller turbines have been agreed with consultees as representing the realistic worst-case scenario for the SVIA, as noted in **Section 25.3.2**.
		From an NE perspective, there was a greater concern over the lateral spread of the turbines than from their height, as this would be an issue regardless. Spatial designs to minimise the appearance of lateral spread should be an area of focus. The project should look to limit the expansion east and west of the existing array and position them behind to create a narrower field of view from shore, in particular from the stretch of coast where the AONB and NNHC overlap.	The **Design Statement** (submitted with the DCO, see document 9.26) demonstrates how SEP and DEP will fulfil requirements for 'good design' as set out within the National Policy Statement for Energy (NPS EN-1) (draft, 2021). It explains the design evolution of the offshore works to date and the considerations that will inform the detailed design of the final offshore works in a clear and structured way. Careful consideration of the potential to affect sensitive environmental resources, will form an integral part of the final design development of SEP and/or DEP post DCO-consent.
The National Trust	Representative viewpoint 17 at the viewing gazebo at Oak Wood, which is normally open to the public, was closed when LDA Design visited it in 2020. An alternative ground-level viewpoint near the tower was used for the PEIR. LDA Design contacted the National Trust in August 2021 to ask if permission to access the viewing tower could be given.	In September 2021, the National Trust confirmed that the viewing tower had been closed in 2020 due to the Covid-19 pandemic but remained closed because the tower needs repair work before it can be re-opened, and that repair works are planned to be implemented in 2022. Access is therefore not possible for the ES. It was agreed with the National Trust that the alternative ground-level viewpoint 17 would be used, in combination with review of photography used previously for the Sheringham Shoal Wind Farm project, as the Applicant did for the PEIR LVIA chapter.	Effects on visitors to the viewing tower at Oak Wood are assessed in **Section 25.6.2.3.9**, informed by photography used previously for the SOW (see **Appendix 25.6 View from Oak Wood Viewing Gazebo**), and the ground-level viewpoint 17 (**Figure 25.37**). The assessment in **Section 25.6.2.3.9** assumes 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.
Natural England, Norfolk County Council, North Norfolk District Council, South Norfolk and Broadland District Councils.	ETG 3, February 2 2022	The ETG agreed that it would be helpful to pre-empt the examiner's potential request with regard to the comparison with SEP and DEP and other existing windfarms and draft a description and comparison between existing and proposed schemes for discussion and agreement with NE in advance of the DCO submission. Equinor agreed to prepare this text and share with NE.	The existing SOW and DOW form part of the baseline for the assessment of SEP and DEP and are described as part of the baseline, including their appearance when viewed from the coast. SEP and DEP will appear differently (size and arrangement of turbines) due to the advance of technology, which has been considered as part of the assessment.
		In response to the outstanding action at Minute Item 24 from the previous ETG meeting on 21st July 2021, NE confirmed its agreement that 4 of the 7 LCTs assessed in the PEIR SVIA chapter can be scoped out of the assessment.	The remaining LCTs are assessed accordingly in **Section 25.6.2.2**.
		The ETG welcomed and agreed to the updates proposed for the next ES SVIA Chapter, which would take into account the following: • Refinement of project proposals; • Section 42 comments from consultees; and • Susceptibility and sensitivity of users of long-distance walking routes, PRoWs, accessible and recreational landscapes, valued viewpoints and Dark Sky Discovery Sites within designated landscapes changed to high.	The updates have been incorporated into the assessment accordingly.
		The ETG agreed with the decision to use ground level viewpoint and historic photography from the Sheringham Shoal offshore wind farm SLVIA within the ES SVIA Chapter be referred to in reaching judgements on effects on visitors to the viewing gazebo at Oak Wood. It was explained that the viewing gazebo at the National Trust Oak Wood is presently inaccessible, and the National Trust agrees to the SVIA's proposed approach.	Effects on specific viewpoints are assessed in **Section 25.6.2.3.9**.

Consultee	Date/ Document	Comment	Project Response
		The ETG welcomed and agreed to the presentation of the assessments of the Norfolk Coast AONB from all relevant topics in a sperate document. NE suggest undertaking a gap analysis between the two management plans – Equinor agreed to review and request clarity on the timings of each management plans directly from the Norfolk cost Partnership.	Effects on all of the special qualities, as defined in the Norfolk Coast Area of Outstanding Natural Beauty Management Plan Strategy 2014-2019 (Norfolk Coast Partnership, 2014), are presented separately in '**An Assessment of the Impacts on the Qualities of Natural Beauty of the Norfolk Coast Area of Outstanding Natural Beauty**' (document 9.25) and draws from all relevant topics within the ES. It was confirmed by the Norfolk Coast Partnership (via email on 23 February 2022) that the 'Norfolk Coast Area of Outstanding Natural Beauty Five Year Strategy 2019-2024' remains the current management plan for the Norfolk Coast AONB at the time of this assessment and is used to inform the SVIA.
		The ETG agreed that the realistic worst case turbine layout presented will be assessed in the SVIA and recognised the on-going work that has been undertake since the PEIR / consultation responses to improve the layout that work has gone into developing the illustrative layout.	The realistic worst-case scenario is assessed, as set out in **Section 25.3.2**.
		The ETG agreed to the outline of the factors that influenced the changes to the offshore layout from that presented in the PEIR and acknowledged the amount of work which had been undertaken since the previous ETG. These factors included: • the proportion of the view affected by the development; • the angle of view in relation to main receptor activity; • the degree to which aesthetic or perceptual aspects of the landscape /view would be altered; and • the relationship between existing/ proposed/ future wind farms. The ETG requested whether design principles could be transferred into the DCO to ensure the principles of design currently being applied are secured. Equinor confirmed that as part of the work being undertaken for the Navigation Risk Assessment, layout commitments are being secured, although these primarily address layout requirements set out in MGN 654. Equinor also confirmed the reason for its decision to include the maximum sized turbine was to future proof the project.	The **Design Statement** (submitted with the DCO, see document 9.26) demonstrates how SEP and DEP will fulfil requirements for 'good design' as set out within the National Policy Statement for Energy (NPS EN-1) (draft, 2021). It explains the design evolution of the offshore works to date and the considerations that will inform the detailed design of the final offshore works in a clear and structured way. Careful consideration of the potential to affect sensitive environmental resources, will form an integral part of the final design development of SEP and/or DEP post DCO-consent.
		NE agreed to provide copies of the following documents: • A Rampion 1 document that set out the how this project secured aesthetic led design principles via the marine authority whose interest / duty relates to safety and navigation during the examination. • A NE document that provided general design principles to the Crown Estate in 2017/18.	These were received post-meeting.
		NE requested copies of the single frame visualisations presented at the ETG meeting to agree the focal points of each view.	This was submitted and agreement was reached post-meeting. The single frame visualisations are included, from NE selected viewpoint locations, as part of **Volume 2: Chapter 25 SVIA Figures**
		The ETG agreed that it was not necessary to meet again prior to the submission of the DCO, unless any material comments were recorded as part of the sperate planned meetings with the Norfolk Coast Partnership.	Noted and agreed.
Norfolk Coast Partnership	Meeting 8 March 2022	The meeting welcomed and agreed to the presentation of the assessments of the Norfolk Coast AONB from all relevant topics in a separate document. Status of 2014 plan to be confirmed by the AONB Confirmed that the Heritage Coast interests are covered by the County Heritage team, being essentially a Heritage matter	Effects on all of the special qualities, as defined in the Norfolk Coast Area of Outstanding Natural Beauty Management Plan Strategy 2014-2019 (Norfolk Coast Partnership, 2014), are presented separately in '**An Assessment of the Impacts on the Qualities of Natural Beauty of the Norfolk Coast Area of Outstanding Natural Beauty**' (document 9.25) and draws from all relevant topics within the ES. It was confirmed by the Norfolk Coast Partnership (via email on 23 February 2022) that the 'Norfolk Coast Area of Outstanding Natural Beauty Five Year Strategy 2019-2024' remains the current management plan for the Norfolk Coast AONB at the time of this assessment and is used to inform the SVIA.

Consultee	Date/ Document	Comment	Project Response
		The meeting agreed that the realistic worst case turbine layout presented will be assessed in the SVIA, and recognised the on-going work that has been undertake since the PEIR / consultation responses to improve the layout that work has gone into developing the illustrative layout.	The realistic worst-case scenario is assessed, as set out in **Section 25.3.2**.
		The meeting agreed to the outline of the factors that influenced the changes to the offshore layout from that presented in the PEIR and acknowledged the amount of work which had been undertaken. These factors included: • the proportion of the view affected by the development; • the angle of view in relation to main receptor activity; • the degree to which aesthetic or perceptual aspects of the landscape /view would be altered; and • the relationship between existing/ proposed/ future wind farms. Equinor confirmed that as part of the work being undertaken for the Navigation Risk Assessment, layout commitments are being secured, although these primarily address layout requirements set out in MGN 654. Equinor also confirmed the reason for its decision to include the maximum sized turbine was to future proof the project.	The **Design Statement** (submitted with the DCO, see document 9.26) demonstrates how SEP and DEP will fulfil requirements for 'good design' as set out within the National Policy Statement for Energy (NPS EN-1) (draft, 2021). It explains the design evolution of the offshore works to date and the considerations that will inform the detailed design of the final offshore works in a clear and structured way. Careful consideration of the potential to affect sensitive environmental resources will form an integral part of the final design development of SEP and/or DEP post DCO-consent.
		Equinor agreed to provide copies of the following documents: • Outline CSIMP • OTNR Review- guide to communities • Equinor FAQ • PEIR site selection and alternatives chapters	These were received post-meeting.
		The meeting agreed that it was not necessary to meet again prior to the submission of the DCO, unless any material comments were recorded following a briefing at the CMG of the Norfolk Coast Partnership.	Noted and agreed.

25.3 Scope

25.3.1 Study Area

9. 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 25.1** and **25.2**.

10. Relevant guidance (Scottish Natural Heritage, 2017b) 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"* (paragraph 48).

11. In this case, the ZTV studies for both SEP and DEP (shown on **Figures 25.9** and **25.10**) 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 SEP and DEP. However, effects are unlikely to occur beyond 50km.

12. 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. Therefore, seascape, landscape and visual receptors are scoped out beyond 50km.

25.3.2 Realistic Worst-Case Scenario

25.3.2.1 General Approach

13. 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: Rochdale Envelope (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 5 EIA Methodology**.

14. The realistic worst-case scenarios for the SVIA assessment are summarised in **Sections 25.3.2.1** to **25.3.2.3**. These are based on the project parameters described in **Chapter 4 Project Description**, which provides further details regarding specific activities and their durations.

15. In addition to the design parameters set out in **Table 25-2**, consideration is also given to how SEP and DEP will be built, operated and decommissioned as described in **Section 25.3.2.2** to **Section 25.3.2.4** below. This accounts for the fact that whilst SEP and DEP are the subject of one DCO application, it is possible that either one or both of the projects will be developed, and if both are developed, that construction may be undertaken either concurrently or sequentially, in either order. Further details are provided in **Chapter 4 Project Description**.

16. With respect to the SVIA, the key parameters identified as part of the Rochdale Envelope for SEP and/or DEP are as follows:

- The maximum footprint and height above sea level that the turbines could occupy;
- Height of the turbine hubs and blades;
- Quantity of the turbines;
- Arrangement of the turbines, and their perceived visual density/relationship with landform/perspective;
- 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 offshore 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/or 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 in advance of preparation of this chapter. 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 SOW and DOW 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 SOW and DOW 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 SOW and DOW 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 25.9** and **25.10**, and **Figures 25.13** to **25.20**) and visuals (**Figures 25.21** to **25.38**). 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. There could potentially be one offshore substation within the SEP offshore wind array area and one in the DEP offshore wind array area, or a single offshore substation within the SEP offshore wind array area serving both wind farm extension projects. The realistic worst-case scenario would be one within each offshore site (two in total for both projects). If there is a substation within DEP it would be within the northern array area which is, at its closest, 37km from the Norfolk coast. The visualisations in **Volume 2, Chapter 25 SVIA Figures** only show a substation within SEP which is closer to the Norfolk coast. If a substation was located within the northern area of DEP, there would be no changes to effects assessed in this chapter.

23. This SVIA bases the assessment of potential effects on seascape, landscape and visual receptors on these realistic worst-case scenarios.

24. Wirelines and photomontages (daytime) of potential 26MW turbine schemes have been produced for all representative viewpoints, along with night-time photomontages from three viewpoints (Viewpoints 1 Wells-next-the-Sea, 4 Incleborough Hill and 6 Trimingham). The wirelines and photomontages are presented in **Figures 25.21** to **25.38**.

Table 25-2: Realistic Worst-Case Scenarios

Impact	Parameter	SEP or DEP in Isolation	SEP and DEP Concurrently	SEP and DEP Sequentially	Notes and Rationale
Construction					
Impacts on landscape, seascape and visual resources Temporary impacts of construction work for the offshore wind arrays and offshore substation(s).	Offshore site and turbine height. Quantity and dimensions of offshore substation(s).	Maximum area of offshore Order Limits developed for SEP or DEP. Largest turbines to 330m height above sea level. One offshore substation in SEP or one in northern area of DEP.	Maximum area of offshore Order Limits developed for SEP and DEP. Largest turbines to 330m height above sea level. One offshore substation in SEP and one in northern area of DEP.	Maximum area of offshore Order Limits developed for SEP and DEP. Largest turbines to 330m height above sea level. One offshore substation in SEP and one in northern area of DEP.	Construction of maximum sized turbines occupying maximum footprint would be visible from greatest area. Two offshore substations, one serving SEP and one serving DEP.
	Duration of works	Wind array construction 2 years	Wind array construction 2 years	Total 5 years from the beginning of construction of the first Project and the completion of construction of the second Project. 2 years for each Project with a gap of 1 year.	Longest duration of construction is assessed to be the realistic worst-case, which in this case is sequential construction of SEP and DEP with the maximum gap between projects.

Impact	Parameter	SEP or DEP in Isolation	SEP and DEP Concurrently	SEP and DEP Sequentially	Notes and Rationale
Operation					
Impacts on landscape, seascape and visual resources Long-term impacts of offshore wind arrays and offshore substation(s).	Offshore site and turbine height. Quantity and dimensions of offshore substation(s).	Maximum area of offshore Order Limits developed for SEP or DEP. Largest turbines to 330m height above sea level. One offshore substation in SEP or one in northern area of DEP.	Maximum area of offshore Order Limits developed for SEP and DEP. Largest turbines to 330m height above sea level. One offshore substation in SEP and one in northern area of DEP.	Maximum area of offshore Order Limits developed for SEP and DEP. Largest turbines to 330m height above sea level. One offshore substation in SEP and one in northern area of DEP.	Maximum sized turbines would be visible from greatest area. Maximum developed area would occupy greatest extent of view. Maximum sized turbines would contrast in size and spacing to existing SOW and DOW turbines greater than smaller and more closely spaced turbines. Two offshore substations, one serving SEP and one serving DEP.
	Duration	40-years	40-years	40-years for each Project with a gap of 4 years between the commissioning of each Project and the decommissioning of each Project. This would result in turbines being present for a total of 44 years.	Longest duration of construction is assessed to be the realistic worst-case, which in this case is sequential construction of SEP and DEP with the maximum gap between projects.
Decommissioning					
The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and will be agreed with the regulator. It is anticipated that for the purposes of a worst-case scenario, the impacts will be no greater than those identified for the construction phase.					

25.3.2.2 Construction Scenarios

25. The following principles set out the framework for how SEP and DEP may be constructed:
    - SEP and DEP may be constructed at the same time, or at different times;
    - If built at the same time both projects (onshore and offshore) could be constructed in four years, with offshore construction being undertaken over two years (likely years three and four) 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, 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 the start of construction of the first project, and the start of construction of the second project may vary from two to four years;
    - If the gap between the projects is less than two years, the first project would wait for the second project in order to be constructed together;
    - Assuming maximum construction periods, and taking the above into account, the maximum construction period over which the construction of both projects (onshore and offshore) could take place is seven years; and
    - The earliest construction start date is 2025 and the latest is 2029.

26. In order 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 assessment are therefore:
    - Build SEP or build DEP in isolation;
    - Build SEP and DEP concurrently – reflecting the maximum peak effects; and
    - Build one project followed by the other with a gap of up to four years between commencement of construction of each project (sequential) – reflecting the maximum duration of effects. This would result in a maximum offshore construction period of two years for the first project followed by a gap of one year, and then a construction period of two years for the second project (total five years).

28. Any differences between the two projects, or differences that could result from the manner in which the first and the second projects are built (concurrent or sequential and the length of any gap) are identified and discussed where relevant in the impact assessment section of this chapter (**Section 25.6**). For each potential impact only the worst-case construction scenario for two projects is presented, i.e. either concurrent or sequential. The justification for what constitutes the worst-case is provided, where necessary, in **Section 25.6**.

25.3.2.3 Operation Scenarios

29. Operation scenarios are described in detail in **Chapter 4 Project Description**. The assessment considers the following three scenarios:
    - Only SEP in operation;
    - Only DEP in operation; and
    - The two projects operating at the same time, with a gap of up to three years between each project commencing operation.

30. The operational lifetime of each project is expected to be 40-years.

25.3.2.4 Decommissioning Scenarios

31. Decommissioning scenarios are described in detail in **Chapter 4 Project Description**. Decommissioning arrangements will be agreed through the submission of a Decommissioning Programme 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.

25.3.3 Summary of Mitigation Embedded in the Design

32. 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. However, consideration of seascape, landscape and visual matters informed the selection of the SEP and DEP Areas for Lease (AfL) at the outset of the Projects. It was decided to minimise (in so far as possible) the inclusion of the SEP AfL between the southern edge of SOW and the Norfolk coast due to the proximity of sensitive land-based receptors, and to ensure a sufficient gap between SEP and Race Bank OWF. Other factors such as a combined cable corridor and landing help to reduce potential impacts. These matters are fully explained in the **Design Statement** (submitted with the DCO, see document 9.26)

33. Further to these initial mitigation measures, it is not possible to confirm an actual layout of the turbines within the AfLs, which will depend on turbine choice within the project parameters at the time of construction albeit it will need to meet the requirements of MGN 654. At this stage of the Project, to ensure it is futured proofed, it has been decided to assess the maximum sized turbines to permit flexibility. This approach is supported by the NPS for Renewable Energy Infrastructure (EN-3) (adopted and draft) which states:

    "Neither the design nor scale of individual wind turbines can be changed without significantly affecting the electricity generating output of the wind turbines. Therefore, the IPC [now the Secretary of State] *should expect it to be unlikely that mitigation in the form of reduction in scale will be feasible. However, the layout of the turbines should be designed appropriately to minimise harm, taking into account other constraints such as ecological effects, safety reasons or engineering and design parameters."*

34. The **Design Statement** (submitted with the DCO, see document 9.26) demonstrates how SEP and DEP will fulfil requirements for 'good design' as set out within the NPS for Energy (EN-1) and NPS EN-3. The **Design Statement** explains the design evolution of the offshore works to date and the considerations that will inform the detailed design of the final offshore works in a clear and structured way. Careful consideration of the potential to affect sensitive environmental resources, , will form an integral part of the final design development of SEP and/or DEP post DCO-consent.

35. Therefore, this SVIA assesses realistic worst-case scenarios for SEP and / or DEP within the AfL (see **Section 25.3.2**) without any further embedded mitigation measures.

25.4 Impact Assessment Methodology

25.4.1 Policy, Legislation and Guidance

25.4.1.1 National Policy Statements

36. The assessment of potential impacts upon the seascape/landscape character and visual amenity has been made with specific reference to the relevant 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).

37. The specific assessment requirements for the SVIA as detailed in the NPS, are summarised in **Table 25-3** together with an indication of the section of the ES chapter where each is addressed.

Table 25-3: NPS Assessment Requirements

NPS Requirement	NPS Reference	Section Reference
NPS for Energy (EN-1)		
"Where some details are still to be finalised the ES should set out, to the best of the applicant's knowledge, what the maximum extent of the proposed development may be in terms of site and plant specifications, and assess, on that basis, the effects which the project could have to ensure that the impacts of the project as it may be constructed have been properly assessed."	Paragraph 4.2.8	As set out in **Section 25.3.2**, the realistic worst-case scenario has been assessed within this LVIA.
"Good design is also a means by which many policy objectives in the NPS can be met, for example the impact sections show how good design, in terms of siting and use of appropriate	Paragraph 4.5.2	The approach to Good Design is presented in the **Offshore Design Statement** (document reference 9.26).

NPS Requirement	NPS Reference	Section Reference
technologies can help mitigate adverse impacts such as noise."		
"In the light of the above, and given the importance which the Planning Act 2008 places on good design and sustainability, the IPC [now the Planning Inspectorate and the Secretary of State] needs to be satisfied that energy infrastructure developments are sustainable and, having regard to regulatory and other constraints, are as attractive, durable and adaptable (including taking account of natural hazards such as flooding) as they can be. In so doing, the IPC should satisfy itself that the applicant has taken into account both functionality (including fitness for purpose and sustainability) and aesthetics (including its contribution to the quality of the area in whichh it would be located) as far as possible. Whilst the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, landform and vegetation. Furthermore, the design and sensitive use of materials in any associated development such as electricity substations will assist in ensuring that such development contributes to the quality of the area".	Paragraph 4.5.3	The approach to Good Design is presented in the **Offshore Design Statement** (document reference 9.26).
"For the IPC [now the Planning Inspectorate and the Secretary of State] *to consider the proposal for a project, applicants should be able to demonstrate in their application documents how the design process was conducted and how the proposed design evolved. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected. In considering applications the IPC should take into account the ultimate purpose of the infrastructure and bear in mind the operational, safety and security requirements which the design has to satisfy."*	Paragraph 4.5.4	The approach to Good Design is presented in the **Offshore Design Statement** (document reference 9.26).

NPS Requirement	NPS Reference	Section Reference
"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."	Paragraph 5.9.6	As set out in **Section 25.3.2**, 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 **Section 25.6**. A summary of construction and decommissioning phase effects on landscape character is set out in **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**.
"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."	Paragraph 5.9.7	As set out in **Section 25.3.2**, 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 **Section 25.6**. A summary of construction and decommissioning phase effects on visual receptors is set out in **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**.
"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."	Paragraph 5.9.8	The quality, value and capacity of the seascape and landscape to accommodate change are considerations of the SVIA within this chapter. The approach to Good Design is presented in the **Offshore Design Statement** (document reference 9.26), which sets out how the final design of SEP and/or DEP will be approached post-DCO consent. **Section 25.3.3** sets out how the Applicant considered seascape, landscape and visual matters at the outset of the Projects and how it informed the selection of the SEP and DEP AfLs.

NPS Requirement	NPS Reference	Section Reference
"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. … *The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent."*	Paragraph 5.9.12 and Paragraph 5.9.13	The potential for SEP and DEP to affect nationally designated landscapes and areas has been considered in **Sections 25.5** and **25.6**. A separate assessment of the effects of SEP and/or DEP on the Special Qualities of the Norfolk Coast AONB is presented in **An Assessment of the Impacts on the Qualities of Natural Beauty of the Norfolk Coast Area of Outstanding Natural Beauty** (Document 9.25),
"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."	Paragraph 5.9.14	The value of the local landscape is considered as part of the baseline study contained within **Section 25.5**, and is informed by local landscape policies based on landscape character assessments. Effects on landscape character are assessed in **Section 25.6**.
"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."*	Paragraph 5.9.17	The approach to Good Design is presented in the **Offshore Design Statement** (document reference 9.26), which sets out how the final design of SEP and/or DEP will be approached post-DCO consent. **Section 25.3.3** sets out how the Applicant considered seascape, landscape and visual matters at the outset of the Projects and how it informed the selection of the SEP and DEP AfLs.
"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.	Paragraph 5.9.21	

NPS Requirement	NPS Reference	Section Reference
"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."	Paragraph 5.9.22	The approach to Good Design is presented in the **Offshore Design Statement** (document reference 9.26), which sets out how the final design of SEP and/or DEP will be approach post-DCO consent.
NPS for Renewable Energy Infrastructure (EN-3)		
"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."	Paragraph 2.4.2	The approach to Good Design is presented in the **Offshore Design Statement** (document reference 9.26), which sets out how the final design of SEP and/or DEP will be approached post-DCO consent. **Section 25.3.3** sets out how the Applicant considered seascape, landscape and visual matters at the outset of the Projects and how it informed the selection of the SEP and DEP AfLs.
"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. *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.* *The seascape is an important resource and an economic asset. Coastal landscapes are often recognised through statutory landscape designations. …. 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. 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:* • *limit of visual perception from the coast;*	Paragraphs 2.6.198 to 2.6.206	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. SEP and DEP would be visible from the shore and this SVIA considers effects on coastal receptors, including the Norfolk Coast AONB and the North Norfolk Heritage Coast, in accordance with this NPS requirement.

NPS Requirement	NPS Reference	Section Reference
• *individual characteristics of the coast which affect its capacity to absorb a development; and* • *how people perceive and interact with the seascape.* *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. 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.* *Where appropriate, cumulative SVIA should be undertaken in accordance with the policy on cumulative assessment outlined in Section 4.2 of EN-1."*		Illustrative wireframes and photomontages 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), a wireframe showing existing wind farms and SEP and DEP, and a photomontage showing existing wind farms and SEP and DEP (**Volume 2, Chapter 25 SVIA Figures**). The wireframes and photomontages represent realistic worst-case scenarios in terms of seascape, landscape and visual impacts. The assessment methodology is set out in **Section 25.4** and **Appendix 25.1 Seascape and Visual Impact Assessment Methodology**. Cumulative effects are considered in this chapter. Existing and consented wind farms form part of the existing baseline.
"Neither the design nor scale of individual wind turbines can be changed without significantly affecting the electricity generating output of the wind turbines. Therefore, the IPC should expect it to be unlikely that mitigation in the form of reduction in scale will be feasible. However, the layout of the turbines should be designed appropriately to minimise harm, taking into account other constraints such as ecological effects, safety reasons or engineering and design parameters."	Paragraph 2.6.210	The approach to Good Design is presented in the **Offshore Design Statement** (document reference 9.26), which sets out how the final design of SEP and/or DEP will be approached post-DCO consent. **Section 25.3.3** sets out how the Applicant considered seascape, landscape and visual matters at the outset of the Projects and how it informed the selection of the SEP and DEP AfLs.
NPS for Electricity Networks Infrastructure (EN-5)		
"As well as having duties under section 9 of the Electricity Act 1989, (in relation to developing and maintaining an economical and efficient network), developers will be influenced by Schedule 9 to the Electricity Act 1989, which places a duty on all transmission and distribution licence holders, in formulating proposals for new electricity networks infrastructure, to "have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and … do what [they]	Paragraph 2.2.6	SEP and/or DEP will be designed to preserve natural beauty of the countryside and preserve features of special interest as far as reasonably possible.

NPS Requirement	NPS Reference	Section Reference
reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects."		
"…when considering impacts for electricity networks infrastructure, all of the generic impacts covered in NPS EN-1 are likely to be relevant, even if they only apply during one phase of the development (such as construction) or only apply to one part of the development (such as a substation)."	Paragraph 2.6.1	The potential for the offshore components of SEP and/or DEP to affect seascape, landscape and visual receptors has been considered in **Section 25.6**.
"…New substations, sealing end compounds and other above ground installations that form connection, switching and voltage transformation points on the electricity networks can also give rise to landscape and visual impacts. Cumulative landscape and visual impacts can arise where new overhead lines are required along with other related developments such as substations, wind farms and/or other new sources of power generation."	Paragraph 2.8.2	The potential for the offshore components of SEP and/or DEP to affect seascape, landscape and visual receptors has been considered in **Section 25.6**. Cumulative effects with other projects are assessed in **Section 25.6.4**.

25.4.1.2 Draft National Policy Statements

38. It is noted that the NPS for Energy (EN-1), the NPS for Renewable Energy Infrastructure (EN-3) and the NPS for Electricity Networks Infrastructure (EN-5) are in the process of being revised. A draft version of each NPS was published for consultation in September 2021 (Department for Business Energy and Industrial Strategy (BEIS), (2021a), BEIS (2021b) and BEIS (2021c) respectively). A review of these draft versions has been undertaken in the context of this ES chapter.

39. During the course of the Project, updates to relevant NPS (to this ES Chapter) were published in draft for consultation in September 2021 by BEIS. A review of these documents shows that for a number of the current NPS, no additional requirements have been proposed.

40. **Table 25-4** details where it has been identified additional requirements have been proposed and sets out where this would be addressed in this chapter or wider ES. Minor changes to wording or changes paragraph numbering have not been documented below, as they would not materially influence the current NPS requirements should the draft be adopted in the future.

Table 25-4: Draft NPS Assessment – Additional Requirements

Draft NPS Additional Requirement	Draft NPS Reference	Section Reference
Draft NPS for Energy (EN-1)		
"Applicants should consider how landscapes can be enhanced using landscape management plans, as this will help to enhance environmental	Paragraph 5.10.10	The approach to Good Design is presented in the **Design and Access Statement** and **Offshore Design Statement** (document

Draft NPS Additional Requirement	Draft NPS Reference	Section Reference
assets where they contribute to landscape and townscape quality."		references 9.3 and 9.26), which considers how landscape (and seascapes) could be managed and enhanced.
Draft NPS for Renewable Energy Infrastructure (EN-3)		
"*In sites with nationally recognised designations (SSSIs, National Nature Reserves, National Parks, the Broads, Areas of Outstanding Natural Beauty, Registered Parks and Gardens, and Marine Conservation Zones), consent for renewable energy projects should only be granted where the relevant tests in Sections 5.4 and 5.10 of EN-1 are met and any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by the environmental, social and economic benefits. The Secretary of State should have regard to the aims and goals of the government's 25 Year Environment Plan and other existing and future measures and targets in England, including under the new strategy for nature."*	Paragraph 2.22.21	This SVIA, alongside other documents supporting the DCO application, addresses the tests set out in Section 5.4 and 5.10 of EN-1 identifying all significant adverse effects on nationally recognised designations.
"Seascape is an additional issue for consideration given that it is an important environmental, cultural and economic asset. This is especially so where seascape provides the setting for a nationally designated landscape (National Park, the Broads or AONB) and supports the delivery of the designated area's statutory purpose; and for stretches of coastline identified as Heritage Coasts which are associated with a largely undeveloped coastal character. 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 (SLVIA37) in accordance with the relevant offshore wind farm EIA policy. This will always be the case where a coastal National Park, the Broads or AONB, or a Heritage Coast is potentially affected."	Paragraph 2.35.2	SEP and DEP would be visible from the shore and this SVIA considers effects on coastal receptors, including the Norfolk Coast AONB and the North Norfolk Heritage Coast, in accordance with this NPS requirement. A separate assessment of the effects of SEP and/or DEP on the Special Qualities of the Norfolk Coast AONB is presented in **An Assessment of the Impacts on the Qualities of Natural Beauty of the Norfolk Coast Area of Outstanding Natural Beauty** (document 9.25).
Draft NPS for Electricity Networks Infrastructure (EN-5)		
The draft EN-5 does not contain additional requirements to those of the current EN-5		

25.4.1.3 Other

41. 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 landscapes including the Broads National Park, Norfolk Coast AONB and the North Norfolk Heritage Coast. These are referred to where applicable in this chapter, and listed below for reference:

25.4.1.3.1 Legislation

- Section 99 of the Natural Environment and Rural Communities Act 2006;
- Part 9 of the Marine and Coastal Access Act 2009; and
- Section 114 of the National Parks and Access to the Countryside Act 1949.

25.4.1.3.2 Policy

- Department of Energy and Climate Change (2011a) National Policy Statement for Energy (EN-1);
- Department of Energy and Climate Change (2011b) National Policy Statement for Renewable Energy Infrastructure (EN-3);
- Department of Energy and Climate Change (2011c) National Policy Statement for Electricity Networks Infrastructure (EN-5);

25.4.1.3.3 Guidance

- Chris Blandford Associates (2007) King's Lynn And West Norfolk Borough Landscape Character Assessment;
- Council for the Protection of Rural England (2006) Saving tranquil places. How to protect and promote a vital asset
- Department of Archaeology in the School of History, Classics and Archaeology at Newcastle University (2012);
- Department for Business, Energy and Industrial Strategy (2021a) Quarterly public attitudes tracking survey;
- Department for Business, Energy and Industrial Strategy (2021) BEIS Public Attitudes Tracker: Energy Infrastructure and Energy Sources Autumn 2021, UK Department for Trade and Industry (2005) Guidance on the assessment of the impact of offshore wind farms: seascape and visual impact report. [Archived]
- Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2019) National Planning Practice Guidance: Noise
- Land Use Consultants (2002) Landscape Character Assessment Guidance for England and Scotland;

- Land Use Consultants (2021) North Norfolk Landscape Character Assessment Draft Supplementary Planning Document;
- Landscape Institute (2019) Technical Guidance Note 06/19 Visual Representation of development proposals;
- Landscape Institute and Institute of Environmental Management and Assessment (IEMA) (2013) Guidelines for Landscape and Visual Impact Assessment, Third Edition;
- Marine Management Organisation (2012) Seascape character area assessment: East Inshore and East Offshore marine plan areas;
- Marine Management Organisation (2019a) An approach to seascape sensitivity assessment (MMO1204);
- Marine Management Organisation (2019b) An approach to seascape assessment: Technical report (MMO1204);
- Ministry of Housing, Communities and Local Government (2021) National Planning Policy Framework;
- Natural England (2011) Guidance for assessing landscapes for designation as National Park or Area of Outstanding Natural Beauty in England;
- Natural England (2012) Natural England Commissioned Report NECR2015 An Approach to Seascape Character Assessment;
- Natural England (2014) An Approach to Landscape Character Assessment;
- Natural England (2019) An Approach to Landscape Sensitivity Assessment;
- Natural England (n.d.) National Character Areas;
- Norfolk Coast Partnership (2009) Norfolk Coast AONB Integrated Landscape Guidance;
- Norfolk Coast Partnership (2014) Norfolk Coast Area of Outstanding Natural Beauty Management Plan Strategy 2014-19;
- Norfolk Coast Partnership (2022) Dark Sky Discovery Sites [online];
- Scottish Natural Heritage (2012) Offshore Renewables – guidance on accessing the impact on coastal landscape and seascape Guidance for Scoping an Environmental Statement;
- Scottish Natural Heritage (2017a) Siting and Designing Windfarms in the Landscape Guidance Version 3a;
- Scottish Natural Heritage (2017b) Visual Representation of Wind Farms: Guidance;
- The Broads Authority (2016) The Broads Landscape Character Assessment;
- The East of England Landscape Framework (2011) Integrated landscape assessment across the East of England region;

- The Planning Inspectorate (2018) Advice Note Nine: Rochdale Envelope [online]. Available at: Advice Note Nine: Rochdale Envelope | National Infrastructure Planning;
- University of Newcastle for Scottish Natural Heritage (2002) Visual Assessment of Windfarms: Best Practice. Scottish Natural Heritage Commissioned Report F01AA303A;
- White Consultants for Hartley Anderson (March 2020) Offshore Energy Strategic Environmental Assessment: Review and Update of Seascape and Visual Buffer study for Offshore Wind farms,

25.4.2 Data and Information Sources

42. 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.

25.4.3 Impact Assessment Methodology

43. **Chapter 5 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.

44. 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.

45. *"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).

46. 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"*.

47. 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."*

48. 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, 2019a).

49. 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.

50. Further information on the methodology is described in **Appendix 25.1 Seascape and Visual Impact Assessment Methodology**.

25.4.3.1 Assessment Terminology and Judgements

51. 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.
52. These terms are described in more detail below.

25.4.3.1.1 Assessing the Sensitivity of Seascape Character

53. MMO1204 (Marine Management Organisation, 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.)
54. 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.
55. 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..."* (Marine Management Organisation, 2019a, page 11, Glossary.)

Table 25-5: 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.

56. The susceptibility of seascape character areas is influenced by their characteristics; key characteristics might be within documented seascape character assessments and sensitivity or capacity studies. Criteria affecting seascape character susceptibility to offshore wind farm sites listed in **Appendix 25.3 Seascape Character Area Sensitivity Criteria Assessment**. The key characteristics of seascape and landscape character areas assessed in this Chapter are described in **Section 25.5.6**.

57. 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."* (Marine Management Organisation, 2019a, page 12, Glossary)

Table 25-6: Seascape Character Value

Value	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.

58. 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."* (Marine Management Organisation, 2019b, section 5.3.)

59. Criteria affecting seascape character value to offshore wind farm sites listed in **Appendix 25.3 Seascape Character Area Sensitivity Criteria Assessment**.

60. Seascape character sensitivity is assessed by combining the considerations of susceptibility and value described above.

Table 25-7: 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

25.4.3.1.2 Assessing the Sensitivity of Landscape Character, Visual Receptors and Designated Landscapes

61. 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).

62. 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 25-8: 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.

63. 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.

64. 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.

65. 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.

66. 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).

67. Landscape Value is *"the relative value that is attached to different landscapes by society"* (GLVIA3 (Landscape Institute and IEMA, 2013), page 157).

Table 25-9: 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.
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.

68. 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 25-10: 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 25-11: 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

69. 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 **Appendix 25.1 Seascape and Visual Impact Assessment Methodology**.

25.4.3.1.3 Magnitude of Effect

70. 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 25-12: 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.
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.

71. 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 25-13: Definition of Duration 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.

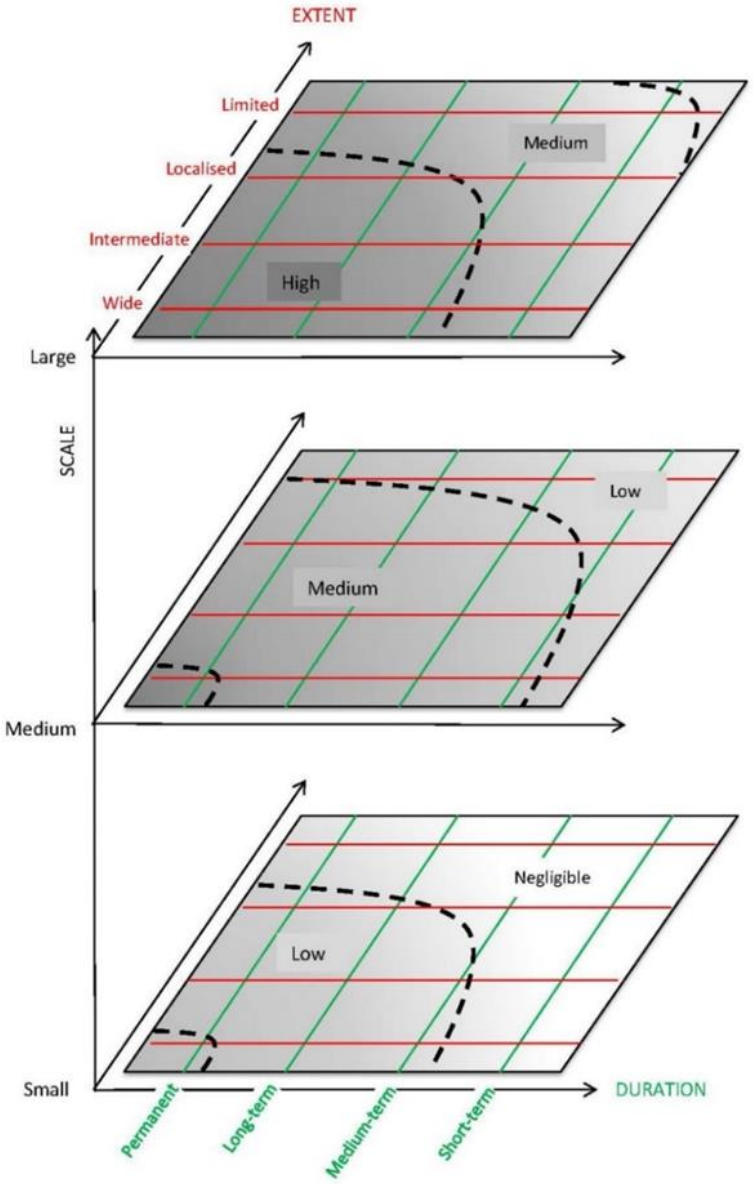
72. Effects arising from the operational wind farm sites are defined as permanent for the purpose of impact assessment, although each Project (SEP or DEP) is likely to be removed after 40-years in operation. Effects arising from the construction of the wind farm sites would be medium-term.

Table 25-14: Extent of Effect

Extent	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%).

73. The magnitude of effect is informed by combining the scale, duration and extent of effect. **Plate 25-1** below illustrates the judgement process:

Plate 25-1: Magnitude of Effect

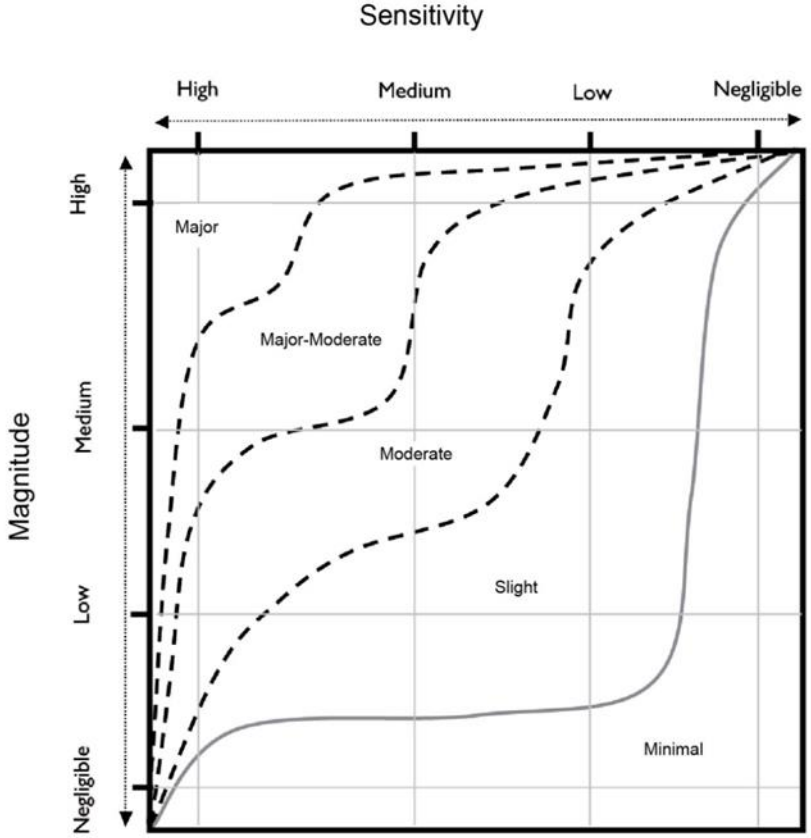


74. As can be seen from the illustration above, scale (shown as the layers of the diagram) is the primary factor in determining magnitude; most of each layer indicates that magnitude will typically be judged to be the same as scale but may be higher if the effect is particularly widespread and long lasting, 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.

25.4.3.2 Impact Significance

75. 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 **Plate 25-2**.

Plate 25-2: Definition of impact significance



76. 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).

77. 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.

25.4.3.2.1 Positive/Neutral/Adverse

78. 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.

79. 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.

80. 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.

81. 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 wind farms 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 BEIS since 2012 have shown increasing support for offshore wind energy (Department for Business, Energy and Industrial Strategy, 2021a). In autumn 2021 84% supported offshore wind, 13% neither supported or opposed, and 7% opposed (the remaining 3% are recorded as 'don't know') (BEIS Public Attitudes Tracker; Energy Infrastructure and Energy Sources Autumn 2021, UK (BEIS, 2021b)).

82. 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 25.8% 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.

83. In examining visual effects, it is relevant to recognise this range of public opinion (and the likelihood that professionally qualified landscape architects may have differed 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 (Scottish Natural Heritage, 2017a), Offshore Renewables – guidance on assessing the impact on coastal landscape and seascape Guidance for Scoping an Environmental Statement, (Scottish Natural Heritage, 2012) or local guidance), or in the opinion of the assessor.

84. 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.

25.4.4 Cumulative Impact Assessment Methodology

85. 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 5 EIA Methodology** provides further details of the general framework and approach to the CIA.

86. 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.

87. 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.

88. 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.

89. 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 25.11** and **25.12**:

- Lincs (operational);
- Inner Dowsing (operational);
- Lynn (operational);
- Race Bank (operational);
- Triton Knoll (operational);
- SOW (operational); and
- Dudgeon (operational).

90. 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.

25.4.5 Transboundary Impact Assessment Methodology

91. 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.

25.4.6 Assumptions and Limitations

25.4.6.1.1 Desk-Study and Fieldwork

92. The baseline environment within the study areas of SEP and DEP is described in the subsequent sections has been informed by desk-study and targeted fieldwork along with other visits to the area (undertaken between August 2020 to December 2021).

93. The ZTV studies (see **Figures 25.9**, **25.10** and **25.13** to **25.20**) 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.

25.4.6.1.2 Potential Night-time Effects and Lighting

94. The wind farm sites are located adjacent to the existing wind farms of SOW and DOW. 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 (which meets current standards) and will be developed in consultation with the relevant authorities during the detailed design of SEP and DEP. Navigation and aviation lighting is illustrated on night-time photomontages at three viewpoints agreed with consultees as described in **Table 25-1** (Viewpoints 1 Wells-next-the-Sea (**Figure 25.21**), 4 Incleborough Hill (**Figure 25.24**) and 6 Trimingham (**Figure 25.26**)), based upon current standards. Effects of lighting associated with SEP and DEP at night has been accounted for in the assessment of effects presented in **Section 25.6** and **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**. Lighting requirements will be agreed post-consent with all relevant stakeholders (including the Ministry of Defence (MoD); Civil Aviation Authority (CAA); Trinity House Lighthouse Service (THLS); and the Maritime and Coastguard Agency (MCA)) and adhere to relevant standards and guidance at that time. Lighting requirements will be secured through the DCO / Deemed Marine Licence (DML).

25.4.6.1.3 Distances

95. 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.

25.4.6.1.4 Offshore Visibility

96. This chapter assesses the worst-case scenario and assumes that conditions would be such that the proposed SEP and/or DEP turbines would be most visible from within the study area. However, several factors that would influence the degree of visibility to SEP and/or DEP day-to-day. These factors are considered below.

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

98. Guidance on the assessment of the impact of offshore wind farms: seascape and visual impact report (Department for Trade and Industry 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.

99. 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.

100. The Met Office defines the different ranges of visibility, stating *"visibility measures the distance at which an object can be clearly seen"* (Met Office, 2021). The Met Office defines a visibility index as follows:

- 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.

101. 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 15.9km from SEP offshore wind farm site) 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 26.9km from DEP offshore wind farm site).

102. 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.

103. However, in reality, the degree of visibility of SEP and/or DEP will be influenced by the prevailing meteorological conditions, which will likely vary throughout the operational lifetime of SEP and DEP. 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.

104. 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.

105. 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 provided in **Table 25-15**. **Table 25-15** 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 25-15: 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	25.81	30.12	34.36	31.96	28.85	28.40	28.35	24.24	25.13	25.68
> 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
Total	100	100	100	100	100	100	100	100	100	100	100	100	100
Data contained within this table is presented with permission of the Met Office (2021) © Crown Copyright Met Office 2021													

106. **Table 25-15** 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).

107. SEP is located approximately 16km from the coast at its closest point in the vicinity of Sheringham, within the distance range of 10,000 – 19,999m in **Table 25-15**. **Table 25-15** 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 approximately 16km from any part of the Norfolk coast.

108. DEP is located approximately 27km from the coast at its closest point in the vicinity of Cromer, within the distance range of 20,000 – 39,999m in **Table 25-15**. **Table 25-15** 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 approximately 27km from any part of the Norfolk coast.

109. 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. The document 'Visual Assessment of Windfarms: Best Practice' (University of Newcastle, 2002), a report commissioned by SNH, sets out the factors that would influence the visibility of proposed turbines day-to-day. It is important to note that the information set out below focuses the nature of the factors, rather than the relationship between the scale, distance from the coast and the visibility of a proposed turbine. More recent guidance on issue of visibility and distance is contained in BEIS's OESEA (2020).

- Lighting

  "5.2.6 We 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. We could detect 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 we judge 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° (± 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. We 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."

110. The assessment of effects in **Section 25.6** is based on conditions when proposed SEP and/or DEP turbines would be most visible, to assess 'worst-case' effects.

25.5 Existing Environment

25.5.1 Introduction

111. 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 25.6** for ease of reference.

112. 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).

113. 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

25.5.2 Zone of Theoretical Visibility (ZTV) Studies

114. Preliminary ZTV studies were generated based the realistic worst-case operational scenarios for both SEP and DEP. A ZTV study for each wind farm site is presented in **Figures 25.9** and **25.10**.

115. 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 25.6**.

116. 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.

117. 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.

118. As can be seen from the ZTVs presented in **Figures 25.9** and **25.10**, 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.

119. 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.

120. 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 (including coastal features such as dunes and flood banks) 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.

25.5.3 ZTV studies and Zone of Visual Influence

121. Fieldwork observations from onshore locations 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.

122. 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.

123. 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.

124. Views to the SEP and DEP wind farm sites would be available from the locations within North Sea (as indicated on **Figures 25.9** and **25.10**) 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’.

125. 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 the sea to an approximate height above 40-50m AOD (Above Ordnance Datum) (circa 1 - 5km inland from the coast) between Old Hunstanton (to the west) and Cromer (to the east), and a narrower strip of land along coastline between Cromer and Winterton-on-Sea. **Figure 25.5** shows the representative viewpoints from within this area and topography. (Refer to **Figures 25.21** to **25.38** for existing views and wireline views of SEP and DEP from the representative viewpoints.)

126. The east coast of Lincolnshire lies within SEP's study area (approximately 45km from the wind farm site), and the ZTV (**Figure 25.9**) 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 25.29**). **Figure 25.29** 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.

127. Based on fieldwork observations, it is judged that the scale of effects on seascape, landscape or visual receptors, or designated landscapes, outside the ZVI described above would be, at greatest, negligible scale and **minimal significance** and are not assessed in further detail in this chapter.

25.5.4 Existing wind farms – ZTV studies

128. ZTV studies of existing and consented wind farms situated within the SEP and DEP study areas have been prepared comparing the combined theoretical visibility of each scheme with SEP and DEP (**Figures 25.13** to **25.16** (SEP) and **25.17** to **25.20** (DEP)). All wind farms within the study areas of SEP and DEP are existing, with no wind farms consented but not yet constructed.

129. The ZTVs indicate that both SEP and DEP would generally be visible 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. There are also small areas inland where Race Bank could theoretically be visible on its own.

130. 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.

131. 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 25.17** 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.

25.5.5 Seascape Character

132. 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).

133. 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. This corresponds with the boundary of the Norfolk Coast AONB (see **Section 25.5.6.2.2**).

134. A seascape character assessment for the East Inshore and East Offshore Marine Plan areas was published by the Marine Management Organisation in July 2012 (Marine Management Organisation, 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.

135. 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.

136. Both the Marine Management Organisation 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').

137. The Marine Management Organisation seascape character area assessment Marine Management Organisation, 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.

138. 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 25.3** and **25.4**):

- East Midlands Offshore Gas Fields (SCA 3);
- East Anglian Shipping Waters (SCA 4) (DEP only);
- 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).

139. Parts of the SEP wind farm site are located within the following SCAs:
- East Midlands Offshore Gas Fields (SCA 3);
- East Midlands Coastal Waters (SCA 7); and
- Norfolk Coastal Waters (SCA 9).

140. Parts of the DEP wind farm site are located within the following SCAs:
- East Midlands Offshore Gas Fields (SCA 3); and
- Norfolk Coastal Waters (SCA 9).

141. 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 25.29**) 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.

142. The southern extent of SCA 2 Dogger Deep Water Channel falls within the study area of DEP. Given the distance from the wind farm site (approximately 42km at its closest) effects on the SCA would not exceed a negligible scale and **minimal significance**.

143. A very small area of the north-western edge of SCA 4 East Anglian Shipping Waters falls within the study area of DEP. Given the distance from the wind farm site (over 49km at its closest) effects on the SCA would not exceed a negligible scale and **minimal significance**.

144. Effects on SCA 8 The Wash, SCA 2 Dogger Deep Water Channel and SCA 4 East Anglian Shipping Waters are therefore not assessed in further detail.

145. 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 25.6**.

25.5.5.1 Historic Seascape Characterisation (HSC) – East Yorkshire to Norfolk

146. 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).

147. 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.

148. The HSC is a useful reference document that has informed the baseline review of the historical context of the seascape character of the SEP and DEP offshore sites and their study areas. However, the effects on historic seascape are assessed in **Chapter 14 Offshore Archaeology and Cultural Heritage** and are not assessed in this chapter.

25.5.6 Landscape Character

25.5.6.1 National Character Assessments

149. 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.

150. 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 National Character Areas (NCA) 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.

151. Effects on landscape character for the onshore development of SEP and DEP is assessed in detail in **Chapter 26 LVIA**.

152. In this instance, the wind farm sites are located beyond the extent of the 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.

153. 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.

25.5.6.2 Regional Character Assessments

25.5.6.2.1 East of England Landscape Framework (2011)

154. 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 applications, climate change studies, biodiversity and land management work and research studies, where matters related to the land/landscape are considered.

155. 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.

25.5.6.2.2 Norfolk Coast AONB Integrated Landscape Guidelines (2009)

156. 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.

157. 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."*

158. 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, 2021) provides a more recent character assessment of the area where the two overlap and is used as the landscape character assessment for impact assessment in **Section 25.6**.

25.5.6.2.3 The Broads Landscape Character Assessment (2016)

159. The Broads Landscape Character Assessment (The Broads Authority, 2016) 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.

160. 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.

25.5.6.3 Local Landscape Character

161. The following districts within the study areas (see **Figures 25.3** and **25.4**) 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.

25.5.6.3.1 North Norfolk Landscape Character Assessment (2021)

163. The North Norfolk Landscape Character Assessment Supplementary Planning Document (January 2021) (NNLCA) was adopted by North Norfolk District Council on 1st February 2021.

164. The NNLCA states:

165. *"1.8 The District has a strongly rural character with agriculture, in particular arable farmland, comprising by far the largest component of land use.*

166. *1.9 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."*

167. *1.10 There are many aspects of the North Norfolk environment to be positive about, such as:*
    - *The stunning landscape of the North Norfolk Coast AONB, carefully managed by the Norfolk Coast Partnership to ensure it can be enjoyed by generations to come. …*
    - *The large number of internationally and nationally designated sites and nature reserves, home to many rare and protected species and landscapes.*
    - *The wealth of archaeological and historic environment sites throughout the district, from the prehistoric to the Cold War. …"*

168. Nine landscape character types (LCT) and 16 landscape character areas (LCA) are identified. **Figures 25.3** and **25.4** present the locations of each LCA located within the respective study areas of SEP and DEP.

169. The ZTV studies for each wind farm site (see **Figures 25.9** and **25.10**) show that SEP and/or DEP could theoretically be visible from all of the LCAs.

170. 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.

171. 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.

172. From LCAs immediately inland of the coastal LCAs which lie within the ZVI described in **Section 25.5.2**, 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 25.9** and **25.10**).
- 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 25.33**) lies within this area where visual effects are 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 25.36**), they would be from limited locations within northern parts of the LCA where gaps in vegetation allow and would include existing wind farms.

- For TF1, views of the wind farm sites would be restricted to a limited number of locations on rising landform on the northern edge, south of Morston. Where views would be possible, they would be from limited locations within northern parts of the LCA where gaps in vegetation allow and would include existing wind farms. From the majority of the LCA views of SEP and DEP would be obscured by landform or vegetation.
- WGR1 lies inland of areas of settlement at Sheringham and West and East Runton and contains extensive areas of woodland. This existing 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 25.27**), 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.

173. 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 25.6**:

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

25.5.6.3.2 King's Lynn & West Norfolk Borough Landscape Character Assessment, (2007)

174. The aim of the King's Lynn & West Norfolk Borough Landscape Character Assessment (Chris Blandford Associates, 2007) (KLWNBLCA) 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 KLWNBLCA is used as part of the Borough's technical evidence base and has informed the Local Development Framework.

175. The KLWNBLCA describes the King's Lynn and West Norfolk Borough as follows:

"1.1.3 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."

176. 11 LCTs and 61 LCAs are identified within the extent of the KLNWBLCA. **Figures 25.3** and **25.4** present the locations of SEP and DEP in relation to King's Lynn and West Norfolk Borough.

177. The ZTVs for each wind farm site (see **Figures 25.9** and **25.10**) 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.

25.5.6.3.2.1 SEP

178. Fieldwork has identified that visibility of SEP on-the-ground would be far less than theoretically indicated by **Figure 25.9**. 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.

179. 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 A5, A6, A7, A8 and A9) and C: Coastal Slopes (LCAs C2 and C3).

180. LCA A5 Old Hunstanton is a small area of coastal landscape on a section of coast facing north-west away from SEP. It lies over 40km from SEP and there are existing wind farms that are closer to the LCA that are visible in views. SEP would not affect the character of LCA A5.

181. From LCAs immediately inland for the coastal LCAs which lie within the ZVI described in **Section 25.5.3** (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 land within 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 visible in these views. Should views to the proposed SEP and/or DEP wind farm sites be possible – for example at Viewpoint 11 (**Figure 25.31**) which lies on elevated ground within LCA J1 Docking - the intrinsic, prevailing character of the landscape would not be changed through the construction and operation of the SEP and/or DEP wind farm sites. Effects Viewpoint 11 are assessed as Small-negligible scale due to SEP and Negligible scale due to DEP; such small effects on views from limited areas would not affect landscape character.

182. 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 which lie within LCT A – Open Coastal Marshes are taken forward for detailed assessment in **Section 25.6**:

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

183. Fieldwork has identified that a similar degree of effect is likely to occur from each of these LCAs within LCT A: Open Coastal Marshes and they are therefore assessed collectively.

25.5.6.3.2.2 DEP

184. At over 47km distance away, 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.

25.5.7 Visual Receptors

185. 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.

186. 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.

187. 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 25.2**.

188. 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).

25.5.7.1 Offshore Visual Receptors

189. The North Sea is an active seascape and includes a number of visual receptors that may be affected by the wind farm sites.

190. The ZTV studies (**Figures 25.9** and **25.10**) 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 25.6**.

25.5.7.2 Settlements

191. There are 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.

192. 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

193. The following larger villages lie within the study areas:

- Briston/Melton Constable;
- Hoveton/Wroxham; and
- Mundesley

194. 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 25.5.7.2**, smaller villages are assessed as part of the visual receptor groups in **Section 25.6**.

195. 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 26 LVIA**.

196. The ZTVs (**Figures 25.9** and **25.10**) 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 25.5.3**, 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/Wroxham.

197. 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.

198. 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 25.6**. They lie within the study areas of SEP and DEP.

- Cromer;
- Sheringham;
- Wells-next-the-Sea; and
- Mundesley.

25.5.7.3 Roads and Rail

25.5.7.3.1 Key Routes

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

25.5.7.3.1.1 A-Roads

Norfolk

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

Lincolnshire

- A52; and
- A158.

25.5.7.3.1.2 Rail

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

200. The ZTVs (**Figures 25.9** and **25.10**) 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 25.5.3**, 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.

201. 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.

202. 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**.

203. Therefore, no key routes are taken forward for further assessment in **Section 25.6**.

25.5.7.4 Recreational Routes

25.5.7.4.1 Long Distance Walking Routes

204. 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.

205. 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. Some sections are open, and others have yet to be implemented.

206. 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 (accessed 17/12/2021).

207. The ZTV studies (**Figures 25.9** and **25.10**) 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 25.6**.

208. 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 25.6**.

25.5.7.4.2 National and Regional Cycle Routes

209. 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.

210. The Norfolk Coast Cycleway also runs inland of the Norfolk coast between Kings Lynn and Great Yarmouth following parts of NCN route 1, RCN 30 and RCN 33 through the study area.

211. NCN 1, RCN 30, RCN 33 are shown on **Figures 25.6**, **25.7** and **25.8**. These cycle routes, and the Norfolk Coast Cycleway, extend close to the north Norfolk coast and.

212. The ZTVs (**Figures 25.9** and **25.10**) 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 25.5.3**, visibility would not be as widespread as the ZTVs theoretically imply, and most of these routes lie outside the ZVIs.

213. 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.

214. NCN 1 and the Norfolk Coast Cycleway makes a loop around Holkham and Wells-Next-the-Sea (see **Figure 25.6**), 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.

215. 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.

25.5.7.5 Visual receptor groups

216. 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 25.5.3**. 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.

217. 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.

218. 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 25.6**.

219. 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**.

25.5.7.6 Specific Viewpoints

220. 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

221. At the time of assessment (2020 and 2021), the viewing gazebo, which is normally open to the public, was closed. In September 2021, the National Trust confirmed that it had been closed during the Covid-19 pandemic but remains closed because it had been deemed unsafe and needs repair work before it can be re-opened, and that repair works are planned to be implemented in 2022. 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 25.37**) – and in combination with the previous SVIA undertaken in the area for SOW, which also used this viewpoint, it has been judged that a reasonable/fair professional assessment can be made.

222. In September 2021 the National Trust advised that historical records indicate there was a watch tower there in Napoleonic times which would have been looking towards the sea. It is thought that there was a tower continuously from that point. In more recent times it would have been used as a general outlook at the parkland and more distant prospects, including potential fire in the conifer plantations. The National Trust purchased Sheringham Park in 1987 and the platform was replaced soon thereafter.

223. The specific viewpoint at the viewing Gazebo, Oak Wood is taken forward for more detailed assessment in **Section 25.6**.

25.5.7.7 Dark Sky Discovery Sites

224. 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 (Norfolk Coast Partnership, 2022), these sites aim to raise awareness and appreciation of dark skies and in doing so, will encourage the reduction of light pollution on the Norfolk Coast.

225. **Figures 25.1** and **25.2** (and on more detailed **Figures 25.6** and **25.7**) 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 25.5.3** and are taken forward for consideration in **Section 25.6**. 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).

25.5.8 Designated and Defined Landscapes

25.5.8.1 Designated Landscapes

226. As shown on **Figures 25.1** and **25.2**, two nationally designated landscapes lie within the extent of the study areas of the wind farm sites. These are:

- Broads National Park; and

- Norfolk Coast AONB.

227. Both the Broads National Park 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 National Parks 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.

228. Analysis of the ZTVs (**Figures 25.9** and **25.10**) 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 identified that whilst visibility on-the-ground would be less than theoretically indicated (as set out in **Section 25.5.3**), views of SEP and/or DEP would be possible from the Norfolk Coast AONB, mainly restricted to within the extent of the ZVI.

229. The AONB is divided into three discrete geographical areas as follows:

- 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 25.6**.
- The eastern section of the AONB lies on the coast south of Sea Palling over 40km from SEP and DEP, adjacent to and covering part of the Broads National Park. The ZTV studies (**Figures 25.9** and **25.10**) 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 25.27**) is located on the elevated dunes on this section of coast where visual effects are assessed as small-negligible scale for SEP, DEP and SEP and DEP. 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 25.6**.

25.5.8.2 Defined Landscapes

230. As shown on **Figures 25.1** and **25.2** an area of Heritage Coast (the 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.

231. 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.

232. As shown on the ZTV studies (**Figures 25.9** and **25.10**), 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.

25.5.8.3 Local Landscape Value

233. 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.

234. The Broads National Park, Norfolk Coast AONB and NNHC 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.

235. 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.

25.5.9 Climate Change and Natural Trends

236. 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.

237. 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.

238. 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 including the climate (e.g. hotter drier summers and wetter winters, and more extreme weather events), sea level rise and greater coastal erosion.

239. 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.

25.6 Potential Impacts

25.6.1 Introduction

240. 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.

241. The principal seascape, landscape and visual effects would occur during the 40-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 previous conditions. Effects during the construction and decommissioning phases are summarised in **Section 25.6.3**, and in more detail in **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**.

242. 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 25.4**). However, the wind farm sites would be temporary and would be removed after their proposed operating life of 40-years. Operational effects would thus extend beyond being 'Long-term' (defined as up to 25 years) but not be permanent.

243. All operational identified effects included within this chapter are summarised in **Table 25-24** and **Table** 25-25 in **Section 25.11**. All construction and decommissioning phase effects are summarised in **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**.

244. With regard to potential residual effects, no mitigation beyond the embedded mitigation (i.e. not to include the area between the southern edge of the existing SOW and the Norfolk coast within the SEP AfL due to the proximity of sensitive land-based receptors) is proposed. As such, the residual effects will be the same as those described for the operational effects of SEP and/or DEP in **Section 25.6.2**, and summarised for the construction and decommissioning effects of SEP and/or DEP in **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**.

25.6.2 Potential Impacts During Operation

245. Effects during the daytime would be different to effects at night. During the daytime the assessment is based on the greatest effects in clear visibility, when the wind turbines would be clearly visible, with blades rotating, seen in the context of the existing smaller wind turbines.

246. Aviation and navigation lighting would be turned on as daylight fades in the evening, and turned off as daylight increases in the morning, and would be visible at dusk, during the night and at dawn. This would be seen in the context of existing lighting offshore, including lighting at the existing SOW and DOW.

247. The existing SOW and DOW have the following lighting:

- Permanent Navigational Markings:
  - Peripheral wind turbines, which have been deemed to be 'significant peripheral structures', are equipped with a 'FY l 5s' light (flashing yellow every 5 seconds), located at approximately 12m above the Highest Astronomical Tide (HAT), below the arc of the turbine blades. These 'aid to navigation (AtoN) lights' are visible all around the towers to shipping; have a nominal range of 5 nautical miles; and are exhibited at a minimum at night and when the visibility reduces to 2 nautical miles or less. More than one lantern is installed on each wind turbine, and the lanterns are synchronised.
  - Selected wind turbines are equipped with omnidirectional fog signals with an IALA Usual Range of 2 nautical miles and sounding 1 blast of 2 seconds duration every 30 seconds, to sound at least when the visibility reduces to 2 nautical miles (nm) or less. In order to minimise the fog signals, fog detectors are to be fitted to each of the wind turbines equipped with fog signals.
- Aviation Lighting
  - In accordance with the agreement with the CAA, a number of the periphery wind turbines are equipped with aviation obstruction lights as recommended in the Air Navigation Order 2005. One or more medium intensity steady red light have been fixed (as close as reasonably practicable) to the top of the selected wind turbines. Lighting is fitted so it is visible in all directions without interruption.

248. For the purpose of this assessment, it is assumed that the SEP and DEP would have the following lighting specifications, which have been derived from a conservative interpretation of the requirements of the CAA and MCA's.

- Selected periphery structures marine lighting (SPS) (including any corner structures) should comprise a flashing yellow light with special mark characteristic, which should be placed on the top of the transition pieces upon every second structure. Its lighting intensity would have a nominal range of 5nm and will require multiple lights per structure to ensure 360-degree visibility. Flashing should be synchronized over all structures.

- Selected intermediate structures marine lighting (IPS), would be required on structures between the SPS lit structures along the periphery, to bridge “gaps” between SPSs. IPS should be spaced no more than 2nm apart from another peripheral IPS or SPS. IPS lights should comprise a flashing yellow light with special mark characteristic that is distinct from SPS lights. Its lighting intensity would have a nominal range of 2nm and will require multiple lights per structure to ensure 360-degree visibility. Flashing should be synchronized over all structures. IPS lighting may not be required for SEP and/or DEP and is dependent on consultation with relevant stakeholders.
- Aviation Warning Lighting would be required on all peripheral structures, comprising of a red 2,000 candela (Cd) light displayed at night that is dimmable to 200 Cd when visibility is greater than 5 km at night. It should be placed at the top of the nacelle, with synchronised flashing morse “W”, and have 360-degree visibility. It should be capable of being switched off or displaying a steady 200 Cd light at the request of MCA during Search and Rescue (SAR); compatible with Night Vision Imaging Systems (NVIS).
- SAR Lighting would be required on all internal structures comprising a 200cd red steady SAR lights that would be off unless in use. They should be capable of being switched on or off on a selection of wind turbine. This is so a path can be marked through to all structures or specific structures.
- ID Board Lighting would be required on all structures, comprising ID number plates that are illuminated by a low intensity light visible from a vessel. The lighting must be hooded or baffled to avoid unnecessary light pollution or confusions with navigation marks.ID numbers must be clearly readable by an observer stationed 3 metres above sea level at a distance of at least 150 metres from an individual wind turbine.

249. MoD requirements, which are in addition to those required by the MCA and CAA, related to Infra-red (IR) lighting is not visible to the human eye and therefore not considered relevant to this assessment.

250. The night-time photomontages from Viewpoints 1 Wells-next-the-Sea, 4 Incleborough Hill and 6 Trimingham shown on **Figures 25.21**, **25.24** and **25.26**, show lighting on SEP and DEP as described above.

251. It can be seen from the night-time photomontages that whilst the lights of SEP and/or DEP would increase the number and change the arrangement of offshore lighting in existing night-time views out to sea, their luminosity would be similar to those already experienced when looking towards the existing wind farms. From part of the coastline closest to the proposed wind farms, for example Viewpoint 4, the spread and increase height of SEP’s and/or DEP’s light would be more noticeable. With distance from SEP and DEP, from locations such as Viewpoints 1 and 6, the lights of SEP and/or DEP would be less distinguishable than those existing offshore lights, albeit the spread of lighting across the view would remain noticeable.

252. Potential night-time effects have been considered in reaching judgements throughout this assessment. It is judged that the greatest effects would be experience during the day-time, when it is anticipated that visibility would be at its maximum. Only where it has been judged that there would be a difference between day-time and night-time views has this been noted within the assessment.

25.6.2.1 Effects on Seascape Character

253. As set out in **Section 25.5**, 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).

254. These SCAs, as set out in the Marine Management Organisation's 'Seascape character area assessment: East Inshore and East Offshore marine plan areas' (MMO SCA) (Marine Management Organisation, 2012) are shown on **Figures 25.3** and **25.4**.

255. 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 SOW, Dudgeon, Race Bank, Triton Knoll 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 25.11** and **25.12**.

256. 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.

257. 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.

258. The relevance of these experiences is as follows. 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'.

259. In this instance, SEP and DEP would be located adjacent to the operational wind farms at SOW and DOW. These already influence the seascape character.

260. 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’.

261. 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.

262. 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.

263. 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’.

264. 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.

265. 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.

266. 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.

267. 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.

268. 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.

269. Descriptions for each of the assessed seascape character areas are briefly summarised below, along with further observations from onshore site-based fieldwork.

270. With consideration to the operational scenarios of SEP and/or DEP (set out in **Section 25.3.2.3**), 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.

271. It should be noted that the MMO SCA (Marine Management Organisation, 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 SOW could have been under construction. DOW, 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 Marine Management Organisation seascape character assessment was undertaken.

25.6.2.1.1 East Midlands Coastal Waters (SCA 7)

272. Only the SEP wind farm site lies within SCA7: EMCW.

273. SCA7: EMCW covers a large proportion of the seascape to the south and west of the study areas, as shown on **Figures 25.3** and **25.4**.

274. The key characteristics defined in the MMO SCA (Marine Management Organisation, 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."*

275. Onshore fieldwork has observed that the description of SCA7: EMCW conforms to the key and prevailing characteristics as described in the MMO SCA (Marine Management Organisation, 2012). The existing SOW, Lincs, Inner Dowsing and Lynn offshore wind farms lie within this character area as shown on **Figure 25.3**.

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

277. 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)' (Marine Management Organisation, 2019a Appendix C). This assessment is set out in detail in **Appendix 25.3 Seascape Character Area Sensitivity Criteria Assessment** and summarised below.

278. The SCA plays an important role in views from and the setting of the north Norfolk coast, the Norfolk Coast 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.

25.6.2.1.1.1 SEP in Isolation

279. 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.

280. 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 SOW, 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.

25.6.2.1.1.2 DEP in Isolation

281. 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 SOW and DOW 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.

25.6.2.1.1.3 SEP and DEP

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

25.6.2.1.2 Norfolk Coastal Waters (SCA 9)

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

284. SCA9: NCW covers a proportion of the seascape to the south-east the study areas, as shown on **Figures 25.3** and **25.4**.

285. The key characteristics defined in the MMO SCA (Marine Management Organisation, 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."*

286. Onshore fieldwork has observed that the description of SCA9: NCW conforms to the key and prevailing characteristics as described in the MMO SCA (Marine Management Organisation, 2012). The existing Scroby Sands offshore wind farm lies within this character area, beyond the study areas to the south-east, and the existing SOW and DOW lie just outside the SCA.

287. The MMO SCA (Marine Management Organisation, 2012) does not provide any specific assessment criteria for sensitivity for SCA9: NCW 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)' (Marine Management Organisation, 2019a Appendix C). This assessment is set out in detail in **Appendix 25.3 Seascape Character Area Sensitivity Criteria Assessment** and summarised below.

289. As can be seen on **Figure 25.3**, 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 SOW and DOW, 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 Coast 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.

25.6.2.1.2.1 All Operational Scenarios

290. 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.

291. 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.

25.6.2.1.3 East Midlands Offshore Gas Fields (SCA 3)

292. A small part of the SEP wind farm site and the majority of the DEP wind farm site lies within SCA3: EMOGF.

293. SCA3: EMOGF covers a large proportion of the seascape to the north, north-east and east of the study areas, as shown on **Figures 25.3** and **25.4**.

294. The key characteristics defined in the MMO SCA (Marine Management Organisation, 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."*

295. There were no offshore wind farms within this SCA when the MMO SCA was published in 2012. Race Bank, Dudgeon and Triton Knoll offshore wind farms have subsequently been constructed within this SCA (see **Figures 25.3** and **25.4**). Part of the consented Hornsea Three offshore wind farm will also be located within this SCA, to the north-east of SEP and DEP, outside their study areas and beyond the area shown on **Figures 25.3** and **25.4**. 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 (Marine Management Organisation, 2012), with the addition of offshore wind farms as a new key characteristic.

296. The MMO SCA (Marine Management Organisation, 2012) does not provide any specific assessment criteria for sensitivity for SCA3: EMOGF to offshore wind farm development.

297. 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)' (Marine Management Organisation, 2019a Appendix C). This assessment is set out in detail in **Appendix 25.3 Seascape Character Area Sensitivity Criteria Assessment** and summarised below.

298. This SCA already contains three operational offshore wind farms within the study area and part of one consented offshore wind farm beyond 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 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 Coast 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 19km+ 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.

25.6.2.1.3.1 SEP in Isolation

299. 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 offshore 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 25.3**). Combining scale, duration and extent, effects would be of a low magnitude and **slight significance**. Effects would be adverse.

25.6.2.1.3.2 DEP in Isolation

300. 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 within the study area in these directions (see **Figure 25.4**). 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.

25.6.2.1.3.3 SEP and DEP

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

25.6.2.2 Effects on Landscape Character

302. **Section 25.5** 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 and contained to LCAs located along the Norfolk coastline between Old Hunstanton and Mundesley.

303. 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.

304. 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 character. 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 character 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.

305. Local landscape character areas, as described in the landscape character assessments – the North Norfolk Landscape Character Assessment (Land Use Consultants, 2021) (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 25.3** and **25.4**. Descriptions for each of the assessed landscape character areas that are relevant to this SVIA are summarised below, along with further observations fieldwork.

25.6.2.2.1 North Norfolk Landscape Character Assessment (Land Use Consultants, 2021)

25.6.2.2.1.1 OCM1. Open Coastal Marshes (16km south west from SEP, 34km south west from DEP)

306. **Figures 25.3** and **25.4** show the location of OCM1 in relation to the SEP and DEP wind farm sites.

307. A descriptive summary of the overarching LCT is set out below; alongside a list of relevant key characteristics of LCA OCM1. Quotations are from the NNLCA (Land Use Consultants, 2021).

308. Summary of overarching LCT:

309. *"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. The marine and coastal habitats form a complex mosaic of shallow seas, intertidal sand and mud flats, coastal vegetated shingle, saline lagoons, salt marsh and creeks, largely devoid of any settlement and dominated by natural dynamic processes. All of this landscape carries the highest designations in relation to its landscape and ecological value. …*

310. *There is one area of Open Coastal Marsh in North Norfolk, in the north-west of the District: OCM1 – North Norfolk Open Coastal Marshes"*

311. Summary of relevant key characteristics of the LCT:

- *"Flat, open landscape of saltmarshes, creeks, sand bars and mudflats*
  - *The low-lying coast is one of the few examples of a barrier system in Europe. The whole is a valuable complex of saltmarshes generally developing behind sand dunes and shingle structures, together with extensive areas of intertidal sand and mudflats. Some sandbars have formed sand dune complexes (in one instance with Corsican Pines).*
  - *The topography is generally very flat except for small rises where dunes have formed on the seaward side of the marsh (rising no more than 7m). The creeks within the marsh are a significant element throughout the Type and vary greatly in width from less than 1m to over 60m. The large sandy lagoon at Blakeney (3 miles long) is a major feature of the Type.*
- *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*
  - *Some human intervention has altered the line of creeks (Blakeney Cut, Wells-next-the-Sea Harbour, Stiffkey Harbour and several other similar re-directions), but natural forces have created the majority of the landscape and the area remains a natural landscape. Settlement is largely absent, except for a few individual buildings (e.g. Morston look out, Blakeney Point former RNLI station and Wells RNLI station, beach huts and hides). 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."*

312. 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."*

313. The NNLCA (Land Use Consultants, 2021) 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."*

314. 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."*

315. 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*", and because existing offshore wind farms are visible from this LCA. 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, 2021). Taking both susceptibility and value into account, it is assessed that OCM1 would be of a high – medium sensitivity to the proposed developments.

316. 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.

317. 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.

318. From the shoreline and some areas inland, views of SEP and/or DEP would be possible, albeit seen alongside the existing wind farms at SOW and DOW and other existing wind farms in the North Sea. Viewpoints 1, 2, 14 and 15 (**Figures 25.21, 25.22, 25.34**, and **25.35**) represent such available views from within this LCA, where the scale of effects on views from these locations are assessed as shown in **Table 25-16**:

Table 25-16: Summary of Visual Effects on Viewpoints for OCM1

Viewpoint Reference	Distance & Direction	Scale of Effect		
		SEP In isolation	DEP In isolation	SEP + DEP
Viewpoint 1 Wells-next-the-Sea	SEP: SW, 26.6km DEP: SW, 44.5km	Medium-Small	Negligible	Medium-Small
Viewpoint 2 Morston Quay	SEP: SW, 21.9km DEP: SW, 37.6km	Medium – Small	Negligible	Medium – Small

Viewpoint Reference	Distance & Direction	Scale of Effect		
		SEP In isolation	DEP In isolation	SEP + DEP
Viewpoint 14 Blakeney Car Park	SEP: SW, 20.5km DEP: SW, 36.1km	Medium – Small	Negligible	Medium – Small
Viewpoint 15 Peddars Way, Norfolk Coast Path and England Coast Path, Blakeney	SEP: SW, 19.1km DEP: SW, 34.7km	Medium	Small – Negligible	Medium

319. 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 containing existing offshore wind farms.

25.6.2.2.1.1.1 SEP in Isolation

320. 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 SOW 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 25.22**), for example.

25.6.2.2.1.1.2 DEP in Isolation

321. 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 SOW in the foreground, and the fact that due to distance the larger-sized proposed turbines would not appear out of scale with the smaller SOW turbines in these views, as can been seen at Viewpoints 1 and 2 (**Figures 25.21** and **25.22**). Effects would be of negligible magnitude, **minimal significance** and neutral.

25.6.2.2.1.1.3 SEP and DEP

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

25.6.2.2.1.2 DCM2. Drained Coastal Marshes (17.3km south from SEP, 31.7km south west from DEP)

323. **Figures 25.3** and **25.4** show the location of DCM2 in relation to both the SEP and DEP wind farm sites.

324. A descriptive summary of the overarching LCT is set out below; alongside a list of relevant key characteristics of LCA DCM2. Quotations are from the NNLCA (Land Use Consultants, 2021).

325. Summary of overarching LCT:

326. *"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.*

327. *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 manmade defences, lie the undrained Open Coastal Marshes. The southern boundary of the Type is defined by rising land where the drained marshes meet higher land of the Rolling Open Farmland (at Holkam Park/Wells), Tributary Farmland (at Blakeney) and the Cromer Ridge (at Salthouse)."*

328. *"There are two geographically distinct areas of Drained Coastal Marsh in North Norfolk:*

DCM1 - Holkham Drained Marshes

DCM2 - Blakeney, Wiveton, Cley and Salthouse Drained Marshes"

329. Summary of relevant key characteristics of the LCT:

- *"A flat, open low lying landscape dominated by grazing marsh and drained farmland*
    - *The Drained Coastal Marshes have been reclaimed from the coastal saltmarshes with much land at or slightly below sea level (due to shrinkage). Soils are derived from marine alluvium and are deep and stoneless, either clayey or calcareous. The land use pattern reflects a history of human intervention. In areas protected by a sea wall are arable fields divided into large geometric fields bordered by grassed banks, straight drainage ditches and low gappy hedges. Along the inland fringes is a smaller scale pattern of more textured and irregularly-shaped pastures. The grazing marsh is drained by meandering rivers and creeks, many of which have been diverted during the drainage process. The area around Cley is a nature reserve with brackish lagoons, pasture, reedbeds and dykes.*
- *Enclosed by natural (sand dunes, shingle banks) or man-made (clay) banks which keep the sea out …*
- *A dynamic and changing landscape*
    - *Change has long been a characteristic feature of the Drained Coastal Marshes and the area has been subject to repeated reclamation since Roman times. Mapped evidence suggests periods of intensive agriculture followed by temporary reversion to marshland and periods when grazing was dominant. This continues to this day. …*
- *A remote, peaceful landscape, but with some 'honeypots' of activity and built development*

- *Human intervention is present in the form of drainage ditches and cultivated land, and there is evidence of historic settlement, including the remains of an Iron Age fort in DCM1 and the remains of Blakeney Chapel in DCM2, but today the landscape is largely unsettled. except for 'honeypots' of activity near Holkham, Wells, Blakeney and Cley. …*

- *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. ... 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 than enclose the area."*

330. NNLCA (Land Use Consultants, 2021) 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.*
- *Land use is dominated by freshwater wetlands, reedbeds, small pastures, reed fringed ditches and open water scrapes …*
- *Relatively little access and settlement compared to DCM1*
  - *There is relatively low level of public access to this area compared to DCM1 – restricted to two minor roads to the coast, foot access along the sea walls/ shingle bank and across the marsh to the coast, and some access to the NWT Reserve (although this is limited). The only settlement/ buildings are the remains of Blakeney Chapel (only the foundations and part of a wall still remain) and Cley Windmill which lies on the edge of Cley next the Sea."*

331. Valued Features and Qualities of the LCT 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*
  - *These historic remains provide time depth to the landscape and an indication of former activity in the area – including grazing of the marsh for cattle, sheep and horses, the supply of sedge and reed for building and for animal bedding, the production of salt in 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."*

332. The NNLCA (Land Use Consultants, 2021) 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."*

333. Forces for Change/Detractors include changes in water management/sea levels, changes in agriculture, 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 off-shore 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."*

334. 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", "the sense of openness"* and *"its perception of remoteness and or* [potential for offshore wind turbines to] *create a 'limit' to the skyline and horizon"*, and because existing offshore wind farms are visible from this LCA. 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, 2021). Taking both susceptibility and value into account, it is assessed that DCM2 would be of a high – medium sensitivity to the proposed developments.

335. 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.

336. 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 because 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.

337. 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 SOW and DOW and other existing wind farms in the North Sea. Viewpoints 10 and 15 (**Figures 25.30** and **25.35**) lie within this LCA, and Viewpoint 14 (**Figure 25.34**) lies adjacent to the south-west corner of the LCA, where the scale of effects on views from these locations are assessed as shown in **Table 25-17**. Each viewpoint lies on local landforms raised above the majority of the land within DCM2:

Table 25-17: Summary of Visual Effects on Viewpoints for DCM2

Viewpoint Reference	Distance & Direction	Scale of Effect		
		SEP In isolation	DEP In isolation	SEP + DEP
Viewpoint 10 Gramborough Hill	SEP: SW, 17.5km DEP: SW, 32.1km	Medium	Small	Medium
Viewpoint 14 Blakeney Car Park	SEP: SW, 20.5km DEP: SW, 36.1km	Medium – Small	Negligible	Medium – Small
Viewpoint 15 Peddars Way, Norfolk Coast Path	SEP: SW, 19.1km DEP: SW, 34.7km	Medium	Small - Negligible	Medium

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

338. Viewpoint 15 is on a raised flood/coastal defence feature 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).

339. 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 containing existing offshore wind farms.

25.6.2.2.1.2.1 SEP in Isolation

340. 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, given the proximity of SEP to the existing SOW 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 25.30**) for example.

25.6.2.2.1.2.2 DEP in Isolation

341. 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 SOW in the foreground, and the fact that due to distance the larger-sized proposed turbines would not appear out of scale with the smaller SOW turbines in these views as can been seen at Viewpoints 10 and 15 (**Figures 25.30** and **25.35**). Effects would be of a negligible magnitude, **minimal significance** and neutral.

25.6.2.2.1.2.3 SEP and DEP

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

25.6.2.2.1.3 CS1. Coastal Shelf (15.8km south from SEP, 26.7km south from DEP)

343. **Figures 25.3** and **25.4** show the location of CS1 in relation to both the SEP and DEP wind farm sites.

344. A descriptive summary of the overarching LCT is set out below; alongside a list of relevant key characteristics of LCA CS1. Quotations are from the NNLCA (Land Use Consultants, 2021).

345. Summary of overarching LCT:

346. *"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.*

347. *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.*

348. *The Type adjoins open sea along the full extent of its northern boundary. At its western end, the Type abruptly changes to the Rolling Coastal Heath and Arable type where it meets the steep scarp slope of Kelling Heath, beyond Weybourne. At its eastern end, the Type incorporates the end of the Cromer Ridge, which terminates in high cliffs just to the west of Mundesley, and transitions to the Tributary Farmland and River Valley types around the Mun Valley. The southern boundary of the central part of the Type is sharply defined by the wooded and frequently steep scarp slope of the Cromer Ridge (Wooded Glacial Ridge type)."*

349. *"There is a single continuous area of Coastal Shelf in North Norfolk: CS1 – Weybourne to Mundesley Coastal Shelf."*

350. 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.*
    - *An eroding coastline*
    - *This section of coast is actively eroding as a result of sea encroachment. …*
- *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*
  - *Despite the concentration of settlement in this area, the presence of sizeable areas of predominantly arable farmland, together with isolated areas of deciduous and mixed woodland, heathland, dry acid grassland, meadows and traditional orchards help to soften settlement edges and maintain a degree of 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*
  - *Beyond Sheringham, Weybourne is the only settlement within the Coastal Shelf, with the surrounding land in almost wholly agricultural use. 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*
  - *The A149 coast road is the main route running throughout much of this landscape, which connects with the A148 at Cromer and the Mundesley/Cromer Road running further east along the coast. These routes are busy, and it is unusual to be far from road noise, but minor roads in some areas retain a stronger rural character and are associated with thick tall hedges/trees and biodiverse verges. Others have suffered loss of hedges/verges and have little character. …*
- *Trimingham Radome*
  - *The area to the south east of Trimingham has been a site of radar transmitters since World War II 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 25.24**) is located on Incleborough Hill.)

351. 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."*

352. 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."*

353. Most of the rural landscape of this LCA lies within the Norfolk Coast AONB. Areas excluded from the AONB include the larger settlements (Sheringham, Cromer, Overstrand and Mundesley), and land between Sheringham and Cromer where there is a substantial amount of development including caravan and mobile home sites.

354. Forces for Change/Detractors include intensive coastal development, continuing coastal erosion, intensification of visitor-related pressure, modern agricultural practices and change, residential and road development, 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.*
- *There is also a continuing pressure for solar PV developments on farmland."*

355. Effects due to the construction, operation and decommissioning of the onshore cable corridor for SEP and/or DEP are assessed in **Chapter 26 LVIA**.

356. 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 emphasises views seawards"*, *"extensive panoramas … out to the sea"*, *"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"* and *"Distinctive skyline features such as the Weybourne windmill, Cromer lighthouse and numerous church towers provide visual landmarks and visual interest"*, and because existing offshore wind farms are visible from this LCA. 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, 2021). Taking both susceptibility and value into account it is assessed that CS1 would be of a high – medium sensitivity to the proposed developments.

357. 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.

358. 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 because 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.

359. From the shoreline, cliff tops and some other areas inland, views of SEP and/or DEP would be possible, albeit seen alongside the existing SOW and DOW and other existing wind farms in the North Sea. Representative Viewpoints 3, 4, 5, 6 and 18 (**Figures 25.23**, **25.24**, **25.25**, **25.26** and **25.38**) represent available views from within this LCA, where scale of effects on views from these locations are assessed as in **Table 25-18**:

Table 25-18: Summary of Visual Effects on Viewpoints for CS1

Viewpoint Reference	Distance & Direction	Scale of Effect		
		SEP In isolation	DEP In isolation	SEP + DEP
Viewpoint 3 Sheringham Promenade	SEP: S, 15.9km DEP: S, 28.5km	Large – Medium	Medium	Large – Medium
Viewpoint 4 Incleborough Hill	SEP: S, 16.9km DEP: S, 28.1km	Large - Medium	Medium	Large – Medium
Viewpoint 5 Cromer Pier	SEP: S, 17.2km DEP: S, 26.9km	Large – Medium	Medium	Large – Medium
Viewpoint 6 Trimingham	SEP: SE, 22.4km DEP: SE, 28.7km	Medium	Medium	Medium
Viewpoint 18 Coast Path (Cromer-Overstead)	SEP: S, 18.6km DEP: S, 27.3km	Large – Medium	Medium	Large – Medium

360. The character of the land within the LCA would be unaltered. The only effects would be to views offshore containing existing offshore wind farms.

25.6.2.2.1.3.1 SEP in Isolation

361. 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, given the proximity of the SEP to the existing SOW and other wind farms visible offshore, and that it would be only the views to the sea that would be discernibly affected whilst the other key characteristics would remain intact and predominantly unaffected. 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 25.25**), for example.

25.6.2.2.1.3.2 DEP in Isolation

362. Effects on landscape character arising from DEP (in isolation) are also judged to be at most of a small scale. As can been seen at Viewpoints 3, 4 ,5 and 6 (**Figures 25.23**, **25.24**, **25.25** and **25.26**), 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 DOW. 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 DOW and new turbines.

25.6.2.2.1.3.3 SEP and DEP

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

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

25.6.2.2.2.1 Landscape Character Type A – Open Coastal Marshes (28.5km south west from SEP, 48km south west from DEP)

364. DEP has been scoped out of detailed assessment as described in **Section 25.5.6.3.2.1**, because at over 48km distance, 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.

365. 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.

366. Effects would be similar from each of these coastal LCAs, and as such, as are assessed together as a group. **Figure 25.3** shows the location of the LCAs listed above in relation to the SEP wind farm site.

367. 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, DOW and SOW offshore wind farms can all now be seen from these LCAs and influence landscape character indirectly.

368. 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."*

369. 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.

370. 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 …"*, and because existing offshore wind farms are visible from these LCAs. 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.

371. 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.

25.6.2.2.2.1.1 SEP in Isolation

372. The greatest effects on the LCT 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 25.28** and **25.32**) represent such available views from within this LCT, where the scale of effects on views from these locations are assessed as small for SEP (and negligible for DEP). The LCT lies approximately 28.5km from SEP at its closest, within the vicinity of Viewpoint 12. Effects on landscape character arising from SEP (in isolation) on areas where there are expansive views out to sea would be at most small-negligible scale, given the proximity of the SEP to the existing SOW and other wind farms visible offshore. This would affect a localised extent of the overall LCT and be of low-negligible magnitude and **slight-minimal 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 12 (**Figure 25.32**), for example.

25.6.2.2.2.1.2 SEP and DEP

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

25.6.2.3 Effects on Visual Receptors

25.6.2.3.1 Visual Aids

374. Wireline and photomontage 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 (showing the realistic worst-case scenarios), using key landmarks and compass bearings to match the modelled views to the photographs.

375. The photographs, wirelines and photomontages are shown on figures supporting this SVIA (see **Figures 25.21** to **25.38**). The figures are numbered according to the viewpoint that they show (e.g. **Figure 25.21** for Viewpoint 1). A detailed description of the methods by which wirelines and photomontages are prepared is included in **Appendix 25.2 Visualisations and Zone of Theoretical Visibility Studies Methodologies**.

376. Viewpoint descriptions are set out in **Appendix 25.4 Viewpoint Descriptions** with the scale of effects summarised below in **Table 25-19**. The locations of each viewpoint are shown on **Figures 25.9** and **25.10**.

25.6.2.3.2 Scale of Visual Effects at Representative Viewpoints

377. The scale of visual effects at each viewpoint is summarised in **Table 25-19**:

Table 25-19: Effects at Representative Viewpoints

Viewpoint Reference	Distance & Direction to nearest turbine	Distance to wind farm site	Scale of Visual Effect		
			SEP In isolation	DEP In isolation	SEP + DEP
Viewpoint 1 Wells-next-the-Sea	SEP: SW, 28.3km DEP: SW, 44.7km	SEP: 26.6km DEP: 44.5km	Medium-Small	Negligible	Medium-Small
Viewpoint 2 Morston Quay	SEP: SW, 23.4km DEP: SW, 37.8km	SEP: 21.9km DEP: 37.6km	Medium – Small	Negligible	Medium – Small
Viewpoint 3 Sheringham Promenade	SEP: S, 16.2km DEP: S, 28.7km	SEP: 15.9km DEP: 28.5km	Large-Medium	Medium	Large-Medium
Viewpoint 4 Incleborough Hill	SEP: S, 17.2km DEP: S, 28.3km	SEP: 16.9km DEP: 28.1km	Large – Medium	Medium	Large – Medium
Viewpoint 5 Cromer Pier	SEP: S, 17.5km DEP: S, 27.1km	SEP: 17.2km DEP: 26.9km	Large – Medium	Medium	Large – Medium
Viewpoint 6 Trimingham	SEP: SE, 22.6km DEP: SE, 29.0km	SEP: 22.4km DEP: 28.7km	Medium	Medium	Medium

Viewpoint Reference	Distance & Direction to nearest turbine	Distance to wind farm site	Scale of Visual Effect		
			SEP In isolation	DEP In isolation	SEP + DEP
Viewpoint 7 Horsey Gap beach	SEP: SE, 45.9km DEP: SE, 46.9km	SEP: 45.6km DEP: 46.1km	Small – Negligible	Small – Negligible	Small – Negligible
Viewpoint 8 Brancaster beach	SEP: SW, 37.3km DEP: SW, 54.1km	SEP: 35.3km DEP: 53.8km	Small	Negligible	Small
Viewpoint 9 Ingoldmells Point	SEP: W, 46.8km DEP: W, 57.4km	SEP: 45.3km DEP: 57.2km	Negligible	Negligible	Negligible
Viewpoint 10 Gramboroug h Hill	SEP: SW, 18.2km DEP: SW, 32.3km	SEP: 17.5km DEP: 32.1km	Medium	Small	Medium
Viewpoint 11 Peddars Way National Trail, Brancaster	SEP: SW, 40.0km DEP: SW, 56.9km	SEP: 38.0km DEP: 56.6km	Small – Negligible	Negligible	Small – Negligible
Viewpoint 12 Burnham Harbour (Gun Hill)	SEP: SW, 31.0km DEP: SW, 48.3km	SEP: 29.1km DEP: 47.9km	Small	Negligible	Small
Viewpoint 13 Gallow Hill (South of Wells)	SEP: SW, 31.8km DEP: SW, 46.6km	SEP: 30.1km DEP: 46.4km	Small	Negligible	Small
Viewpoint 14 Blakeney Car Park	SEP: SW, 21.9km DEP: SW, 36.3km	SEP: 20.5km DEP: 36.1km	Medium – Small	Negligible	Medium – Small
Viewpoint 15 Peddars Way, Norfolk Coast Path and England Coast Path, Blakeney	SEP: SW, 20.5km DEP: SW, 34.9km	SEP: 19.1km DEP: 34.7km	Medium	Small – Negligible	Medium
Viewpoint 16 Bard Hill (Salt House Heath)	SEP: SW, 19.7km DEP: SW, 33.8km	SEP: 18.9km DEP: 33.6km	Medium	Small – Negligible	Medium
Viewpoint 17 Oak Wood, Sheringham Hall	SEP: S, 18.0km DEP: S, 31.1km	SEP: 17.8km DEP: 30.9km	Medium	Small	Medium

Viewpoint Reference	Distance & Direction to nearest turbine	Distance to wind farm site	Scale of Visual Effect		
			SEP In isolation	DEP In isolation	SEP + DEP
Viewpoint 18 Coast Path (Cromer-Overstead)	SEP: S, 18.8km DEP: S, 27.5km	SEP: 18.6km DEP: 27.3km	Large – Medium	Medium	Large – Medium

378. 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.

379. As set out in **Section 25.5.3**, 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 25.9** and **25.10**), 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.

380. 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.

381. 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.

382. 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 (Viewpoint 3) and the cliff-tops east of Cromer (Viewpoint 18); and from elevated locations inland such as Incleborough Hill (Viewpoint 4). 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 (Viewpoint 6).

383. Visual effects would gradually reduce further with distance from either SEP or DEP, along the coast to the east and west of this area.

384. 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 (Viewpoint 15). From south of Blakeney Point and the Blakeney Channel (Viewpoints 14 and 2) effects would reduce to medium-small scale. West of Blakeney effects would continue to be medium-small scale as far as Wells-next-the-Sea (Viewpoint 1), and then would reduce to small scale further west including at Brancaster beach (Viewpoint 8).

385. To the west effects due to DEP would be as follows:

- Effects due to DEP would reduce to small scale west of Sheringham (Viewpoints 17 and 10) reducing further to small-negligible in the vicinity of the Peddars Way, Norfolk Coast Path and England Coast path north of Blakeney (Viewpoint 15). From south of Blakeney Point and the Blakeney Channel (Viewpoints 14 and 2), and at all locations further west effects would be of negligible scale.

386. 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 scale as far as Trimingham (Viewpoint 6). Effects would reduce with distance along the coast becoming small-negligible scale before Horsey Gap (Viewpoint 7).

387. 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.

388. 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.

25.6.2.3.3 Marine Visual Receptors

389. 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 within approximately 30km of both SEP and DEP comprising SOW, DOW, Race Bank and Triton Knoll. The location of SEP and DEP in relation to these existing wind farms, and other wind farms beyond 30km and within the study areas, are shown on **Figures 25.11** and **25.12**.

390. 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.

391. **Figures 13.1** to **13.19** in **Appendix 13.1 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** in **Appendix 13.1 Navigation Risk Assessment**). Recreational vessel activity is far less frequent as shown on **Figure 14.16** in **Appendix 13.1 Navigation Risk Assessment**, with the greatest concentration close to the coast and not close to the SEP or DEP wind farm sites. **Figure 14.19** in **Appendix 13.1 Navigation Risk Assessment** 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 offshore site.

392. 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 SOW and DOW 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.

393. Beyond the immediate context of both the wind farm sites, visual effects would gradually reduce with distance as described below.

394. 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 SOW and DOW, 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.

395. 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 SOW and DOW.

396. 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.

397. 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).

398. 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.

25.6.2.3.3.1 SEP or DEP in Isolation

399. 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.

400. 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.

25.6.2.3.3.2 SEP and DEP

401. Should both SEP and DEP be in operation, effects on visual amenity would not give rise to impacts greater that those set out above for either SEP or DEP in isolation; medium magnitude, **moderate significance** and adverse.

25.6.2.3.4 Settlements

402. 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 may 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.

403. Residents and visitors within settlements within the Norfolk Coast AONB and North Norfolk Heritage Coast (Wells-next-the-Sea) are assessed as high sensitivity (high susceptibility and national value). Residents and visitors within settlements outside the Norfolk Coast AONB and North Norfolk Heritage Coast (Sheringham, Cromer and Mundesley) are assessed as high-medium sensitivity (high susceptibility and community value).

25.6.2.3.4.1 Cromer

404. The town of Cromer is located on the north Norfolk coast, to the south of the proposed wind farms – circa 17km from SEP and 27km from DEP (see **Figure 25.7**). It forms one of the predominant settlements within the extent of the study area, having developed during the C19th as a resort (NNLCA, (Land Use Consultants, 2021) (page 56)). 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.

405. 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 25.25**) 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 area of the town closest to the coast.

25.6.2.3.4.1.1 SEP in Isolation

406. 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 25.25**), 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 SOW. 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 and could appear to be closer due to their larger size. This would affect a limited extent of the overall settlement (being only within its northern area) 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.

25.6.2.3.4.1.2 DEP in Isolation

407. 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 25.25**), 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 within its northern area), 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.

25.6.2.3.4.1.3 SEP and DEP

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

25.6.2.3.4.2 Sheringham

409. The town of Sheringham is located on the Norfolk coast, to the south of the proposed wind farms – circa 15.9km from SEP and 28.5km from DEP (see **Figure 25.7**). 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, 2021) (page 56)). 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.

410. 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 25.23**) 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 area of the town closest to the coast.

25.6.2.3.4.2.1 SEP in Isolation

411. 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 25.23**), 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 SOW. 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 and could appear to be closer due to their larger size. This would affect a limited extent of the overall settlement (being only within its northern area) 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.

25.6.2.3.4.2.2 DEP in Isolation

412. 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 25.23**), 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 within its northern area), 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.

25.6.2.3.4.2.3 SEP and DEP

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

25.6.2.3.4.3 Mundesley

414. The village of Mundesley is located on the Norfolk coast, to the south-east/south of the proposed wind farms – circa 24km from SEP and 29.5km from DEP (see **Figure 25.8**). It forms one of the larger villages within the study areas.

415. 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 (Trimingham) (**Figure 25.26**) lies approximately 2.5km 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.

25.6.2.3.4.3.1 SEP in Isolation

416. 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 SOW and DOW. 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.

25.6.2.3.4.3.2 DEP in Isolation

417. 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 SOW and DOW. 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.

25.6.2.3.4.3.3 SEP and DEP

418. The effects of SEP and DEP would be the same as SEP or DEP on their own; low magnitude, **moderate-slight significance** and adverse.

419. 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.

25.6.2.3.4.4 Wells-next-the-Sea

420. The town of Wells-next-the-Sea is located on the Norfolk coast, to the south-west of the proposed wind farms – circa 27.8km from SEP and 44.6km from DEP (see **Figure 25.6**). It originated from a seaport and is now a seaside resort with a harbour that hosts maintenance vessels that service offshore wind farms. The town is set back from the coast by approximately 1.5km, inland of salt marshes, connected to the sea by a tidal waterway. The beach where Viewpoint 1 (**Figure 25.21**) is located, which is a popular visitor destination with a large car park, lies approximately 1.8km north of the town itself.

421. 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.

25.6.2.3.4.4.1 SEP in Isolation

422. Effects arising from SEP (in isolation) from the public areas along the northern extent of Well-next-the-Sea would be at most of a medium-small scale. As shown on Viewpoint 1 (**Figure 25.21**) – taken from the beach north of Wells-next-the-Sea – the SEP would be seen in the context of existing wind farms, although SEP turbines would appear larger than the existing SOW turbines. This would affect a limited extent of the overall settlement (being only along its northern edge), and result in visual effects of low magnitude, **moderate significance** and neutral. Although it would be possible to see a difference in scale and spacing between the existing turbines at SOW and the new turbines at SEP, at this distance and direction, this would not lead to adverse effects.

25.6.2.3.4.4.2 DEP in Isolation

423. 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 25.21**) – 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.

25.6.2.3.4.4.3 SEP and DEP

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

25.6.2.3.5 Roads and Rail

425. As identified in **Section 25.5.7.3**. it has been assessed that those 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.

25.6.2.3.6 Recreational Routes - Long Distance Walking Routes

25.6.2.3.6.1 Peddars Way, Norfolk Coast Path and England Coast Path (the Coast Path)

426. 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. The paths are shown on **Figures 25.6** to **25.8**.).

427. 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.

428. 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.

429. 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.

430. 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.

431. 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 high susceptibility and a high sensitivity (national value and high susceptibility).

25.6.2.3.6.1.1 Coast Path – Old Hunstanton to Wells-next-the-Sea

432. 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 25.21, 25.28** and **25.32**) 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 due to SEP are assessed as medium-small scale at Viewpoint 1 and small scale at Viewpoints 8 and 12. Effects for DEP are assessed as negligible scale at all three viewpoints. These viewpoints and represent the greatest visual effects on the Coast Path between Old Hunstanton to Wells-next-the-Sea.

433. Viewpoint 11 (**Figure 25.31**) 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.

25.6.2.3.6.1.2 Coast Path – Wells-next-the-Sea to Blakeney

434. 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 25.22** and **25.34**) 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.

25.6.2.3.6.1.3 Coast Path – Blakeney to Mundesley

435. 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 25.35, 25.30, 25.23, 25.25, 25.38** and **25.26**) (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

436. 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 offshore 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 SOW and DOW 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.

25.6.2.3.6.1.4 Coast Path – Mundesley to Winterton-on-Sea

437. 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 25.27**) 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.

25.6.2.3.6.2 Coast Path Assessment

438. 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 in isolation and medium scale to negligible scale for 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.

439. 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.

25.6.2.3.6.2.1 SEP in Isolation

440. Effects arising from SEP on users of the overall Coast Path along the Norfolk coast would be up to high-medium magnitude and **major 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.

25.6.2.3.6.2.2 DEP in Isolation

441. Effects arising from DEP on users of the Coast Path along the Norfolk coast would be up to 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 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.

25.6.2.3.6.2.3 SEP and DEP

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

25.6.2.3.7 National and Regional Cycle Routes

443. The national and regional cycle routes and the Norfolk Coast Cycleway that run inland of the coast pass inside and outside the Norfolk Coast AONB and are assessed as high-medium sensitivity (national value and medium susceptibility). As identified in **Section 25.5.7.4.2**. it has been assessed that those 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.

25.6.2.3.8 Visual Receptor Groups

444. As set out in **Section 25.5.7.5**, 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.

445. Where visual receptor groups lie within the Norfolk Coast AONB they are assessed high sensitivity (national value and high susceptibility). Where visual receptor groups lie outside the Norfolk Coast AONB and North Norfolk Heritage Coast they are assessed as high-medium sensitivity (local/district value and high susceptibility). Value outside the AONB is local/district due to the popularity of the area as a tourist destination.

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

446. **Figure 25.6** shows the landscape context between Old Hunstanton and Wells-next-the-Sea. Large parts of this Receptor Group lie within the Norfolk Coast AONB and North Norfolk Heritage Coast, and it is assessed as high sensitivity.

447. From the smaller coastal villages, PRoWs 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. SEP and DEP are unlikely to be visible from the Wells and Walsingham Light Railway, which runs inland from south of Wells to Walsingham, due to intervening landform, vegetation and development.

448. 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 25.9** and **25.10**. The closest village within this group is Holkham, which is approximately 29km from SEP and approximately 47km from DEP.

449. 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 25.28, 25.32** and **25.21**) lie at coastal locations where there would be open views of the wind farm sites within this receptor group and effects are assessed as follows:

- 8 and 12: SEP small, DEP negligible; and
- 1: SEP medium-small, DEP negligible.

450. Viewpoints 11 and 13 (**Figures 25.31** and **25.33**) lie on elevated landform inland from the coast where effects area assessed as follows:

- 11: SEP small-negligible, DEP negligible; and
- 13: SEP small, DEP negligible.

451. 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.

25.6.2.3.8.1.1 SEP in Isolation

452. Effects arising from SEP would be at most of a medium-small scale from a very limited extent of the receptor group, on the coast in the vicinity of Wells-next-the-Sea. Effects would be up to small scale from an intermediate extent of the receptor group. This would result in visual effects of a low magnitude and **moderate significance**. Effects would be, on balance, adverse.

25.6.2.3.8.1.2 DEP in Isolation

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

25.6.2.3.8.1.3 SEP and DEP

454. The effects of SEP and DEP would be the same as SEP on its own; low magnitude, **moderate significance** and, on balance, adverse.

25.6.2.3.8.2 Visual Receptor Group – Wells-next-the-Sea to Blakeney

455. **Figures 25.6** and **25.7** show the landscape context between Wells-next-the-Sea and Blakeney. Large parts of this Receptor Group lie within the Norfolk Coast AONB and North Norfolk Heritage Coast, and it is assessed as high sensitivity.

456. 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.

457. 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 20km from SEP and approximately 36km from DEP.

458. 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 25.22** and **25.34**) 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.

459. 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 25.33**) 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.

25.6.2.3.8.2.1 SEP in Isolation

460. 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, on balance, adverse. As shown on Viewpoints 2 (Morston quay) and 14 (Blakeney) (**Figures 25.22** and **25.34**), SEP would be visible within the context of other existing wind farms, and the size and spacing of the SEP turbines would be discernibly different in comparison to nearest existing turbines at SOW, and the spread of turbines across the horizon would increase.

25.6.2.3.8.2.2 DEP in Isolation

461. 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.

25.6.2.3.8.2.3 SEP and DEP

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

25.6.2.3.8.3 Visual Receptor Group – Blakeney to Mundesley

463. **Figures 25.7** and **25.8** show the landscape context between Blakeney and Mundesley. Large parts of this Receptor Group lie within the Norfolk Coast AONB, and a small area at the western end lies within the North Norfolk Heritage Coast, and it is assessed as high sensitivity.

464. This is the receptor group where the greatest visual effects would occur, due to the closer proximity to the wind farm sites.

465. 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 25.9** and **25.10**) that potential visibility of the wind farm sites would extend further inland west of Weybourne 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.

466. 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 clifftops which extend along the coastline including the coastal margin. There would be open views offshore of SEP and DEP from sections of the North Norfolk Railway west of Sheringham; however, from the majority of the route between Sheringham and Holt SEP and DEP would be screened by intervening landform, vegetation or development.

467. 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 31km from DEP.

468. 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.

469. 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.

470. 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 SOW and DOW would become more apparent. In the region of Trimingham (Viewpoint 6) (**Figure 25.26**) 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.

471. 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 Incleborough Hill (Viewpoint 4) (**Figure 25.24**). A short distance inland from this zone the wind turbine sites would become largely or completely obscured by intervening features or landform.

25.6.2.3.8.3.1 SEP in Isolation

472. 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.

25.6.2.3.8.3.2 DEP in Isolation

473. 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.

25.6.2.3.8.3.3 SEP and DEP

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

25.6.2.3.8.4 Visual Receptor Group – Mundesley to Winterton-on-Sea

475. **Figure 25.8** shows the landscape context between Mundesley and Winterton-on-Sea. Approximately half of this Receptor Group lies within the Norfolk Coast AONB; a small area at the northern end south of Mundesley and a larger area at the south end, between Sea Palling and Winterton-on-Sea. A small area near Horsey Gap lies within the Norfolk Broads National Park. The Receptor Group it is assessed as high sensitivity (although approximately half would be of a lower sensitivity where it lies outside the designated landscapes).

476. 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 coastal margin.

477. 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.

478. 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. Bacton gas terminal (serving the UK's southern north sea gas fields) lies on the coast within this area and is visible in many views.

479. 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 25.27**) is located on elevated sand dunes with open sea-views towards the south-eastern end of this receptor group (within the Norfolk Coast AONB and the northern edge of the Norfolk Broads National Park). Effects at Viewpoint 7 would be small-negligible scale for each wind farm site individually.

25.6.2.3.8.4.1 SEP or DEP in Isolation

480. 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 (much of which does not lie within a designated landscape) and result in visual effects of a low magnitude and **moderate-slight significance**. Effects would be, on balance, adverse.

25.6.2.3.8.4.2 SEP and DEP

481. Should both SEP and DEP be in operation, impacts on visual amenity would not give rise to effects greater that those set out above for either wind farm site. Effects would be low magnitude, **moderate-slight significance** and, on balance, adverse.

25.6.2.3.9 Specific Viewpoints

482. The location of Oak Wood viewing gazebo is shown on **Figure 25.7**.

483. Visitors to the viewing gazebo, when accessible, at Oak Wood, near Sheringham Hall are assessed to be of a high sensitivity (national value and high susceptibility). The receptor is of national value because it lies within the Norfolk Coast AONB.

484. As the viewing gazebo was closed at the time of assessment and it was not possible to gain access because the National Trust advised that it is unsafe and in need of repair (see **Table 25-1**), the assessment is reliant on views from the surrounding landscape, which are at a lower elevation, and the photograph looking offshore used in the Landscape, Seascape and Visual Resources and Character chapter of the ES for SOW (see **Appendix 25.6 View from Oak Wood Viewing Gazebo**) (Scira 2006). 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.

485. 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 and photomontage from Viewpoint 17 (**Figure 25.37**) 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, as illustrated by the SOW ES photograph in **Appendix 25.6 View from Oak Wood Viewing Gazebo** (Scira 2006).

25.6.2.3.9.1 SEP in Isolation

486. 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 SOW. 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.

25.6.2.3.9.2 DEP in Isolation

487. 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.

25.6.2.3.9.3 SEP and DEP

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

25.6.2.3.10 Dark Sky Discovery Sites

489. 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 25.1**, **25.2**, **25.6** and **25.7**. 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. Night-time photomontages from Viewpoints 1 Wells-next-the-Sea, 4 Incleborough Hill and 6 Trimingham are shown on **Figures 25.21**, **25.24** and **25.26**; these are not from within the dark sky discovery sites. 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.

490. Visitors to the Dark Sky Discovery Sites are assessed to be of a high sensitivity (national value and high susceptibility). The receptors are of national value because they lie within the Norfolk Coast AONB.

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

492. Fieldwork identified that there would be little to no visibility to either SEP and/or DEP from the following Dark Sky Discovery Sites as a result of intervening vegetation that obscures seaward views.

- 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).

493. RSPB Titchwell Marsh Nature Reserve (located in SEP study area but outside DEP study area) is more open with potential for views of SEP or DEP turbines possible. However, 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 37km (SEP) and 56km (DEP) from the Dark Sky Discovery Site, and seen in the context of existing lighting offshore.

25.6.2.3.10.1 All Operational Scenarios

494. 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. Views of SEP or DEP would be limited by intervening vegetation at Barrow Common, Wiveton Downs and Kelling Health Holiday Park Dark Sky Discovery Sites, and very distant at RSPB Titchwell Marsh Nature Reserve. 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.

25.6.2.4 Designated and Defined landscapes

495. 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 states that:

496. *"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"*.

497. Section 99 of the Natural Environment and Rural Communities Act 2006 confirms that land is not prevented from being an area of natural beauty as a result of it consisting of or including 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.

25.6.2.4.1 Norfolk Coast Area of Outstanding Natural Beauty

498. As described in **Section 25.5.8.1** and illustrated on **Figures 25.1** and **25.2**, the Norfolk Coast AONB is divided into three discrete geographical areas, and the SEP and DEP would only have potential to affect the largest central section. The central section is shown on a detailed base map on **Figures 25.6** to **25.8**.

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

500. *"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."*

501. The assessment of effects on the Norfolk Coast AONB in this Section 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).

502. 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.

25.6.2.4.1.1 2. Strong and Distinctive Links between Land and Sea

503. *"The area's distinctive and unique character is based on the visual, ecological, socio-economic and functional links between land and sea."*

504. The proposed wind farm sites would affect views from land (within the AONB) to sea (outside the AONB). These views are already influenced by exiting 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.

25.6.2.4.1.2 3. Diversity and Integrity of Landscape, Seascape and Settlement Character

505. *"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."*

506. 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.

507. 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.

25.6.2.4.1.3 6. Sense of Remoteness, Tranquillity and Wildness

508. *"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."*

509. 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. At night and in clear conditions, SEP and DEP navigation and aviation lighting would be visible from the parts of the AONB, adding to existing lighting visible offshore, including buoys, boats, ships, gas rigs, and lighting of existing offshore wind farms. The SEP and DEP navigation and aviation lighting would be visible close to the horizon, but would not create 'skyglow', and would not affect views looking up at the expansive skies, 'dark night skies' or constellations visible from this coastline. 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 25.6.2.3.10** where it is concluded that visual effects due to SEP and / or DEP would be negligible magnitude, **minimal significance** and neutral.

510. 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.

511. It is noted that NPS EN-1 (DECC 2011a) and NPS EN-3 (DECC 2011b) make no reference to tranquillity, remoteness, wildness or wilderness.

512. The National Planning Policy Framework 2021 (Ministry of Housing, Communities and Local Government 2021) refers to tranquillity (but not remoteness, wildness or wilderness) as follows:

513. *"185. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should: …*

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; ..."

514. The National Planning Practice Guidance (Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government 2019) records the following regarding tranquillity under the heading 'Noise':

515. *"What factors are relevant if seeking to identify areas of tranquillity?*

For an area to justify being protected for its tranquillity, it is likely to be relatively undisturbed by noise from human sources that undermine the intrinsic character of the area. It may, for example, provide a sense of peace and quiet or a positive soundscape where natural sounds such as birdsong or flowing water are more prominent than background noise, e.g. from transport.

Consideration may be given to how existing areas of tranquillity could be further enhanced through specific improvements in soundscape, landscape design (e.g. through the provision of green infrastructure) and/or access. (Paragraph: 008 Reference ID: 30-008-20190722)"

516. National planning policy and practice guidance therefore emphasises noise as a key factor influencing tranquillity.

517. Natural England's Guidance for assessing landscapes for designation as National Park or Area of Outstanding Natural Beauty in England (Natural England 2011) provides, in Appendix 1, an Evaluation Framework for Natural Beauty detailing the sub-factors and associated indicators that should be regarded in the assessment process, including 'relative wildness' (it does not refer to 'wilderness') and 'relative tranquillity'. The first three columns of

518. **Table** 25-20 are from Appendix 1 of Natural England's Guidance for assessing landscapes for designation as National Park or Area of Outstanding Natural Beauty in England (Natural England 2011). The fourth column provides the Applicant's commentary on the potential for SEP and DEP to affect each natural beauty criterion:

Table 25-20: Natural England's Evaluation Framework for Natural Beauty Criterion when Identifying Land to be Included in an AONB

Factor	Example sub-factor	Example indicator	Potential for SEP and DEP to affect each Natural Beaty Criterion
Relative wildness	A sense of remoteness	Relatively few roads or other transport routes	No effects in relation to the example indicators. Potential to affect perceived remoteness of the sea as seen from the AONB, from areas where offshore wind farms are already visible.
		Distant from or perceived as distant from significant habitation	
	A relative lack of human influence	Extensive areas of semi-natural vegetation	No effects in relation to the example indicator.
		Uninterrupted tracts of land with few built features and few overt industrial or urban influences	Additional wind turbines would be visible offshore, adding to human influences visible from the AONB.
	A sense of openness and exposure	Open, exposed to the elements and expansive in character	Additional wind turbines would have potential to affect sense of openness and exposure where they would be visible from the AONB alongside existing offshore wind farms.
	A sense of enclosure and isolation	Sense of enclosure provided by (e.g.) woodland, landform that offers a feeling of isolation	No effects in relation to the example indicator.
	A sense of the passing of time and a return to nature	Absence or apparent absence of active human intervention	SEP and DEP would add active human intervention to views of the sea, outside the AONB, seen in the context of existing offshore wind farms and other human intervention including gas rigs, shipping, boats and buoys and associated lighting.
Relative tranquillity	Contributors to tranquillity	Presence and/or perceptions of natural landscape, birdsong, peace and quiet, natural-looking woodland, stars at night, stream, sea, natural sounds and similar influences	No change to the sound or 'peace and quiet' environment of the AONB. SEP and DEP wind turbines and associated navigation and aviation lighting would affect the perceptions of natural seascape seen from the AONB, within a seascape already influenced by the existing wind farms and other human interventions. Navigation and aviation lighting of SEP and DEP would be visible from parts of the AONB adding to existing lighting visible offshore, including lighting of existing offshore wind farms, ships,

Factor	Example sub-factor	Example indicator	Potential for SEP and DEP to affect each Natural Beaty Criterion
			boats, gas rigs and buoys. Navigation and aviation lighting of SEP and DEP would not create 'skyglow' or affect visibility of stars at night.
	Detractors from tranquillity	Presence and/or perceptions of traffic noise, large numbers of people, urban development, overhead light pollution, low flying aircraft, power lines and similar influences	As above. No change to overhead light pollution or the other example indicators.

519. The operational SEP and DEP offshore wind farms would have no effects on the noise or sound environment experienced within the Norfolk Coast AONB, and would therefore not affect this aspect of tranquillity, wildness/wilderness or remoteness. They would not affect the *"…a general sense of remoteness and tranquillity away from busier roads and settlements and, particularly for undeveloped parts of the coast, of wildness."*.

520. The SEP and DEP offshore wind farms would not affect the amount or type of development, 'natural' elements such as vegetation, or the number of people or their behaviour within the AONB.

521. The only aspect that SEP and DEP would have potential to affect is views from land within the AONB to the sea outside the AONB, by the addition of wind turbines and associated navigation and aviation lighting.

522. The proposed wind farm sites would affect the sense of tranquillity, wildness and remoteness of parts of the AONB by affecting views of the seascape from parts of the AONB. Offshore wind farms are, however, already visible from the AONB, including aviation and navigation lights at night.

25.6.2.4.1.4 Assessment

523. The proposed wind farm sites would affect each of the above three key special qualities of the Norfolk Coast AONB to some degree. Each of these key qualities is already affected by offshore wind farm development and other human interventions.

524. The Norfolk Coast AONB is judged to be of high sensitivity to the proposed SEP and DEP developments.

525. As set out in **Section 25.5.3**, 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 central section of the Norfolk Coast AONB. Visibility would be primarily contained within the broad area of landscape that rises inland from the 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 reduces 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.

526. 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.

527. 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 on visual receptor group Blakeney to Mundesley are assessed in this area due to SEP, but no significant effects are assessed due to DEP (see **Section 25.6.2.3.8.3**). 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 25.7** and **25.8**. Significant effects due to SEP and/or DEP are also assessed for users of the Coast Path as it passes through the study areas (including the section outside the AONB within and between Sheringham and Cromer) (see **Section 25.6.2.3.6.1**). 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 25.6.2.2.1**).

528. From the above analysis it can be identified that there would be adverse effects on the following aspects of special qualities due to changes to sea views from parts of the AONB due to SEP and/or DEP:

- strong and distinctive links between the land, rivers and sea; and
- the sense of tranquillity, wildness and remoteness.

529. Dark night skies would be affected to a degree. The general sense of remoteness and tranquillity away from busier roads and settlements and undeveloped parts of the coast would be unaffected.

530. Effects on landscape character of the AONB would be limited.

531. The presence of the SEP and DEP wind farms would affect views out to sea. However, these views are already influenced by the presence of existing offshore wind farms and associated lighting, and lighting on gas rigs, ships, boats and buoys (outside the AONB), and lighting on land (within and outside the AONB). The remaining views across the coast and AONB inland that contribute to defining the special qualities would be unaffected.

25.6.2.4.1.5 SEP in Isolation

532. 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, wildness and wilderness, SEP would introduce additional wind turbines into seascape views which would be discernibly larger and more widely spaced compared to the existing offshore wind turbines, increase the spread of wind turbines across views, and introduce additional lighting at night.

25.6.2.4.1.6 DEP in Isolation

533. 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 SOW 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, wildness and wilderness, DEP would introduce additional wind turbines into seascape views which would be discernibly larger and more widely spaced compared to the existing offshore wind turbines, increase the spread of wind turbines across views, and introduce additional lighting at night.

25.6.2.4.1.7 SEP and DEP

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

25.6.2.4.2 North Norfolk Heritage Coast

535. The GOV.UK web site states:

536. *"Heritage coasts were established to:*

- *conserve, protect and enhance:*
  - *the natural beauty of the coastline*
  - *their terrestrial, coastal and marine flora and fauna*
  - *their heritage features*
- *encourage and help the public to enjoy, understand and appreciate these areas*
- *maintain and improve the health of inshore waters affecting heritage coasts and their beaches through appropriate environmental management measures*

- *take account of the needs of agriculture, forestry and fishing and the economic and social needs of the small communities on these coasts"* (https://www.gov.uk/government/publications/heritage-coasts-protecting-undeveloped-coast/heritage-coasts-definition-purpose-and-natural-englands-role [Accessed 10 January 2022].

537. As can be seen on **Figures 25.6** and **25.7** the NNHC extends from Holme next the Sea in the west to approximately 7km 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. The NNHC covers part of the coastal section of the Norfolk Coast AONB and extends offshore north of the AONB (which only covers land up to the mean low water mark) by a distance which varies between approximately 0.2km and 1.5km.

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

539. The greatest effects on the NNHC would occur within its eastern extent, near Blakeney where seaward views are available, Viewpoint 10 (**Figure 25.30**) 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).

25.6.2.4.2.1 SEP in Isolation

540. Effects arising from SEP on the eastern part of the NNHC would be at most – balancing effects on landscape character and visual amenity – of a medium-small scale. This would affect a limited extent of overall area of the NNHC and be of low-negligible magnitude, **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, SEP would introduce additional wind turbines into seascape views which would be discernibly larger and more widely spaced compared to the existing offshore wind turbines, increase the spread of wind turbines across views, and introduce additional lighting at night.

25.6.2.4.2.2 DEP in Isolation

541. Effects arising from DEP on the NNHC would 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 SOW in the foreground, negligible magnitude, **minimal significance** and neutral.

25.6.2.4.2.3 SEP and DEP

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

25.6.3 Summary of Potential Impacts During Construction and Decommissioning

543. Effects due to the construction and decommissioning of the SEP and DEP wind turbines and offshore substation(s) are described in more detail in **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**. Construction and decommissioning activities would be temporary involving the movement of vessels and the use of large cranes to erect or dismantle the offshore infrastructure. Construction and decommissioning effects are assumed to be similar.

544. Seascape, landscape and visual effects would be similar in their scale of effect to those experienced when the wind farm sites are in operation, but similar or lower (due to shorter duration) in terms of their magnitude and significance.

545. The seascape or landscape receptors likely to experience construction and decommissioning effects that are markedly different to the operational effects would be within the extent of the wind farm sites themselves and their immediate localities. Within these areas, during these phases, the seascape character would be influenced by the construction/decommissioning activities, including lighting.

546. With regard to potential effects on visual receptors during construction and decommissioning, visibility of the vessel movements, crane operations, wind turbine construction or removal and lighting would be experienced by people on boats and ships and by receptors onshore.

547. Significant effects during the construction and decommissioning phases have been identified due to SEP on the Peddars Way, Norfolk Coast Path and England Coast Path, and visual Receptor Group Blakeney to Mundesley, as can be seen in **Table 25.5.1** in **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**. No significant effects have been identified for DEP during the construction and decommissioning phases.

548. SEP would cause greater or the same effects as DEP, on all landscape, seascape or visual receptors.

549. Effects on all landscape and visual receptors, if SEP and DEP were both implemented, would be the same significance as assessed for SEP on its own.

25.6.4 Cumulative Impacts

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

25.7 Transboundary Impacts

551. 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.

25.8 Inter-Relationships

552. Inter-relationships exist between seascape and visual receptors and the assessments undertaken for landscape, shipping and navigation, air quality, and noise and vibration (see **Table 25-21**).

553. 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.

25.8.1 Seascape, Landscape and Visual Inter-Relationship Effects between Offshore and Onshore SEP and DEP Developments

554. The SVIA presented in this chapter and **Chapter 26 LVIA** 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.

555. 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.

556. 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.

557. 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.

558. Based on the offshore assessments of SEP and/or DEP undertaken in **Section 25.6** and in **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**, and onshore assessments undertaken in **Chapter 26 LVIA**, 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.

559. In reality, the construction programme 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.

25.8.2 Inter-Relationship Effects Due to Changes in Noise, Air Quality and Road or Offshore Traffic, in Addition to Changes to Views

560. 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 addressed in the following chapters:

- **Chapter 13 Shipping and Navigation**;
- **Chapter 22 Air Quality**; and
- **Chapter 23 Noise & Vibration.**

Table 25-21: Seascape and Visual Impact Assessment Inter-Relationships

Impact/receptor	Related Chapter	Where Addressed in this Chapter	Rationale
Operation			
Impact 1: Effect on Seascape Character	**Chapter 13 Shipping and Navigation**	**Section 25.6.2.1**	Inter-related effects would be limited to areas in close proximity to the turbines of SEP and DEP. No additional inter-related effects on seascape character have been identified that would increase the judgements reached in this assessment.
	Chapter 22 Air Quality		
	Chapter 23 Noise & Vibration		
Impact 2: Effect on Landscape Character	**Chapter 26 LVIA**	**Section 25.6.2.2**	Inter-related effects would be limited to areas in close proximity to the landfall site at Weybourne. No additional inter-related effects on

Impact/receptor	Related Chapter	Where Addressed in this Chapter	Rationale
			landscape character have been identified that would increase the judgements reached in this assessment
Impact 3: Effect on Visual Receptors	**Chapter 13 Shipping and Navigation**	**Section 25.6.2.3**	Inter-relationship effects due to changes in noise, air quality and road or offshore traffic are unlikely to occur to onshore visual receptors. 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.
	Chapter 22 Air Quality	**Section 25.6.2.3**	
	Chapter 23 Noise & Vibration		
Construction and Decommissioning			
Impact 1: Effect on Seascape Character	**Chapter 13 Shipping and Navigation**	**N/A**	No additional inter-related effects on seascape character have been identified during construction and decommissioning that would increase the judgements reached in this assessment.
	Chapter 22 Air Quality		
	Chapter 23 Noise & Vibration		
Impact 2: Effect on Landscape Character	**Chapter 26 LVIA**	**Section 25.6.2.2**	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. 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.

Impact/receptor	Related Chapter	Where Addressed in this Chapter	Rationale
Impact 3: Effect on Visual Receptors	**Chapter 13 Shipping and Navigation**	**Section 25.6.2.3**	Inter-relationship effects due to changes in noise, air quality and road or offshore traffic are unlikely to occur to onshore visual receptors. 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. Impacts associated with construction and decommissioning would be no greater than those identified for operation.
	Chapter 22 Air Quality		
	Chapter 23 Noise & Vibration		

25.9 Interactions

561. 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 25-22**. This provides a screening tool for which impacts have the potential to interact. **Table 25-23** provides an assessment for each receptor (or receptor group) as related to these impacts.

562. 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 25-22: 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 25-23: Interaction Between Impacts – Phase and Lifetime Assessment

	Highest significance level				
Receptor	**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. 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	No greater than individually assessed impact. Duration of effect is included in the assessment of magnitude and significance and covers the lifetime of SEP and/or DEP.
Visual receptors	**Major-moderate, adverse**	**Major, adverse**	**Major-moderate, adverse**	No greater than individually assessed impact	No greater than individually assessed impact 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	No greater than individually assessed impact. Duration of effect is included in the assessments of magnitude and

	Highest significance level				
Receptor	**Construction**	**Operation**	**Decommission**	**Phase assessment**	**Lifetime assessment**
					significance and covers the lifetime of SEP and/or DEP.

25.10 Potential Monitoring Requirements

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

25.11 Assessment Summary

564. 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 would 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.

565. 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 alternative 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 SOW and DOW wind turbines.

566. As set out in **Section 25.3.3**, at the outset of this assessment, 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. However, consideration of seascape, landscape and visual matters informed the selection of the SEP and DEP Areas for Lease (AfL) at the outset of the Projects. 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. It was decided to minimise (in so far as possible) the inclusion of the SEP AfL between the southern edge of SOW and the Norfolk coast due to the proximity of sensitive land-based receptors, and to ensure a sufficient gap between SEP and Race Bank Offshore Wind Farm (OWF). Other factors such as a combined cable corridor and landing help to reduce potential impacts. These matters are fully explained in the Design Statement (submitted with the DCO, see document 9.26).

567. Further to these initial mitigation measures, it is not possible to confirm an actual layout of the turbines within the AfLs, which will depend on turbine choice within the project parameters at the time of construction albeit it will need to meet the requirements of MGN 654. At this stage of the Project, to ensure it is futured proofed, it has been decided to assess the maximum sized turbines to permit flexibility. This approach is supported by the NPS for Renewable Energy Infrastructure (EN-3) (adopted and draft).

568. The **Design Statement** (submitted with the DCO, see document 9.26) demonstrates how SEP and DEP will fulfil requirements for 'good design' as set out within the NPS for Energy (EN-1) and NPS EN-3. The **Design Statement** explains the design evolution of the offshore works to date and the considerations that will inform the detailed design of the final offshore works in a clear and structured way. Careful consideration of the potential to affect sensitive environmental resources, , will form an integral part of the final design development of SEP and/or DEP post DCO-consent.

569. Therefore, this SVIA assesses realistic worst-case scenarios for SEP and / or DEP within the AfL (see **Section 25.3.2**) without any further embedded mitigation

570. SEP and/or DEP would extend existing offshore wind farms within areas of sea that are currently influenced by the presence of SOW and DOW adjoining the sites and other existing offshore wind farms in the wider seascape. SEP and/or DEP 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, SOW and DOW 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.

571. During operation 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.

572. During operation effects on all landscape, seascape and visual receptors except seascape character area 3 East Midlands Offshore Gas Fields, if SEP and DEP were both implemented, 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 implemented, would be the same significance as assessed for DEP on its own.

573. 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. Significant effects during the operational phase have been identified due to DEP on the Peddars Way, Norfolk Coast Path and England Coast Path.

574. A summary of the potential impacts that would arise as a consequence of the construction and decommissioning phases are set out in **Appendix 25.5 Summary of Potential Impacts during the Construction and Decommissioning Phases**. Landscape and visual effects would be similar in scale to those experienced when the wind farm sites are in operation, and similar or lower (due to shorter duration) in terms of their magnitude and significance. Significant effects during the construction and decommissioning phases have been identified due to SEP on the Peddars Way, Norfolk Coast Path and England Coast Path, and visual Receptor Group Blakeney to Mundesley. No significant effects have been identified for DEP during the construction and decommissioning phases.

575. Operational effects would be similar or greater than effects during construction and decommissioning phases of SEP and/or DEP. Operational effects are summarised below.

25.11.1 Seascape Effects – Operational Phase

576. SEP or DEP in isolation, or SEP and DEP, 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.

577. 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 low magnitude, slight significance on seascape character area 3 East Midlands Offshore Gas Fields.

578. 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 area 9 Norfolk Coastal Waters and 3 East Midlands Offshore Gas Fields.

25.11.2 Landscape Effects – Operational Phase

579. 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).

25.11.3 Visual Effects – Operational phase

25.11.3.1 Marine Visual Receptors

580. 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.

25.11.3.2 Settlements

581. 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.

582. Effects on Mundesley would be low magnitude, moderate-slight significance and adverse due to SEP or DEP.

583. Effects on Wells-next-the-sea due to SEP would be low magnitude, moderate significance and adverse. Effects on Wells-next-the-sea due to DEP would be negligible magnitude, minimal significance and neutral.

25.11.3.3 Peddars Way, Norfolk Coast Path and England Coast Path (the Coast Path)

584. 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 significance (significant) and adverse. Effects due to DEP would be medium magnitude, major-moderate significance (significant) and adverse.

25.11.3.4 Roads and Rail, and National and Regional Cycle Routes

585. Effects due to SEP and/or DEP on users of 'A' roads and main railway lines, and national and regional cycle routes and the Norfolk Coast Cycleway, would be negligible magnitude, minimal significance and neutral.

25.11.3.5 Visual Receptor Groups

586. 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.

587. Effects due to SEP on receptor groups to the west of receptor group Blakeney to Mundesley would be low magnitude, moderate significance and adverse (Old Hunstanton to Wells-Next-The-Sea) and medium-low magnitude, moderate significance and adverse (Wells-Next-The-Sea to Blakeney). Effects due to DEP on both of these receptor groups would be negligible magnitude, minimal significance and neutral.

588. Effects due to SEP and DEP on receptor group Mundesley to Winterton-on-Sea to the east would be low magnitude, moderate-slight significance and adverse.

25.11.3.6 Specific Viewpoint: Viewing Gazebo at Oak Wood

589. 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.

25.11.3.7 Dark Sky Discovery Sites

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

25.11.4 Designated and Defined Landscapes

25.11.4.1 Norfolk Coast Area of Outstanding Natural Beauty

591. 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.

25.11.4.2 North Norfolk Heritage Coast

592. The greatest effects on the North Norfolk Heritage Coast would occur within its eastern extent, near Blakeney where seaward views are available. Effects due to SEP would be low-negligible magnitude, moderate-slight significance and adverse. Effects due to DEP would be negligible magnitude, minimal significance and neutral.

25.11.5 Assessment Summary Tables – Operational Phase

593. Effects during the operational phase are summarised in **Table 25-24** and **Table 25-25**.

Table 25-24: Summary of Potential Impacts on Seascape, Landscape and Visual Resources During Operation - SEP

Potential impact	Receptor	Sensitivity	Magnitude	Impact (after embedded mitigation)	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	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	Low-negligible	**Slight-minimal, adverse**	None	**Slight-minimal, adverse**
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	**Major-moderate, adverse**	None	**Major-moderate, adverse**

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

Potential impact	Receptor	Sensitivity	Magnitude	Impact (after embedded mitigation)	Mitigation measures proposed	Residual impact
	viewing gazebo at Oak Wood					
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	Low-negligible	**Moderate-slight, adverse**	None	**Moderate-slight, adverse**

Table 25-25: Summary of Potential Impacts on Seascape, Landscape and Visual Resources During Operation - DEP

Potential impact	Receptor	Sensitivity	Magnitude	Impact (with embedded mitigation)	Mitigation measures proposed	Residual impact
Seascape character	SCA7 East Midlands Coastal Waters	Medium	Negligible	**Minimal, neutral**	None	**Minimal, neutral**
Seascape character	SCA 9 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**

Potential impact	Receptor	Sensitivity	Magnitude	Impact (with embedded mitigation)	Mitigation measures proposed	Residual impact
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**
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	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	**Major-moderate, adverse**	None	**Major-moderate, adverse**
Visual amenity	National and Regional Cycle Routes	High-medium	Negligible	**Minimal, neutral**	None	**Minimal, neutral**

Potential impact	Receptor	Sensitivity	Magnitude	Impact (with embedded mitigation)	Mitigation measures proposed	Residual impact
Visual amenity	Receptor group: Old Hunstanton to Wells-Next-The-Sea	High	Negligible	**Minimal, neutral**	None	**Minimal, neutral**
Visual amenity	Receptor group: Wells-Next-The-Sea to Blakeney	High	Negligible	**Minimal, neutral**	None	**Minimal, neutral**
Visual amenity	Receptor group: Blakeney to Mundesley	High	Medium-low	**Moderate, adverse**	None	**Moderate, adverse**
Visual amenity	Receptor group: Mundesley to Winterton-on-Sea	High	Low	**Moderate-slight, adverse**	None	**Moderate-slight, adverse**
Visual amenity	Specific Viewpoint: viewing gazebo at Oak Wood	High	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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