

Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects

Environmental Statement

Volume 1

Chapter 27 - Socio-Economics and Tourism

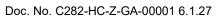
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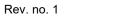


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Figure 27.1 Context Map

Figure 27.2 Onshore Cable Corridor

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Appendix 27.1 Socio-Economics Construction Costs and Sourcing Assumptions Note

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Glossary of Acronyms

A&E	Accident and Emergency
Al	Artificial Intelligence
AONB	Area of Outstanding Natural Beauty
B&B	Bed and Breakfast
BEIS	Department for Business, Energy & Industrial Strategy
BRES	Business Register and Employment Survey
CCG	Clinical Commissioning Group
CfD	Contracts for Difference
CIA	Cumulative Impact Assessment
CORE	Centres for Offshore Renewable Engineering
COVID-19	Coronavirus
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DECC	Department for Energy and Climate Change
DEP	Dudgeon Offshore Wind Farm Extension Project
DOW	Dudgeon offshore wind farm
ECC	Export Cable Corridor
EEA	European Economic Area
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EPP	Evidence Plan Process
ES	Environmental Statement
EZ	Enterprise Zone
FOW	Floating Offshore Wind
FTE	Full-Time Equivalent
GP	General Practitioner
GVA	Gross Value Added
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicle
HUDU	Healthy Urban Development Unit
IMD	Index of Multiple Deprivation
km	Kilometre

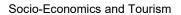


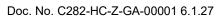
LEP	Local Enterprise Partnership
LIS	Local Industrial Strategy
LSOA	Lower Super Output Area
MPS	Marine Policy Statement
MW	Megawatts
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
m2	Square Meters
OCoCP	Outline Code of Construction Practice
OLMP	Outline Landscape Management Plan
O&M	Operations and Maintenance
ONS	Office for National Statistics
ORE	Offshore Renewable Energy
PEIR	Preliminary Environmental Information Report
PRoW	Public Rights of Way
SEP	Sheringham Shoal Offshore Wind Farm Extension Project
SOW	Sheringham offshore wind farm
SIC	Standard Industrial Classification
TCC	Temporary Construction Compound
TTWA	Travel to Work Area
SSSI	Site of Significant Scientific Importance
UK	United Kingdom
UNWTO	United Nations World Tourism Organization
ZTV	Zone of Theoretical Visibility



Glossary of Terms

Direct Employment and Gross Value Added	Employment and Gross Value Added which is associated with the first round of capital		
7.4404	expenditure i.e. the direct spend with prime		
	contractors in each impact area.		
Dudgeon Offshore Wind Farm	The Dudgeon Offshore Wind Farm Extension		
Extension Project (DEP)	onshore and offshore sites including all onshore		
	and offshore infrastructure.		
Environmental Impact Assessment	A statutory process by which certain planned		
(EIA)	projects must be assessed before a formal		
	decision to proceed can be made. It involves the		
	collection and consideration of environmental		
	information, which fulfils the assessment requirements of the EIA Directive and EIA		
	Regulations, including the publication of an		
	Environmental Statement.		
EIA Directive	European Union Directive 85/337/EEC, as		
	amended by Directives 97/11/EC, 2003/35/EC		
	and 2009/31/EC and then codified by Directive		
	2011/92/EU of 13 December 2011 (as amended		
	in 2014 by Directive 2014/52/EU).		
Evidence Plan Process (EPP)	A voluntary consultation process with specialist		
	stakeholders to agree the approach, and		
	information to support, the EIA and HRA for		
Ex-ante research	certain topics.		
Ex-ante research	Ex-ante research is conducted prior to the implementation of a project.		
Ex-post research	Ex-post research is conducted after the		
Ex post recoursi	implementation of a project.		
Full-Time Equivalent Jobs (FTE Jobs)	The total number of jobs after converting jobs		
,	with less than full-time hours and jobs with more		
	than full-time hours into full-time hour jobs. Full-		
	time hours are assumed to be 37.5 hours per		
	week (e.g. a job with 20 hours per week would		
	be 0.5 Full-Time Equivalent jobs).		
Gross Value Added (GVA)	The measure of the value of goods and services		
	produced in an area, industry or sector of an		
	economy. At the level of a firm, it is broadly equivalent to employment costs plus a measure		
	of profit.		
Horizontal directional drilling (HDD)	The areas within the onshore cable route which		
zones	would house HDD entry or exit points.		
Indirect Employment and Gross Value	Employment and Gross Value Added which is		
Added	associated with the suppliers of companies that		
	supply goods and services as part of the supply		
	chain of SEP and DEP.		





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
Local Enterprise Partnership (LEP)	Voluntary partnerships between local authorities and businesses set up in 2011 by the Department for Business, Innovation and Skills to help determine local economic priorities and lead economic growth and job creation within the local area.
Location Quotient (LQ)	The proportion of employment in a sector/industry in the East Anglia study area divided by that of the UK.
Mitigation	A term used interchangeably with Commitment(s) by Rampion 2. Mitigation measures (Commitments) are embedded within the assessment at the relevant point in the EIA (e.g. at Scoping or PEIR).
Onshore cable corridor	The area between the landfall and the onshore substation sites, within which the onshore cable circuits will be installed along with other temporary works for construction.
Onshore export cables	The cables which would bring electricity from the landfall to the onshore substation. 220 – 230kV.
Onshore Substation	Compound containing electrical equipment to enable connection to the National Grid.
Order Limits	The area subject to the application for development consent, including all permanent and temporary works for SEP and DEP.
PEIR boundary	The area subject to survey and preliminary impact assessment to inform the PEIR.
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.
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.

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Classification: Open Status: Final





27 SOCIO-ECONOMICS AND TOURISM

27.1 Introduction

- 1. This chapter of the Environmental Statement (ES) describes the potential impacts of the proposed Sheringham Shoal Offshore Wind Farm Extension Project (SEP) and Dudgeon Offshore Wind Farm Extension Project (DEP) on socio-economics and tourism. The chapter provides an overview of the existing environment for the proposed onshore and offshore sites, followed by an assessment of the potential impacts and associated mitigation for the construction, operation, and decommissioning phases of SEP and DEP.
- 2. This assessment has been 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 Chapter 5 EIA Methodology (document reference 6.1.5) and Section 27.4.
- 3. The assessment should be read in conjunction with the following linked chapters:
 - Chapter 19 Land Use, Agriculture and Recreation;
 - Chapter 21 Onshore Archaeology and Cultural Heritage;
 - Chapter 22 Air Quality;
 - Chapter 23 Noise and Vibration;
 - Chapter 24 Traffic and Transport;
 - Chapter 25 Seascape and Visual Impact Assessment; and
 - Chapter 26 Landscape and Visual Impact Assessment.
- 4. Additional information to support the socio-economics and tourism assessment includes:
 - Appendix 27.1 Socio-Economics Construction Costs and Sourcing Assumptions Note;
 - Appendix 27.2 Socio-Economics and Tourism Technical Baseline; and
 - Appendix 27.3 Socio-Economics Impact Assessment.

27.2 Consultation

- 5. Consultation with regard to socio-economics and tourism has been undertaken in line with the general process described in **Chapter 5 EIA Methodology** and the **Consultation Report**. The key elements to date have included scoping, and the ongoing Evidence Plan Process (EPP) and the Section 42 consultation on Preliminary Environmental Information Report (PEIR).
- 6. The feedback received throughout this process has been considered in preparing the ES. This chapter has been updated following consultation in order to produce the final assessment submitted within the Development Consent Order (DCO) application.



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7. **Table 27.1** provides a summary of the consultation responses received to date relevant to this topic, and details of how the Project team has had regard to the comments and how these have been addressed within this chapter.

8. The consultation process is described further in **Chapter 5 EIA Methodology**. Full details of the consultation process are presented in the **Consultation Report** (document reference 5.1), which has been submitted as part of the DCO application.

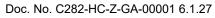
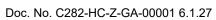


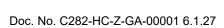
Table 27.1: Consultation Responses

Consultee	Date/ Document	Comment	Project Response		
Scoping Responses	Scoping Responses				
The Planning Inspectorate	Scoping Opinion 2019	There is no text within the Scoping Report to support an assessment of a change in demographics due to inmigration for just the operational phase. The Inspectorate considers that the highest potential for a change in demographics would likely be during construction.	The change in demographics is considered for all phases of SEP and DEP this is set out in Section 27.6		
The Planning Inspectorate	Scoping Opinion 2019	The ES should quantify the anticipated number of onshore and offshore employment opportunities generated for all phases of the Proposed Development.	The assessment quantifies the anticipated number of jobs supported as part of the construction and operations (O&M) period in Sections 27.6.4.2 and 27.6.4.3 respectively. Job numbers for the decommissioning phase are not typically quantified within socio-economic assessments as these would be highly uncertain due to limited experience in the decommissioning of offshore wind farms nationally, and the fact that activities are expected to take place at least 40 years from now. That said, the impact generated by decommissioning is likely to be of a similar nature, albeit lower than that supported during construction.		
The Planning Inspectorate	Scoping Opinion 2019	The Scoping Report notes that there is no set of recognised standards for assessing socio-economic impacts and that the Environmental Statement (ES) will present a qualitative assessment. The methodology should be set out within the ES.	The approach to the assessment is set out in detail in Section 27.4 below.		



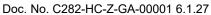


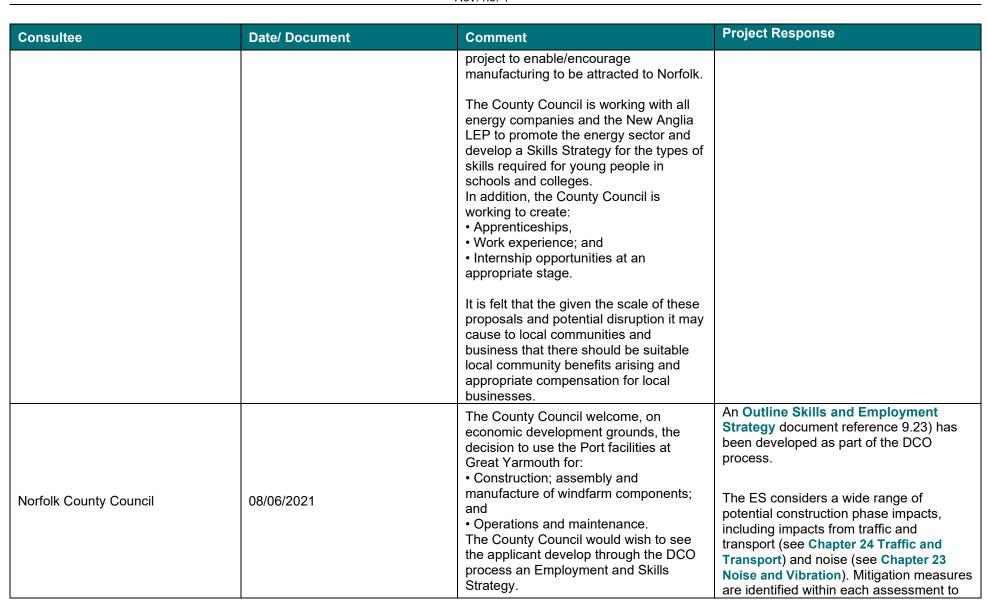
Consultee	Date/ Document	Comment	Project Response		
Section 42 Responses	Section 42 Responses				
East Suffolk Council	10/06/2021	The council do not anticipate any significant cumulative impacts on tourism. The CIA table states that EA1N is scheduled for construction completion in 2020, however this is not correct as it together with the EA2 offshore wind farm project are currently approaching the final stages of the DCO Examination process and have yet to be approved.	The Application for East Anglia ONE North was submitted to the Planning Inspectorate in October 2019 the DCO was consented in March 2022. This is set out in Section 27.7		
East Suffolk Council	10/06/2021	It is important that the potential positive and negative cumulative socio-economic effects are fully taken into consideration. For example there is the potential for there to be cumulative effects in relation to labour particularly in relation to offshore employment dependent on the 'load out' port specified and if the construction phases of the projects overlap. If the projects are built sequentially this would contribute to a pipeline of projects providing continuous employment.	Lowestoft and Felixstowe are the main ports that could be considered in Suffolk. The assessment considers that a port could have the potential to be used concurrently or sequentially depending on the development scenario. The assessment approach is set out in Section 27.4.		
East Suffolk Council	10/06/2021	Sizewell C is included and it is highlighted that this project may interact with some receptors, in particular inmigration of non-home based workers, reaching as far north as Lowestoft. East Suffolk Council agree that there could be a cumulative impact in this regard with ongoing assessment and monitoring being recommended. The Applicant for	It is common practice for major construction projects to use 90-minute travel to works areas (TTWA) for home based and 60-minute for non-home based construction workers. This approach is set out in Section 27.4 .		



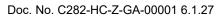


Consultee	Date/ Document	Comment	Project Response
		Sizewell C proposes workforce attending from a 90 minute radius.	
East Suffolk Council	10/06/2021	It is stated that the Nautilus Interconnector project impact area is not anticipated to overlap with the study area associated with SEP and DEP. Once further information is available on this project this will need to be reconsidered. No mention is made to National Grid Ventures' Eurolink interconnector project which appears to have been omitted.	The list of cumulative sites has been reviewed and is presented in Section 27.7 . The Nautilus application is expected to be submitted to the Planning Inspectorate in Q2 2023. As such there is limited information available at this stage. However, Nautilus will include underground cabling works and onshore infrastructure which will be located in East Suffolk. The Eurolink interconnector is still at very early stages of development and therefore there is a lack of information to include this in the assessment.
Norfolk County Council	08/06/2021	There are potentially significant economic benefits that may arise from the SEP and DEP in terms of: • Local employment creation; • Business sectors affected by construction; and • Operations and Maintenance (O&M) of the wind turbines. County Council officers have had good engagement with Equinor in terms of maximising the wider economic benefits from the projects. The County Council expect and support the longer-term operations and maintenance benefits to be experienced locally. In addition, the County Council would be keen for the	Equinor have developed a basis for promoting local economic benefits as part of the Outline Skills and Employment Strategy (document reference 9.23) (which in turn will be informed to some extent by the Contract for Difference Supply Chain Plan). The Outline Skills and Employment Strategy sets out the basis for working with local stakeholders (public sector, industry, education etc) in order to maximise skills and employability outcomes for host communities.











Consultee	Date/ Document	Comment	Project Response
		Equinor should set out clearly in the following application stage and the accompanying Environmental Statement (ES): (a) how local communities impacted by the onshore construction (e.g. Cable Route and Substation) can have such impacts mitigated; and (b) the need for a "local community fund" to assist the wider community affected by the proposal. Equinor should, given the potentially long timescales for construction address the cumulative impact/s on local businesses and communities and provide appropriate compensation for those businesses and communities adversely affected by the construction works.	reduce or eliminate any predicted significant adverse effects. This assessment has been updated during the preparation of the ES, identifying mitigation measures that contribute to the avoidance of significant adverse effects to socio-economics and tourism. The ES does not conclude there is a need for a community benefit fund as a form of mitigation for potential impacts resulting from the construction of SEP and DEP. The potential benefits of any community funds which may be associated with SEP and DEP will form part of the Applicant's stakeholder engagement with local communities as the projects are matured. The Outline Skills and Employment Plan (document reference 9.23) sets out Equinor's intention to deliver long term skills and job-related benefits to the local community.
North Norfolk District Council	10/06/2021	The delivery and construction of these projects has the potential to cause some disturbance, albeit on a relatively temporary nature, to residents and business interests within North Norfolk. North Norfolk District Council would therefore wish to work with Equinor to find acceptable solutions to properly avoid, mitigate or compensate for any adverse impacts that may arise.	Please refer to the response above.





Consultee	Date/ Document	Comment	Project Response
		The council welcome further discussion both within the remit of the DCO consent process but also outside of the DCO consent process to discuss community benefit schemes and other benefits that this project can bring to North Norfolk.	The increased demand brought to local
Public Health England	28/05/2021	The local community will experience impacts from a range of factors due to cumulative development over an extended period. The range of impacts over such a long period may result in minor effects gaining increased significance to local communities and the vulnerable population within. These schemes will have particular importance to the assessment of construction staff accommodation needs, traffic and transport and the impact on the local health care system and community cohesion from the introduction of a large external workforce across a number of infrastructure schemes. These potential impacts have been acknowledged within the PEIR but have not been adequately assessed and considered not significant partly on the basis that any impact or effects are temporary.	hospitality and accommodation businesses resulting from construction workers is considered in Section 27.6. The assumption that half of the non-home-based workers will require local accommodation (see Section 27.6) is a best estimate based on assumptions about the geographical distribution of the supply chain. There is limited ex-post evidence available on this, but similar assumptions have been used and tested as part of the examinations for other offshore wind farms. Equinor's experience also suggests this is a reasonable assumption. It should be noted that the proportion of the local workforce requiring local accommodation will be dependent on procurement decisions that have not been made yet.
		Chapter 29 identifies 670 non home- based workers and makes a worst-case assumption that half of these workers will require local accommodation. There is no justification for this assumption.	Looking at East Anglia-based ports such as King's Lynn, Great Yarmouth, Lowestoft and Felixstowe and the travel times and availability of accommodation within 60 minutes provides justification for the assumption around non-home-based workers and local accommodation.





Consultee	Date/ Document	Comment	Project Response
		The cumulative effects assessment within Chapter 29 does recognise impacts on accommodation but does not assess or use published assessments of accommodation availability (baseline and projected) to determine likely effects. The PEIR also notes the impact of increased in-migration on demographic change during construction is temporary, short-term and reversible in nature. Although temporary the construction period may extend to 24 months, with vulnerable populations being at risk of reduced access to affordable low-cost accommodation.	Norwich is within 60 minutes travel time at peak hours from Great Yarmouth and Lowestoft. Felixstowe is close to Ipswich. The implication is that the non-home-based construction workers will have a large choice of accommodation across a hinterland within 60 minutes travel time of these ports. With regard to vulnerable populations potentially being at risk of reduced access to affordable accommodation, whilst there may be an overlap between the accommodation that construction workers may use and temporary accommodation used by homeless people it is expected that this impact would be limited.
Public Health England	28/05/2021	The ES should provide greater justification for the number for non-home-based workers and the impact on availability of affordable short-term accommodation and the cumulative effects for the study area. Local knowledge on the potential impact from non-home-based workers should be sought from local stakeholders, such as the local authority, public health and CCG/ICS teams. Should the applicant wish to scope out any of these recommendations from the ES, the applicant must provide justification.	Equinor have a robust plan to appreciate, through current, local, Labour Market intelligence (LMI), the labour shortages that exist and which can provide opportunity for local employment. Equinor are collaborating over local skills and employability programmes that will maximise the number of home-based workers contributing to the construction phase of the programme. In areas where there has been an increase in work-based accommodation needs, the county has seen further business/ hotel developments (For example in Great Yarmouth).







Consultee	Date/ Document	Comment	Project Response
		The applicant may wish to consider a figure within the ES to identify the location of relevant other projects in relation to the proposed project. While it is assumed by the applicant that any impacts of decommissioning are likely to be no greater than construction, the submitted documents do not provide robust justification in support of this assumption. The council would expect to see further information as to the decommissioning in the ES.	As noted above, looking at East Angliabased ports such as King's Lynn, Great Yarmouth, Lowestoft and Felixstowe and the travel times and availability of accommodation within 60 minutes provides justification for the assumption around non-home-based workers and local accommodation. Norwich is within 60 minutes travel time at peak hours from Great Yarmouth and Lowestoft. Felixstowe is close to Ipswich. The implication is that the non-home-based construction workers will have a large choice of accommodation across a hinterland within 60 minutes travel time of these ports. Figure 5.3 presented in Chapter 5 EIA Methodology shows the onshore projects taken into account in the CIA whilst Figure 5.1 and Figure 5.2 presented in the same chapter show the offshore projects taken into account in the CIA. The approach taken to the assessment of the decommissioning stage is a common approach adopted in ES assessment of socio-economics due to the lack of information available at PEIR and ES stages about the cost and approach to decommissioning. It is reasonable to assume it is unlikely to have more significant effects than the construction phase.

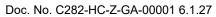


Consultee	Date/ Document	Comment	Project Response
Suffolk County Council	10/06/2021	Pleased to see the recognition that the project will have wide reaching, significant economic impacts and welcome the socio economic assessment being conducted at a regional (New Anglia Study Area) alongside a national level. Norfolk and Suffolk are currently seeing an unprecedented amount of large, significant infrastructure construction and there are potentially significant economic benefits that the SEP and DEP proposals will contribute to in regards to: • Local employment both in the construction and operational phases • Local supply chain growth opportunities in the construction and operational phases • Ongoing growth supporting operations and maintenance Suffolk County Council alongside its Local Authority partners, New Anglia LEP and employer representative bodies have developed working relationships with all energy developers and applicants to ensure that the socioeconomic benefits of hosting the construction of energy infrastructure projects and the long term legacy of operational energy infrastructure are maximised. The council expect the	An Outline Skills and Employment Strategy(document reference 9.23) has been developed as part of the DCO process. The cumulative impact assessment, which is set out in Section 27.7 has been revisited and the timelines of the projects set out in the CIA have been updated as necessary.



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Consultee	Date/ Document	Comment	Project Response
		applicant and the SEP and DEP proposals to contribute to this ongoing activity and show demonstrable benefit. Suffolk County Council supports the ask for the applicant to develop, through the DCO process, an Employment and Skills strategy. The council has concerns that the cumulative impact assessment reaches invalid conclusions as the construction periods of a number of identified projects considered in the CIA are fundamentally wrong. Suffolk County Council expects the timelines to be corrected and Cumulative Impact to be reassessed. Whilst reassessing it is vital that the workforce assessment considers the different demands on the different phases of the proposals and assess these cumulatively with the projects	
Swainsthorpe Parish Council	10/06/2021	During the sub stations construction and subsequent cable laying stages there will be significant disruption - will there be financial compensation for communities thus affected?	The ES considers a wide range of potential construction phase impacts, including impacts from traffic and transport (see Chapter 24 Traffic and Transport) and noise (see Chapter 23 Noise and Vibration). Mitigation measures are identified within each assessment to reduce or eliminate any predicted significant adverse effects. This assessment has been updated during the preparation of the ES, identifying mitigation measures that contribute to the





Consultee	Date/ Document	Comment	Project Response
			avoidance of significant adverse effects to socio-economics and tourism.
			The ES does not conclude there is a need for a community benefit fund as a form of mitigation for potential impacts resulting from the construction of SEP and DEP. The potential benefits of any community funds which may be associated with SEP and DEP will form part of the Applicant's stakeholder engagement with local communities as the projects are matured.
Weybourne Parish Council	08/06/2021	The village depends on tourism, especially in the peak April-October period, with the pub and shop, campsites, B&Bs and holiday lets and the North Norfolk Railway all vulnerable to the effects of any road closures and construction activity.	Equinor has made several commitments to reduce impacts on tourism within the area: A Horizontal Directional Drill (HDD) at the landfall to minimise impacts to the beach and to keep access restrictions to an absolute minimum Locating the landfall on private land, with access through the Muckleburgh estate only and no access via Beach lane No compound for the onshore cable works will be located at the landfall Weybourne Woods will be crossed using HDD to avoid closing Sandy Hill Lane and to reduce impacts to recreational users of the woods A commitment to avoid closing any of the roads leading in and out of Weybourne Enhanced measures within a Construction Traffic Management Plan (CTMP), such as a Community liaison officer to help effectively manage deliveries during local planned events

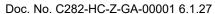




Consultee	Date/ Document	Comment	Project Response
			(see Outline Construction Traffic Management Plan (document ref. 9.16)).
Weybourne Parish Council	08/06/2021	Weybourne is a working fishing village, with the fishermen launching from the beach.	The potential impacts to commercial fisher's has been assessed within the Commercial Fisheries Technical Report contained in Appendix 14.1. A Fisheries Liaison Officer has been appointed by SEP and DEP who is managing communications with local fishers. A Fisheries Liaison and Coexistence Plan (document reference 9.8) has been drafted in consultation with relevant stakeholders which sets out a plan for continued and ongoing consultation.
Weybourne Parish Council	08/06/2021	There are plans for a Community Land Trust for a social housing project to be constructed on land adjacent to Station Road, north of the PEIR area.	Based on the planning map for North Norfolk, as per July 2022, none of the shown planning applications related to housing projects overlap with the SEP and DEP DCO Order Limits.
Weybourne Parish Council	08/06/2021	The council believes there should be some form of targeted compensation for the disruption and worry caused by each windfarm that affects the village; this should also apply to other areas affected. Areas that are disproportionately affected (e.g. Weybourne and Cawston) should receive a greater "slice of the cake". Such funding could be used for projects to benefit the community as a whole e.g. toilets at Weybourne beach (if these	The ES considers a wide range of potential construction phase impacts, including impacts from traffic and transport (see Chapter 24 Traffic and Transport) and noise (see Chapter 23 Noise and Vibration). Mitigation measures are identified within each assessment to reduce or eliminate any predicted significant adverse effects. This assessment has been updated during the preparation of the ES, identifying mitigation measures that contribute to the

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Consultee	Date/ Document	Comment	Project Response
		have not been installed beforehand);	avoidance of significant adverse effects to
		funding for a "green" village hall; repairs	socio-economics and tourism.
		to the carparking by the beach;	
		contributions to the upkeep of village	The ES does not conclude there is a need
		amenities such as the Harry Dawson	for a community benefit fund as a form of
		Playing Field; the creation of a village	mitigation for potential impacts resulting
		"sustainability fund" that the Parish	from the construction of SEP and DEP.
		Council could use at its discretion to	The potential benefits of any community
		contribute to projects such as those listed above.	funds which may be associated with SEP
		listed above.	and DEP will form part of the Applicant's stakeholder engagement with local
		Norfolk-wide grant funding, or funding	communities as the projects are matured.
		for STEM bursaries etc. do not directly	oommandos as the projects are matured.
		benefit the communities that bear the	
		brunt of the disruption.	
		The village lies in an AONB. The	
		presence of an industrial construction	
		site and HGVs completely contradicts	
		the ethos of an AONB. Outside the key	
		tourist season, the beach and coast path	
		are still heavily used by walkers,	
		birdwatchers and anglers, and these	
		bring in revenue to local businesses in	
		the low season. Beach Lane is a narrow	
		road, used by tourist traffic, local residents, local fishermen and the	
		emergency services (Coastguard). It is	
		not suitable for HGVs. Moreover, the	
		presence of construction traffic would	
		have a strongly adverse effect on	
		tourism and local quality of life. Road	
		closures must avoid the key tourist	
		season as well as critical times for	
		agricultural work. Any activity on Sandy	
		Hill Lane would have a very significant	





Consultee	Date/ Document	Comment	Project Response
		impact on a number of businesses including Breck Farm (working farm and campsite), Weybourne Forest Lodges, Kelling Heath Holiday Park, North Norfolk Railway, Clive Hay-Smith's farm.	



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27.3 Scope

27.3.1 Study Area

Classification: Open

- 9. The main study area for the socio-economics assessment is based on the aggregation of Suffolk and Norfolk counties (corresponding with the New Anglia Local Enterprise Partnership (LEP) area) henceforth referred to as the East Anglia study area. This is due to the location of SEP and DEP and the overall scale of the impacts SEP and DEP will generate. Furthermore, although the exact location for both construction and operation and maintenance ports are currently unknown, it is highly likely that these will consist of one of the major ports within the East Anglia study area.
- 10. A national study area, consisting of the United Kingdom (UK) has also been identified in order to assess the economic and employment effects which could arise at this spatial scale by SEP and DEP. Both study areas are shown in **Figure 27.1 Context Map**.
- 11. The study area used to assess the visual impacts of the offshore infrastructure on tourism activity is based on the zone of theoretical visibility (ZTV). The ZTV is based on a blade tip height of 330 metres, as set out in Chapter 25 Seascape and Visual Impact Assessment and Chapter 26 Landscape and Visual Impact Assessment.
- 12. The study area used in the assessment of the impacts associated with onshore infrastructure on tourism activity is based on a 60km corridor (shown in **Figure 27.2 Onshore Cable Corridor**) covering a 200m buffer from the proposed onshore cable corridor (including landfall at Weybourne, and the proposed connection to the National Grid at Norwich Main Substation). The assessment splits the DCO Order Limits into the following areas:
 - Landfall and cable corridor within the North Norfolk Area of Outstanding Natural Beauty (AONB);
 - Main onshore cable corridor from the North Norfolk AONB to onshore substation; and
 - Area around onshore substation sites for connection to National Grid (at Norwich Main Substation).

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27.3.2 Realistic Worst-Case Scenario

27.3.2.1 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 (v3, 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 socio-economics and tourism assessment are summarised in **Table 27.2**. 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 27.2** consideration is also given to how SEP and DEP will be built out as described in **Section 27.3.2.2** to **Section 27.3.2.4** below. This accounts for the fact that whilst SEP and DEP are the subject of one DCO application, it is possible that either one or both of the projects will be developed, and if both are developed, that construction may be undertaken either concurrently or sequentially. Further details are provided in **Chapter 4 Project Description**

27.3.2.2 Construction Scenarios

- 16. In the event that both SEP and DEP are built, 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 SEP and DEP could be constructed in four years;
 - If built at different times, either Project could be built first;
 - If built at different times, each Project would require a four year period of construction;
 - If built at different times, the offset 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;
 - Taking the above into account, the total maximum period during which construction could take place is eight years for both Projects; and
 - The earliest construction start date is 2025.
- 17. The impact assessment for socio-economics considers the following development scenarios in determining the worst-case scenario for each topic:
 - Build SEP or build DEP in isolation;



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- Build SEP and DEP sequentially with a gap of up to four years between the start of construction of each Project - reflecting the maximum duration of effects: and
- Build SEP and DEP concurrently reflecting the maximum peak effects.
- Any differences between SEP and DEP, or differences that could result from the 18. 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 27.6. For each potential impact, where necessary, only the worst-case construction scenario for two Projects is presented. i.e. either concurrent or sequential. The justification for what constitutes the worstcase is provided, where necessary, in Section 27.6.

27.3.2.3 **Operation Scenarios**

- 19. Operation scenarios are described in detail in Chapter 4 Project Description. Where necessary, 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 two to four years between each Project commencing operation.
- 20. The operational lifetime of each Project is expected to be 40 years.

27.3.2.4 **Decommissioning Scenarios**

Classification: Open

Decommissioning scenarios are described in detail in Chapter 4 Project 21. **Description**. Decommissioning arrangements for the offshore elements of SEP and DEP will be agreed through the submission of a decommissioning programme prior to construction. For the onshore elements the decommissioning arrangement will be agreed through the submission of an onshore decommissioning programme to the relevant planning authority for approval within six months of the permanent cessation of commercial operation (unless otherwise agreed in writing by the relevant planning authority). For the purpose of this assessment it is assumed that decommissioning of SEP and DEP could be conducted separately, or at the same time.

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Table 27.2: Realistic Worst-Case Scenarios

Impact	SEP or DEP in Isolation	SEP and DEP Concurrently	SEP and DEP Sequentially	Notes and Rationale
Construction				
Impact 1: Impact on the Economy Impact 2: Increased Employment	Construction Port: Use of a construction port elsewhere in the UK study area (i.e. outside of the East Anglia study area) represents the realistic worst-case scenario for direct economic and employment benefits for all development scenarios. Wind Farm Capacity: The assumption is that the construction of SEP or DEP will double the overall generation capacity of the existing Sheringham Shoal offshore wind farm (SOW) and Dudgeon offshore wind farm (DOW). The assessment is therefore based on the assumption that DEP will have a maximum generation capacity of 448MW, whilst SEP will have a maximum generation capacity of 338MW. Construction Period: Construction period of four years for the construction of SEP or DEP in Isolation.	Construction Port: Use of a construction port elsewhere in the UK study area (i.e. outside of the East Anglia study area) represents the realistic worst-case scenario for direct economic and employment benefits for all development scenarios. Wind Farm Capacity: The assumption is that together, SEP and DEP will double the overall generation capacity of the existing SOW and DOW. The assessment is therefore based on the assumption that DEP will have a maximum generation capacity of 448MW, whilst SEP will have a maximum generation capacity of 338MW. Construction Period: If built at the same time both projects could be constructed in four years.	Construction Port: Use of a construction port elsewhere in the UK study area (i.e. outside of the East Anglia study area) represents the realistic worst-case scenario for direct economic and employment benefits for all development scenarios. Wind Farm Capacity: The assumption is that together, SEP and DEP will double the overall generation capacity of the existing SOW and DOW. The assessment is therefore based on the assumption that DEP will have a maximum generation capacity of 448MW, whilst SEP will have a maximum generation capacity of 338MW. Construction Period: the maximum construction period over which the sequential construction of both projects could take place is eight years.	The supply chain sourcing scenarios are used to assess the likely potential range of geographic sourcing assumptions. The use of scenarios allows for an assessment of both maximum and minimum positive impacts that could be supported by SEP and DEP a both the East Anglia study area and national (i.e. UK) levels. The maximum capacity is a key assumption which drives the modelling of economic benefit and increased employment. This represents the realistic worst-case scenario in terms of the potential for negative impacts on other receptors within the chapter. At this stage the total generation capacity of SEP and DEP is yet to be determined. This will depend on the number of turbines installed and their generation capacity.



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Impact	SEP or DEP in Isolation	SEP and DEP Concurrently	SEP and DEP Sequentially	Notes and Rationale
Impact 3: Change in Demographics.	Wind Farm Capacity: As set out above, DEP will have a maximum generation capacity of 448MW, whilst SEP will have a maximum generation capacity of 338MW. This represents the realistic worst-case scenario in terms of the potential for change in demographics resulting from an increase in migrant workers. Construction Port: The local-port scenario, for all phases of development, will generate highest realistic worst-case scenario. This is due to the scenario supporting higher levels of employment in the East Anglia study area, of which a proportion will be migrant workers who will locate locally on a temporary basis. Workforce: A proportion will be migrant workers who will locate locally on a temporary basis. These non-home-based workers typically locate within a 60-minute travel to work catchment from the port.			Draws on the cost and sourcing assumptions set out above to generate estimate of labour requirements. Demographic changes will reflect labour market catchments and functional geographies.
Impact 4: Disturbance to Social, Community and Healthcare Infrastructure	Total onshore works area (4,566,250.6 m2): Social and community infrastructure assets (such as schools, community support centres, public spaces, sports and recreation venues, and arts and culture venues) along the onshore corridor have potential to be impacted. Increased Pressure on Health Care Facilities Occurs across the East Anglia Study Area Wind Farm Capacity: As set out above, DEP will have a maximum generation capacity of 448MW, whilst SEP will have a maximum generation capacity of 338MW. This represents the realistic worst-case scenario in terms of the potential for change in demographics resulting from an increase in migrant workers. O&M Port: The port is located within the East Anglia study area. Workforce: Maximum impact scenario where both SEP and DEP are in operation and half of all		Disturbance to Social, Community and Healthcare Infrastructure is anticipated to be temporary throughout the construction period. Draws on the cost and sourcing assumptions set out above to generate estimate of labour requirements. Demographic changes will reflect labour market catchments and functional geographies.	
Impact 5: Visual Impact of Offshore Infrastructure on Volume and Value of Tourism Activity	Wind turbines: Maximum number: 30 (DEP) or 23 (SEP) Height: 330m Closest distance from shore: 16.1km	Wind Turbines: Maximum number: 30 (DEP) and Height: 330m Closest distance from shore: 16.1	, ,	



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Impact	SEP or DEP in Isolation	SEP and DEP Concurrently	SEP and DEP Sequentially	Notes and Rationale
Impact 6 : Impact of Onshore Construction on Volume and Value of Tourism Activity	Landfall: HDD drills: Number: 2, Length: 1,150m. HDD compound area: 75m x 75m Total works area: 48,955m2 Duration: Landfall HDD: 4 months, Landfall cable pull: 2 months	Landfall: HDD drills: Number: 4, Length: 1,150m. HDD compound area: 75m x 75m Total works area: 48,955m2 Duration: Landfall HDD: 5 months, Landfall cable pull: 4 months	Landfall: HDD drills: Number: 4, Length: 1,150m. HDD compound area: 75m x 75m (per project and overlapping) Total works area: 48,955m2 Duration (per project): Landfall HDD: 4 months, Landfall cable pull: 2 months	It should be noted that the HDD works should not require any prolonged periods of restrictions or closures to the beach for public access, although it is possible that some work activities will be required to be performed on the beach that may require short periods of restricted access. For example, use of a temporary seawater pipe and pump to supply seawater to the onshore HDD temporary works compound for use with the drilling fluid, as well as the use of vehicles to transport the ducting across the beach. Any areas subject to short-term restricted access would be agreed in advance with the Countryside Access Officer at Norfolk County Council prior to construction.
	Onshore Cable Corridor: Construction corridor: Length: 60km, Width: 45m (100m at trenchless crossings). Main construction compound: Number: 1, Area: 30,000m2, Duration: 48 months.	Onshore Cable Corridor: Construction corridor: Length: 60km, Width: 60m (100m at trenchless crossings). Main construction compound: Number: 1, Area: 30,000m2, Duration: 48 months. Secondary construction compounds: Number: 8, Area	Onshore Cable Corridor: Construction corridor: Length: 60km, Width: 60m (100m at trenchless crossings). Main construction compound: Number: 1, Area: 30,000m2, Duration: 48 months (per project) Secondary construction compounds: Number: 8, Area	For the purpose of the assessment it is assumed that construction takes place throughout peak tourism season, which represents the worst-case scenario by having the largest-possible impact on the volume and value of tourism economy



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Impact	SEP or DEP in Isolation	SEP and DEP Concurrently	SEP and DEP Sequentially	Notes and Rationale
	Secondary construction compounds: Number: 8, Area 2,500m2 – 7,500m2, Duration: 12 - 24 months Duration: Onshore cable ducting and installation (incl. reinstatement): 26 months	2,500m2 – 7,500m2, Duration: 12 - 24 months Duration: Onshore cable ducting and installation (incl. reinstatement): 28 months	2,500m2 – 7,500m2, Duration: 12 - 24 months (per project) Duration: Onshore cable ducting and installation (incl. reinstatement): 28 months for first project, followed by 22 months for second project.	
	Onshore Substation and 400kv connection:	Onshore Substation and 400kv connection:	Onshore Substation and 400kv connection:	
	Indicative capacity of onshore station: 400MW Duration of works: 6 months site preparation and 22 months construction period Operational area: 3.25ha Total onshore substation works area (incl. Norwich Main connection): 445,652m2 Substation control / switchgear building: 30m long x 14m wide x 15m high Maximum building height:15m Lightning protection masts: 30m Access road: width 6m, length 85m Construction compound: 1 ha	Indicative capacity of onshore station: 800MW Duration of works: 6 months site preparation and 24 months construction period Operational area: 6ha Total onshore substation works area (incl. Norwich Main connection): 445,652m2 Substation control / switchgear building: 50m long x 25m wide x 15m high Maximum building height:15m Lightning protection masts: 30m Access road: width 6m, length 85m Construction compound: 1 ha Number of main buildings (SVC Building and Control Building): 4	Indicative capacity of onshore station: 800MW Duration of works (per project): 6 months site preparation and 22 months construction period Operational area: 6ha Total onshore substation works area (incl. Norwich Main connection): 445,652m2 Substation control Substation control / switchgear building: 2 x (30m long x 14m wide x 15m high) Maximum building height:15m Lightning protection masts: 30m Access road: width 6m, length 85m Construction compound: 1 ha Number of main buildings (SVC Building and Control Building): 4	



Impact	SEP or DEP in Isolation	SEP and DEP Concurrently	SEP and DEP Sequentially	Notes and Rationale
	Number of main buildings (SVC Building and Control Building): 2			
Operation				
Impact 1: Impact on the Economy Impact 2: Increased Employment	area the O&M port is located Wind Farm Capacity: The as generation capacity of the ex	ar: It is assumed that all direct O&M I in, and that this port is located with sumption is that together, SEP and xisting SOW and DOW. The assessive a maximum generation capacity of 338MW.	in the East Anglia study area. DEP will double the overall nent is therefore based on the	The maximum capacity is a key assumption which drives the modelling of economic benefit and increased employment. This represents the realistic worst-case scenario in terms of the potential for negative impacts on other receptors within the chapter. At this stage the total generation capacity of SEP and DEP is yet to be determined. This will depend on the number of turbines installed and their generation capacity.
Impact 3: Change in Demographics.	whilst SEP will have a maxin worst-case scenario in terms increase in migrant workers. O&M Port: The port is locate Workforce: Maximum impact	out above, DEP will have a maximunum generation capacity of 338MW. of the potential for change in demoderation where both SEP and DEF anglia study area are taken up by in-	This represents the realistic graphics resulting from an	
Impact 4: Disturbance to Social, Community and Healthcare Infrastructure	Total onshore works area (4, schools, community support	nmunity and Infrastructure Assets, 566,250.6 m2): Social and commur centres, public spaces, sports and r shore corridor have potential to be i	nity infrastructure assets (such as ecreation venues, and arts and	



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Impact	SEP or DEP in Isolation	SEP and DEP Concurrently	SEP and DEP Sequentially	Notes and Rationale
	whilst SEP will have a maximum worst-case scenario in terms of increase in migrant workers. O&M Port: The port is located Workforce: Maximum impact seep to the control of			
Impact 5: Visual Impact of Offshore Infrastructure on Volume and Value of Tourism Activity	Wind turbines: Maximum number: 17 (DEP) or 13 (SEP) Height: 330m Closest distance from shore: 16.1km	Wind turbines: Maximum number: 17 (DEP) and 13 (SEP) Height: 330m Closest distance from shore: 16.1km		
Impact 6: Impact of Onshore Infrastructure on Volume and Value of Tourism Activity	If a cable is damaged, excavation activities will be required to get access for repairing the cable. This will generate discrete noise and/ or visual disturbance for limited periods of time. The realistic worst-case scenario assumes excavation activities could be required at any point within the onshore cable corridor, at landfall and at the Onshore Substation and 400kv connection. It should be noted that the probability of damage occurring to the cable is extremely low.			
	Onshore Substation and 400kv connection: Indicative capacity of onshore station: 400MW Duration of works: 6 months site preparation and 22 months construction period Operational area: 3.25ha Total onshore substation works area (incl. Norwich	Onshore Substation and 400kv connection: Indicative capacity of onshore station: 800MW Duration of works: 6 months site preparation and 24 months construction period Operational area: 6ha Total onshore substation works area (incl. Norwich Main connection): 445,652m2	Onshore Substation and 400kv connection: Indicative capacity of onshore station: 800MW Duration of works (per project): 6 months site preparation and 22 months construction period Operational area: 6ha	



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Impact	SEP or DEP in Isolation	SEP and DEP Concurrently	SEP and DEP Sequentially	Notes and Rationale
	Main connection): 445,652m2 Substation control / switchgear building: 30m long x 14m wide x 15m high Maximum building height:15m Lightning protection masts: 30m Access road: width 6m, length 85m Construction compound: 1 ha Number of main buildings (SVC Building and Control Building): 2	Substation control / switchgear building: 50m long x 25m wide x 15m high Maximum building height:15m Lightning protection masts: 30m Access road: width 6m, length 85m Construction compound: 1 ha Number of main buildings (SVC Building and Control Building): 4	Total onshore substation works area (incl. Norwich Main connection): 445,652m2 Substation control / switchgear building: 2 x (30m long x 14m wide x 15m high) Maximum building height:15m Lightning protection masts: 30m Access road: width 6m, length 85m Construction compound: 1 ha Number of main buildings (SVC Building and Control Building): 4	

Decommissioning

No final decision has yet been made regarding the final decommissioning policy for the onshore project infrastructure including landfall, onshore cable corridor and onshore substation. It is also recognised that legislation and industry best practice change over time. However, it is likely that the onshore project equipment, including the cable, will be removed, reused or recycled where possible and the transition bays and cable ducts being left in place. 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.



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27.3.3 Summary of Mitigation Embedded in the Design

This section outlines the embedded mitigation relevant to the socio-economics and tourism assessment, which has been incorporated into the design of SEP and DEP (Table 27.3). Where other mitigation measures are proposed, these are detailed in the impact assessment (Section 27.6).

Table 27.3: Embedded Mitigation Measures

Parameter	Mitigation Measures Embedded into the Project Design				
General					
Site selection	SEP and DEP have undergone an extensive site selection process which has involved incorporating environmental considerations (avoiding residential properties, historic and nature designations and infrastructure e.g. buried cables, railways, roads,etc) in collaboration with the engineering design requirements (for more information see Chapter 3 Site Selection and Assessment of Alternatives).				
Long HDD at Landfall	The Applicant has committed to install the cables at the landfall using HDD, thereby avoiding physical disturbance or prolonged access restrictions to Weybourne beach.				
Trenchless Crossings	The Applicant has committed to using trenchless crossing techniques to minimise disruption and delay to users on all A and B roads and 16 other local roads				
Mitigation related to traffic and transport particulary relevant to the socio-economic assessment					
Temporary Construction Compounds (TCCs)	TCC locations have been located close to main A roads wherever possible minimising impacts upon local communities and utilising the most suitable roads. TCCs are located away from population centres where practical to reduce impact on local communities and population centres.				
Vehicle Trips	Construction of an (up to) 6m wide haul road with an approximate length of up to 60km to reduce the number of access points and Heavy Goods Vehicle (HGV) trips on the local road network.				
	Carefully selected delivery routes to minimise impact on the sensitive receptors within the TTSA				
Construction Accesses	Repositioning of numerous construction access locations to meet stakeholder and landowner requests.				

27.4 Impact Assessment Methodology

27.4.1 Policy, Legislation and Guidance

27.4.1.1 National Policy Statements

- 23. The assessment of potential impacts upon socio-economics and tourism has been made with specific reference to the relevant National Policy Statements (NPS). These are the principal decision-making documents for Nationally Significant Infrastructure Projects (NSIPs). Those most 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).

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- 24. In addition to the current NPS, draft NPSs are currently being consulted upon. The draft NPSs have been reviewed to determine the emerging expectations and changes from previous iterations of the NPSs. This includes the Draft Overarching NPS EN-1 (DECC, 2021a), EN-3 (DECC, 2021b) and EN-5 (DECC, 2021c).
- 25. For socio-economics and tourism, there is very limited guidance on the methods to be used when assessing the effects of major infrastructure projects (such as SEP and DEP) on national and local economies.
- 26. The specific assessment requirements for socio-economics and tourism, as detailed in the NPS, are summarised in **Table 27.4** together with an indication of the section of the ES chapter where each is addressed.
- 27. Additionally, the socio-economics and tourism assessment draws on the principles of the approach to economic appraisal of major projects as set out in HM Treasury's (2018) The Green Book.

Table 27.4: NPS Assessment Requirements

NPS Requirement	NPS Reference	Section Reference				
NPS for Energy (EN-1)						
Where the project is likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts as part of the ES.	EN-1 paragraph 5.12.2	The socio-economic impacts of SEP and DEP that have been scoped into the assessment have been assessed for both East Anglia and the UK study areas, and are set out in Section 27.6.				
The assessment should consider all relevant socio-economic impacts which may include the creation of jobs and training opportunities.	EN-1 paragraph 5.12.3	The effects SEP and DEP activity on employment are explored in Section 27.6.4 for construction-related jobs, and Section 27.6.5 for O&M-related jobs. The effects on decommissioning-related jobs are considered in Section 27.6.6 .				
The assessment should consider all relevant socio-economic impacts, including the provision of additional local services and improvements to local infrastructure including the provision of educational and visitor facilities	EN-1 paragraph 5.12.3	The effects of the additional demand for local services and improvements to local infrastructure are explored in Sections 27.6.4, 27.6.5 and 27.6.6.				
The assessment should consider the effects on tourism	EN-1 paragraph 5.12.3	The effects on the tourism economy of both onshore and offshore infrastructure are considered in Sections 27.6.4, 27.6.5 and 27.6.6.				
The assessment should consider the impact of changing influx of workers during the different construction, operation and decommissioning phases of the energy infrastructure	EN-1 paragraph 5.12.3	The effects of changing influx of workers are considered in Sections 27.6.4, 27.6.5 and 27.6.6.				



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NPS Requirement	NPS Reference	Section Reference
The assessment should consider cumulative effects	EN-1 paragraph 5.12.3	Cumulative effects of SEP and DEP are considered in Section 27.7 .
Applicants should describe the existing socio-economic conditions in the areas surrounding the proposed development and should also refer to how the development's socio-economic impacts correlate with local planning policies.	EN-1 paragraph 5.12.4	The existing socio-economic conditions are outlined in Section 27.5. The existing local policy context has been considered for the assessment of socio-economics within Section 27.4.1 of this assessment and Appendix 27.2 Socio-Economics and Tourism Technical Baseline.
The inter-relationships of socio- economic impacts with other impacts should also be considered.	EN-1 paragraph 5.12.5	The inter-relationships between socio- economics and other aspects of the assessment (including landscape and visuals, transport and traffic, noise, recreation and land use) are considered in Section 27.8 .
Draft Overarching NPS for Energy	(EN-1) (BEIS, 2021a)	
Accommodation strategies should be developed where appropriate, especially during construction and decommissioning phases, that would include for the need to provide temporary accommodation for construction workers if required.	Draft NPS EN-1 paragraph 5.13.6	The impact on changes in demographic and requirements for accommodation of non-home-based workers is assessed in Sections 27.6.4.3 and 27.6.5.3 as minor adverse and therefore accommodation strategy is not considered required at this stage.

27.4.1.2 Other

28. In addition to the NPS, there are a number of pieces of policy and guidance applicable to the assessment of socio-economics and tourism. A summary of the key national policy considerations outside of NPS is provided in **Table 27.5** below.

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Table 27.5: Additional Relevant National and / or Local Policy

Policy Consideration	Relevance to Socio-Economic and Tourism Assessment				
National Policy					
Build Back Better: Our Plan for Growth	Our Plan for Growth (HM Treasury, 2021a) sets out the Government's plan 'to deliver growth that creates high-quality jobs across the UK' by building on the three core pillars of infrastructure, skills and innovation. The plan also identified three priorities for the government, among which is supporting the transition to net zero. The Plan for Growth states that the government will focus on delivering The Ten Point Plan for Green Industrial Revolution (HM Government, 2020).				
Levelling Up	The Levelling Up White Paper sets out how the UK Government intends to spread opportunity more equally across the UK. This includes a commitment to £26bn of public capital investment for the green industrial revolution and the UK transition to Net Zero. A key mission of Levelling up is to increase the number of people successfully completing high-quality skills training. The Levelling Up White Paper aims to have to have 200,000 more people successfully completing high-quality skills training annually, driven by 80,000 more people completing courses in the lowest skilled areas.				
Net Zero Review (HM Treasury, 2021b) & Net Zero Strategy (BEIS, 2021b)	The Net Zero Review (HM Treasury, 2021b) states that Global action to mitigate climate change is essential to long-term UK prosperity. The majority of global GDP is now covered by net zero targets. As the world decarbonises, UK action can generate benefits to businesses and households across the country. The Net Zero Strategy sets out a comprehensive range of policies to support and capitalise on the UK's transition to net zero by 2050 across the whole economy. The Net Zero Strategy: Build Back Greener (BEIS, 2021b) supports the commitment of 40GW of offshore wind by 2030 and commits to fully decarbonising UK power system by 2035. The strategy sets out a target for 1GW of floating offshore wind by 2030 to put the UK at the forefront of this new technology. The strategy sets out what actions have already been taken to deliver on the Ten Point Plan, since the Ten Point Plan was published the UK has: Supported manufacturers via government investment schemes. Six manufacturers have already announced major investments in the UK offshore wind sectors and delivering up to 3,600 jobs by 2030.				

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Policy Consideration	Relevance to Socio-Economic and Tourism Assessment
	Built UK Offshore Wind capacity to 10.5GW. This increased the share of electricity generated by Offshore Wind from 1% to 13% over the last decade. Kicked off the biggest-ever round of our flagship renewable energy scheme for low carbon electricity (Contract for Difference) with £200 million for offshore wind projects and £24m for floating offshore wind. Launched a £17.5 million competition to support innovative floating wind ideas from industry and joined the Offshore Renewable Energy (ORE) Catapult's Floating Offshore Wind (FOW) Centre of Excellence, contributing £2 million. Leveraged over £1.5 billion investment into our offshore wind industry, following the £160 million to upgrade ports and infrastructure. Published the Offshore Transmission Network Review, setting out two initial policy consultations to move to a coordinated approach for both inflight and future offshore wind projects.
Clean Growth Strategy	Connected to the UK Industrial Strategy, the Clean Growth Strategy seeks to ensure that economic growth goes hand in hand with greater protection for the natural environment. Within this is a commitment to help businesses and entrepreneurs seize opportunities of a low carbon economy, and specifically offshore wind. Under its ambition to deliver clean, smart and flexible power the Clean Growth Strategy seeks to deliver a diverse electricity system that supplies homes and businesses with secure, affordable and clean power. The Strategy seeks to deliver this through the development of low carbon sources of electricity (including renewables) and acknowledges that the UK is well-paced to benefit and become one of the most advanced economies for smart energy and technologies.
Offshore Wind: Sector Deal	The Offshore Wind Sector Deal commits to help the industry raise the productivity and competitiveness of UK companies to ensure the UK continues to play a leading role as the global market grows in the decades to 2050. Key commitments include: Increasing UK Content to 60% of value associated with offshore wind farm activity by 2030; £250 million industry investment in building a stronger UK supply chain to support productivity and increase competitiveness; Provide forward visibility of future Contracts for Difference (CfD) rounds with support of up to £557 million; Increasing exports fivefold to £2.6 billion by 2030; and Increasing the representation of women in the offshore wind workforce to at least a third by 2030.

on: Open Status: Final



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Policy Consideration	Relevance to Socio-Economic and Tourism Assessment
British Energy Security Strategy	Published in 2022 the strategy sets out how Great Britain will accelerate homegrown power for greater energy independence. The ambition set in the strategy is for offshore wind to deliver up to 50GW by 2030, including up to 5GW of innovative floating wind and by 2030 over half of British renewable generation capacity will be wind. The strategy notes that: 11GW is already being generated from offshore wind with a further 12GW in the pipeline Technological leadership is delivering high skilled, high wage British jobs. The increased ambition means the Government expect the sector will grow to support around 90,000 jobs by 2030. In planning, offshore wind projects tend to have public support, and ultimately benefit the environment because they help reduce the damage to habitats that is caused by climate change. The government intend cut the development process time by over half by a number of ways including reducing consent time from up to four years to down to one year.
Tourism: Sector Deal	Builds on the UK Industrial Strategy by creating a framework which positions the tourism industry to take advantage of new markets whilst also leveraging initiatives designed to deliver the Strategy's Grand Challenges relating to the datadriven economy (i.e. artificial intelligence (AI)), clean growth and ageing society. The Tourism Sector Deal sets out an ambitious agenda that will deliver increases in productivity and investment that will benefit local economies across the country. It introduces the concept of Tourism Zones, bringing together businesses and local organisations to establish a co-ordinated strategy for growth and sustaining visitor numbers throughout the off-season. By 2025, the Tourism Sector Deal aims to: More than double the size of the industry nationally to £268 billion; Grow employment in the sector to 3.8 million; and Deliver a 1% increase in productivity worth £12 billion to the national economy.
National Planning Policy Framework (NPPF)	Emphasises that one of the overarching objectives of the planning system is to contribute to the achievement of sustainable development. This includes backing the transition to a low carbon economy. In paragraph 148, NPPF explains that the planning system should support the transition to a low carbon future, and states that the planning system should shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and provide resilience to the impacts of



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Policy Consideration	Relevance to Socio-Economic and Tourism Assessment
	climate change, whilst also supporting the delivery of renewable and low carbon energy and associated infrastructure.
UK Marine Policy Statement (MPS)	The MPS states that properly planned developments in the marine area can provide both environmental and social benefits, whilst also driving economic development, providing opportunities for investment and generating export and tax revenues. This includes the 'obvious' social and economic benefits from such an increase in network capacity, most notably the facilitation of offshore renewable energy.
Local Policy	
New Anglia LEP Strategic Economic Plan	The New Anglia LEP's Strategic Economic Plan identifies the offshore energy sector as a key growth opportunity area over the next decade. It highlights that New Anglia (consisting of Norfolk and Suffolk) is well placed to capitalise on market growth in the renewable sector with the ports of Lowestoft and Great Yarmouth, together forming one of six Centres for Offshore Renewable Engineering (CORE). The Strategic Economic Plan identifies several targets for East Anglia between 2012 and 2026, including: The delivery of 95,000 additional jobs; The creation of 10,000 new businesses; Improvements to productivity by narrowing the gap in Gross Value Added (GVA) per head with the UK average (from 7.8% in 2012); and Delivering 117,000 new homes. To support this, the LEP has established two Enterprise Zones (EZ) (Beacon Park and South Denes) in Great Yarmouth borough, is intended to support the development of the offshore energy sector and economic growth, with a long-term vision to accommodate 150-200 businesses, directly creating 9,000 new jobs by 2025 and a further 4,500 indirectly through supply chain investment.
Norfolk and Suffolk Covid-19 Economic Recovery Restart Plan and sector specific Visitor Economy, Energy Sector Recovery and Resilience Plans	The Norfolk and Suffolk Covid-19 Economic Recovery Restart Plan (New Anglia LEP, 2020) brought together commitments and actions from local authority, private sector, third sector and education organisations to outline the key activities in place to help the region's economy restart after the COVID-19 pandemic. The plan was structured around 'response' from March 2020-Autumn 2020, 'restart' from June 2020 to Autumn 2020 and 'renew from Autumn 2020 onwards'. Within the plan local partners had a shared vision to drive low-carbon, inclusive economic growth across Norfolk and Suffolk. The plan continued to promote Norfolk and Suffolk as a global leader in offshore wind. For example, the plan stated that it will drive the



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Policy Consideration	Relevance to Socio-Economic and Tourism Assessment
	identification, development and promotion of clean growth opportunities, such as the Offshore Wind Operations and Maintenance Base in Great Yarmouth. The recovery plan highlighted a number of actions for the tourism sector to help it deal with the impacts of the pandemic, including measures to increase resilience within the sector.
	New Anglia LEP published a recovery plan than was targeted at the Visitor Economy, A Recovery Plan for the Visitor Economy (New Anglia LEP, 2020). Much of the plan was focused on the short to medium response to the pandemic, however the plan also set in place how the sector would renew after Autumn 2020. The recovery plan lays the foundations for a Tourism Zone bid, as well as helping achieve targets set out in the Economic Strategy and delivering the interventions in the draft Local Industrial Strategy.
	New Anglia LEP also published a recovery plan than was targeted at the Energy Sector. The Energy Sector Recovery and Resilience Plan (New Anglia LEP, 2021) sets out the opportunities presented by sector deals and the local ambition to become the UK's Clean Growth Region, as well as the challenges that lie ahead, such as labour shortages and skills gaps.
Economic Strategy for Norfolk & Suffolk	The Economic Strategy for Norfolk & Suffolk (which was published in 2022) ambition is to transform the economy into a globally recognised, technology-driven and inclusive economy which is leading the transition to a zero-carbon economy through sustainable food production, clean energy generation and consumption and digital innovation. The strategy aims for 27,000 new job opportunities to be generated by the clean energy sector in Norfolk and Suffolk between 2019-2030.
Suffolk and Norfolk Local Industrial Strategy (LIS)	Builds on the government's Industrial Strategy, and reflects on the opportunities and needs of the area's growing economy, and how it will respond to a fast-changing world. Clean growth sites at the heart of the LIS which argues that the area's strengths in energy generation present major opportunities for Norfolk and Suffolk. The LIS identifies several actions to support the ambitions set out in the Strategic Economic Plan (see above) as well as clean growth, including: The development of an ambitious research and innovation programme that seeks to build on existing clean energy research strengths; and The enhancement of the capacity and capability of Norfolk and Suffolk's ports with a series of projects to attract and capture investment in offshore wind

Classification: Open



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Policy Consideration	Relevance to Socio-Economic and Tourism Assessment
	operations, as well as manufacturing and construction.
Joint Core Strategy for Broadland, Norwich and South Norfolk	Outlines the ambition to ensure more energy is sourced from renewable sources (including offshore), with the following identified as being pertinent to the socio-economics and tourism assessment: Policy 3: Energy and water - aims to minimise reliance on non-renewable energy sources and maximise the use of low carbon sources; Policy 5: The economy - states that 'the local economy will be developed in a sustainable way to support jobs and economic growth in both urban and rural locations'. Policy 21: Implementations of proposals in the Broadland part of the Norwich Policy Area – states that the Broadland District Council will 'work proactively with applicants jointly to find solutions [and] secure development that improves economic, social and environmental conditions in the area'.
North Norfolk Core Strategy	Sees an increasing role for renewable energy generation (including offshore wind). Core Aim 2 - focusses on mitigating and adapting the effects of climate change by encouraging renewable energy production. Policy EN7 - states that renewable energy proposals will be supported, and that for large-scale projects proposals should seek to deliver economic, social, environmental and/ or community benefits of a reasonable scale to the local area.
Great Yarmouth Core Strategy	Acknowledges that Great Yarmouth's coastline along the North Sea shapes the nature of its economy, which is in part driven by the offshore wind sector, its port and tourism. The Borough's two EZ (at Beacon Park and South Denes) are expected to play a vital role in attracting new businesses into the area, whilst also growing the energy sector and creating local employment.
East Suffolk Local Plan	Acknowledges that East Suffolk has huge potential for growth associated with the development of offshore wind farms, defining the area in and around the Outer Harbour as the PowerPark. Policy WLP2.2 states that land at PowerPark is to be allocated for employment development and port-related uses (associated and ancillary uses necessary to support the offshore energy and engineering sectors will also be permitted).
New Anglia LEP Skills Advisory Panel Report	Emphasises a collaborative approach to ensure new entrants, the current workforce and those facing barriers in gaining employment gain the best opportunities through a dynamic and relevant

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Status: Final

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Policy Consideration	Relevance to Socio-Economic and Tourism Assessment	
	curriculum offer particularly in the sectors of agrifood, clean energy and ICT digital.	

29. Further detail where relevant is provided in **Chapter 2 Policy and Legislative Context**.

27.4.2 Data and Information Sources

27.4.2.1 Other Available Sources

30. Other sources that have been used to inform the assessment are listed in **Table 27.6**.

Table 27.6: Other Available Data and Information Sources

Data set	Spatial coverage	Year	Notes
Office for National Statistics (ONS) GVA (balanced approach)	The UK study area, the East Anglia study area and Local Authority Districts within East Anglia	2019	Receptors = Direct economic benefit and Impact on volume and value of tourism economy Indicator = GVA
ONS, Business Register and Employment Survey	The UK study area, the East Anglia study area and Local Authority Districts within East Anglia	2020	Receptor = Increased employment and Impact on volume and value of tourism economy Indicators = Total employment and industry breakdown
ONS, Mid-Year Population Estimates	The UK study area, the East Anglia study area and Local Authority Districts within East Anglia	2020	Receptor = Change in demographics Indicator = Population estimates and Working age population
ONS, 2018-based Sub- National Population Projections	The UK study area, the East Anglia study area and Local Authority Districts within East Anglia	2018- 2043	Receptor = Change in demographics Indicator = Population projections
ONS, Annual Population Survey	The UK study area, the East Anglia study area and Local Authority Districts within East Anglia	2021	Receptor = Change in demographics Indicators = Economic activity, Employment rate, Unemployment, Occupational breakdown and Skills
ONS, Claimant Count	The UK and East Anglia study areas	2021	Receptor = Change in demographics



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Data set	Spatial coverage	Year	Notes
			Indicator = Claimant count
ONS, English Indices of Deprivation	Neighbourhoods (Lower Super Output Areas) aggregated to the England, the East Anglia study areas and Local Authority Districts within East Anglia levels	2019	Receptor = Change in demographics Indicator = Quality of life
NHS, General Practice Workforce	Norfolk and Suffolk Clinical Commissioning Groups (CCG)	2021	Receptor = Pressure on local health infrastructure Indicator = GP registrations
NHS, A&E Attendances and Emergency Admissions – monthly statistics	Norfolk and Suffolk CCGs	2021	Receptor = Pressure on local health infrastructure Indicator = A&E facilities
Larkin Gowen, East Anglia Tourism Business Survey	The East Anglia study area	2019	Receptor = Impact on volume and value of tourism economy
Visit Norfolk, Tourism Confidence Monitor	Norfolk	2018	Receptor = Impact on volume and value of tourism economy Indicator = Tourism confidence

27.4.3 Impact Assessment Methodology

31. Chapter 5 EIA Methodology provides a summary of the general impact assessment methodology applied to SEP and DEP. The following sections confirm the methodology used to assess the potential impacts on socio-economics and tourism.

27.4.3.1 Definitions of Sensitivity and Magnitude

32. 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 socio-economics and tourism assessment are provided in **Table 27.7** and **Table 27.8**.

Table 27.7: Definition of Sensitivity for a Socio-Economics and Tourism Receptor

Sensitivity	Definition
High	The receptor is of high sensitivity where it is identified as a policy priority (as a result of economic potential and/ or need). There is evidence of major socio-economic challenges and/ or opportunities for the receptor within the study area.
Medium	The receptor is of medium sensitivity where it is not identified as a policy priority (as a result of economic potential and/ or need). There is however evidence of considerable socioeconomic challenges and/ or opportunities for the receptor within the study area.

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Sensitivity	Definition
Low	The receptor is of low sensitivity where it is not identified as a policy priority (as a result of economic potential and/ or need). There is evidence that the receptor is resilient within the study area.
Negligible	The receptor is of negligible sensitivity when it is not identified as a policy priority. There is evidence of good overall performance for the receptor and/ or no challenges within the study area.

- 33. The magnitude of change (or impact) on the receptor will be determined by considering the estimated variation from the baseline conditions once measures aimed at mitigating any adverse impacts are taken into consideration. The criteria used for the assessment of magnitude will be evaluated as either high, medium, low or negligible, and are set out in more detail below.
- Table 27.8 below sets out the criteria used for assessing the magnitude of impact related to economic and employment receptors. Please note that the ranges set out in the table below are based on professional judgement, and are informed by experience from other, similar projects.

Table 27.8: Criteria for Assessing Magnitude of Impact Related to Economic and Employment Receptors

Magnitude	Negligible	Low	Medium	High
GVA Impacts	<0.1%	0.1% -0.5%	0.5% - 1%	>1%
Employment Impacts	<0.5%	0.5% - 1%	1% - 2%	>2%

35. For all other receptors (including change in demographics due to in-migration, disturbance to social and community infrastructure, pressure on local health infrastructure, and the impacts of both onshore and offshore infrastructure on tourism activity), the assessment of magnitude of impact draws on the approach set out in **Table 27.9** below.

Table 27.9: Definition of Magnitude for Other Socio-Economics and Tourism Receptors

Magnitude	Definition
High	Proposals will cause a large change to the scale and/or quality of the receptor when compared with existing socio-economic baseline conditions.
Medium	Proposals will cause a moderate change to the scale and/or quality of receptor when compared with the existing socio-economic baseline conditions.
Low	Proposals will cause slight change to the quality and/ or integrity of the receptor when compared with existing socio-economic conditions.
Negligible	Proposals will cause no discernible change to the baseline socio-economic conditions.



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27.4.3.2 Significance of Effect

- 36. In basic terms, the potential significance of an impact is a function of the sensitivity of the receptor and the magnitude of the effect (see Chapter 5 EIA Methodology for further details). The determination of significance is guided by the use of an impact significance matrix, as shown in Table 27.10. Definitions of each level of significance are provided in Table 27.11.
- 37. Potential impacts identified within the assessment as major or moderate are regarded as significant in terms of the EIA regulations. Potential impacts should be described using impact significance, followed by a statement of whether the impact significance is significant in terms of the EIA regulations, e.g. "minor adverse impact, not significant in EIA terms / moderate adverse impact, significant in EIA terms". Appropriate mitigation has been identified, where possible, in consultation with the regulatory authorities and relevant stakeholders. The aim of mitigation measures is to avoid or reduce the overall impact in order to determine a residual impact upon a given receptor.

Table 27.10: Impact Significance Matrix

	Negative Magnitude			Beneficial Magnitude					
		High	Medium	Low	Negligible	Negligible	Low	Medium	High
	High	Major	Major	Moderate	Minor	Minor	Moderate	Major	Major
Sensitivity	Medium	Major	Moderate	Minor	Minor	Minor	Minor	Moderate	Major
	Low	Moderate	Minor	Minor	Negligible	Negligible	Minor	Minor	Moderate
	Negligible	Minor	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Minor

Table 27.11: Definition of Impact Significance

Significance	Definition
Major	Very large or large change in receptor condition, both adverse or beneficial, which are likely to be important considerations at a regional or district level because they contribute to achieving national, regional or local objectives, or could result in exceedance of statutory objectives and / or breaches of legislation.
Moderate	Intermediate change in receptor condition, which are likely to be important considerations at a local level.
Minor	Small change in receptor condition, which may be raised as local issues but are unlikely to be important in the decision-making process.
Negligible	No discernible change in receptor condition.
No change	No impact, therefore, no change in receptor condition.



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27.4.4 Cumulative Impact Assessment Methodology

- 38. The CIA considers other plans, projects and activities that may impact cumulatively with SEP and DEP. As part of this process, the assessment considers which of the residual impacts assessed for SEP and/or DEP 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.
- 39. For socio-economics and tourism, these activities include changes to the growth of the economy and specific sectors, local demographics, impacts on local, social and health infrastructure, and the impact on the volume and value of the tourism economy.

27.4.5 Transboundary Impact Assessment Methodology

- 40. The transboundary assessment considers the potential for transboundary effects to occur on socio-economics and tourism receptors as a result of SEP and DEP; either those that might arise within the Exclusive Economic Zone (EEZ) of European Economic Area (EEA) states or arising on the interests of EEA states e.g. a non UK fishing vessel. **Chapter 5 EIA Methodology** provides further details of the general framework and approach to the assessment of transboundary effects.
- 41. For socio-economics and tourism, the potential for transboundary effects has been identified in relation to the potential impact upon the economies of other states within the EEA. This may arise through the purchase of project components, equipment and the sourcing of labour from companies based outside the UK. Under Regulation 32 (6)(a) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, the Secretary of State must consult with any EEA state concerned regarding the potential significant effects of the development on the environment of that EEA state, and the measures envisaged to reduce or eliminate such effects. However, the sourcing of materials and labour from other EEA states is assumed to provide beneficial effects in the economies of such states, and as such the consideration of "measures envisaged to reduce or eliminate such effects" is not relevant within the context of transboundary impacts.
- 42. The location of the offshore infrastructure means that it will not be visible from other EEA countries. The onshore elements of SEP and DEP are entirely present within the UK shores, and as such there is no potential for significant transboundary effects (either beneficial or adverse) on other EEA states.
- 43. Given the above, transboundary impacts associated with socio-economics and tourism are not considered further.

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27.4.6 Assumptions and Limitations

- 44. The most up to date information available has been used in the preparation of the baseline for the existing socio-economics and tourism environments. However, there is often a lag in the publishing of national datasets, meaning there is the possibility that some information may not be up to date. This is especially relevant for data highlighting the overall impact of the COVID-19 pandemic on unemployment estimates. However, where available emerging estimates (such as monthly claimant count figures) are included within the assessment. In other instances, employment data published by the ONS usually has a one to two-year lag but is still the best data for employment available. These data limitations are not likely to have a material effect on the predictability or accuracy of the impact assessment in this instance.
- 45. Since January 2013, the number of people claiming Job Seeker's Allowance and Universal Credit have been combined. The new dataset combining Universal Credit and Job Seeker's Allowance means that it is no longer possible to get an accurate indication of the number of people seeking work in occupations related to construction and operational phases of offshore wind farm developments. This has implications for the level of quantitative analysis which can be undertaken in the baseline section and subsequent assessment.
- 46. There are challenges with disaggregating GVA data by sector to measure the impact of SEP and DEP in the context of the renewable energy sector. The data is available by broad Standard Industrial Classification (SIC) code level, which does not lend itself to defining a renewable energy sector, especially below national geographical level. This means that the assessment of GVA impacts is undertaken against a whole economy baseline. Quantitative definitions of magnitude are adjusted accordingly for GVA receptors to reflect the breadth of the measure.
- 47. When submitted, the DCO application will not include development activities at potential construction ports. Where necessary, these will be subject to separate consent(s) such as planning permission or a Harbour Revision Order. The Applicant is currently considering ports suitable for the construction base for the offshore elements of the project, both within the UK and elsewhere. East Anglia-based ports such as King's Lynn, Great Yarmouth, Lowestoft and Felixstowe are being considered to support construction activity, however other ports outside of the study area may also be suitable for the construction phase of SEP and DEP. Port selection (either single or multiple) will be dependent upon receipt of a consent, a Contracts for Difference (CfD) award and on the findings of further technical studies and commercial negotiations.
- 48. For the socio-economics assessment, it is assumed that the O&M port will be located within the East Anglia study area as these are in close proximity to all elements of SEP and DEP (and are also the location of the O&M base for the existing Sheringham Shoal and Dudgeon wind farms).



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- 49. This chapter considers a UK study area to enable the national significance of socioeconomic effects to be assessed. It should be noted that the effects of SEP and
 DEP within the context of the UK study area appear low. However, these have been
 included in the assessment to demonstrate the absolute scale of potential effects
 for the UK study area. Where data is not available at a UK level (namely the ONS
 Business Register and Employment Survey (BRES, 2018)), Great Britain is used as
 an alternative study area.
- 50. Section 27.3.2.2 above provides an overview of the potential construction scenarios that could be implemented. It is assumed that each wind farm's construction lasts up to four-years, if two projects are built sequentially this will take up to 8 years. Construction is likely to see peaks and troughs in activity related to specific onshore and offshore aspects of SEP and DEP. At this stage, it is not possible to robustly model the scale of workforce requirements at different points in time, and as such, the assessment of socio-economic effects assumes a uniform level of annual employment across all years (total employment divided by the construction period). Although there are likely to be peaks and troughs throughout the period, this provides a reasonable estimate of workforce requirements and enables a robust assessment of effects to be undertaken.
- 51. There is limited availability of tourism data at the district and other local levels. For example, tourism data has a limited timeseries, often the data is presented on a yearly basis and this may not account for the in-year highs and lows due to the seasonal nature of tourism. In addition, the data on activities of tourists, length of visit, nature of accommodation etc is limited at the local level and typically lacks robustness.
- 52. The figures calculated in this chapter are based on SIC codes defined by the United Nations World Tourism Organization (UNWTO) for tourism industries (UNWTO, 2020). This definition is broader than the definition of the accommodation and food services sector. Such data faces the same issues as the employment data mentioned above but is the best data available.
- 53. It is methodologically challenging to identify the impact of energy infrastructure on the tourism economy, as there are several other influences which can be more significant in influencing both long and short-term patterns. For instance, this includes weather, the availability of cheap flights to overseas destination, changes in preferences and changes to the local tourism offer.
- There is a tendency for the literature examining the impact of energy infrastructure to be dominated by ex-ante assessments. The evidence is also dominated by opinion poll evidence which is often general rather than scheme-specific. There is limited ex-post evidence on the impact of onshore and offshore energy and related infrastructure on tourism economies. Additionally, there is no comparison of ex-ante and ex-post evidence for specific wind farms.



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27.5 **Existing Environment**

27.5.1 Socio-Economics Baseline

- 55 The baseline conditions are assessed for the East Anglia study area (identified as the local study area), which is benchmarked against the UK study area (which forms the national study area). For some indicators it is not possible to obtain like for like data for the whole of the UK study area and therefore Great Britain is used as a
- 56. This section provides a summary of baseline conditions which are most relevant to the assessment, with a more detailed baseline analysis provided in the Appendix 27.2 Socio-Economics and Tourism Technical Baseline.

27.5.1.1 **Labour Market Indicators**

At 4.2% the unemployment rate in the East Anglia study area is lower when 57. compared with the UK's average of 4.5%. There are currently 29,000 unemployed residents across East Anglia and as of June 2022, there were 27,800 claimants seeking employment opportunities.

27.5.1.2 **Employment**

- The East Anglia study area provides around 693,000 employee jobs which equates 58. to an estimated 571,500 full-time equivalent jobs (FTE).
- 59. Since 2009, the East Anglia economy grew by around 62,000 FTE jobs, with the annual change in job numbers largely following the national trend. However, the data for 2017-18 show that as a whole East Anglia experienced a decline in employment for the first time since 2010-11, with an overall decline of 0.2% (compared with +0.8% nationally). This is largely the result of a decline of 0.8% in employment numbers in Norfolk between 2017-18. In addition, New Anglia also experienced a decline (-0.5%) in 2020 due to the impacts of Covid-19, however this was lower than the decline seen nationally (-1.8%).

27.5.1.3 **Gross Value Added and Earnings**

Status: Final

The East Anglia study area contributed £38.8 billion in GVA to the UK economy in 60. 2019 which accounts for around 2% of the UK's total GVA output. GVA per head of population is around £23,200 in East Anglia, which is 27% below the UK average of £29,500.

27.5.1.4 Deprivation

Classification: Open

According to the 2019 Index of Multiple Deprivation (IMD) from the ONS, the East 61. Anglia study area has a relatively low number of areas with the highest levels of deprivation nationally. Only 6% of neighbourhood areas (identified as Lower Super Output Areas (LSOA)) within East Anglia are amongst the highest (i.e. 10%) most deprived areas nationally. This average hides higher levels of deprivation in Norwich and Great Yarmouth which have 25% and 20% respectively of their neighbourhoods within the 10% most deprived areas nationally.



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27.5.2 Tourism Baseline

- 62. The study area for the tourism baseline assessment is based on the Norfolk County Council administrative boundary, with the rationale being that the onshore cable corridor for both SEP and DEP goes through this area.
- This section provides a summary of baseline conditions which are most relevant to the assessment, with a more detailed baseline analysis provided in **Appendix 27.2**Socio-Economics and Tourism Technical Baseline Report.

27.5.2.1 Tourism Economy

- 64. Tourism supports an estimated 52,300 FTE jobs across the East Anglia study, representing around 9% of all employment locally. This is the same level as national average (of 9%). Within Norfolk, Great Yarmouth (with 5,800 FTE jobs) and North Norfolk (with 4,800 FTE jobs) have relatively high levels of concentrations of employment in tourism (with location quotients of 2.2 and 2.0 respectively).
- Data on volume and value of tourism in Norfolk shows that in 2019 there were 52.0 million visits, injecting around £2.42 billion of visitor expenditure into the local economy. The majority of trips to Norfolk (i.e. 48.8 million or 93%) are day visits, together injecting around £1.64 billion into the local economy. Whilst overnight visits represent only 7% of total visits to Norfolk, in 2019 these led to an overall injection of £759 million (or around 31% of total visitor expenditure).
- Many businesses in the sector were closed for a number of months during 2020. Given the restrictions placed on the tourism industry during 2020 due to COVID-19 the volume and value of tourism was significantly lower in 2020 compared to previous years. Tourism data on volume and value shows that in 2020 there were 23.2 million visits to Norfolk, injecting around £1.1 billion of visitor expenditure into the local economy. Day visits injected around £1.1 billion into the local economy. Whilst overnight visits represent only 6% of total visits to Norfolk, in 2019 these led to an overall injection of £289 million (or around 27% of total visitor expenditure).
- 67. From 2008 to 2019, the overall number of visits to Norfolk increased by around 22.6 million visits (or +77%), whilst the overall visitor injection increased by £735 million (or +44%). Whilst the number of day visits increased substantially (from 25.5 million to 48.8 million or +91%), the number of overnight visits declined by almost a quarter from 4.0 million to 3.2 million. On average, it is estimated that each visit (i.e. day and overnight) to Norfolk in 2019 generated an injection of £46.50, compared with £57.20 per visit in 2008.
- 68. Analysis into overnight visits reveals that, in 2019 Norfolk holiday visits made up the largest share of overnight visitors (around 2.3 million visits) generating the largest share of overnight visitor expenditure (of £561 million or around 70% of all overnight tourism expenditure in 2019). The number of holiday visits more than halved in 2020 compared to 2019 whilst visiting friend and relatives and businesses visitors saw much higher drops in visitors.

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27.5.2.2 **Tourism Business Confidence**

- 69. Visit England produces Business Confidence data on a quarterly basis. The latest (Visit England, 2019), pre Covid-19 survey shows that the vast majority of visitor attraction and accommodation businesses are at least fairly confident, with more than a quarter of all respondents stating they are very confident about the future.
- 70. However, the unprecedented impacts of the COVID-19 pandemic and subsequent lockdown measures implemented to reduce its spread has significantly impacted business confidence levels. An online tourism business survey for the East of England conducted by Destination Research (2020) revealed that many tourism businesses expected to achieve a lower turnover for 2020-21. Around four out of every five businesses closed temporarily and many of their staff furloughed under the Coronavirus Job Retention Scheme.
- 71. During 2022 various local media reports suggest there have been signs of a strong recovery from the tourism sector which is likely to lead to improved business confidence. In East Anglia however there is no data on on business confidence available yet to reflect this trend.

27.5.2.3 Nature of the Tourism Offer in Norfolk

- 72. Many visitors visit Norfolk for leisure purposes, with the main reasons to visit being, history/ heritage, nature/ wildlife watching and walking/ hiking. The most popular area to visit for leisure is Great Yarmouth. People often visit for a one-week holiday or longer (45% of survey respondents (Insight Track, 2019)).
- The natural environment appears to be the most 'visited' amenity in Norfolk with the 73. coastal beaches and countryside the top two from the prompted list. Shopping is also a major draw; with outdoor attractions and museums/ historic sites/ buildings also popular. Walking is the most popular activity with half of survey respondents engaging in this activity.
- 74. Norfolk has a number of attractions each attracting over 100,000 visitors per year. Pre Covid data for 2018 and 2019 shows the most popular of these is Banham Zoo in Breckland which brings in over 200,000 visitors per year, followed by Norwich Castle Museum and Art Gallery (199,500 visitors), Blickling Hall, Gardens and Park (191,000 visitors) and Wroxham Barns (190,000 visitors). It should be noted that this analysis is based on attractions that keep track of visitor numbers. There are several other (potentially more) popular attractions (such as the Broads, coastal towns and the Norfolk Coast AONB) which do not keep record of visitor numbers (Visit Britain, 2018). Visitor numbers for 2020, where recorded, showed significant reductions at most attractions across Norfolk.

27.5.2.4 Nature of Accommodation

Status: Final

Classification: Open

75. Visitors staying in Norfolk are more likely to visit between May and September, with bed and breakfast (B&B) and/ or guesthouses being the most popular choice of accommodation. Hotels (chain or independent) are also popular (Insight Track, 2019).

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27.5.2.5 Assets in North Norfolk, Broadland and South Norfolk

- 76. Many visitors to the area, particularly North Norfolk District visit to enjoy the Norfolk Coast AONB, its beaches, coastal birdlife, the Broads and the character and tranquillity of the open countryside. North Norfolk District's many seaside towns contain several attractions and act as a focus for visitors and accommodation, particularly around Cromer and Sheringham. In particular, Sheringham attracts visitors throughout the year (i.e. on day trips, short breaks and/ or longer stays) and has a range of accommodation options ranging from high quality hotels to budget and self-catering accommodation.
- 77. The North Norfolk Core Strategy identifies four asset zones of relevance to the visitor economy in the district which include:
 - Resorts and hinterlands Cromer, Sheringham and Mundesley;
 - Rural Fakenham, North Walsham and Stalham;
 - The Broads and their setting; and
 - Coastal Wells-next-the-Sea.
- 78. The Norfolk Broads National Park is Britain's largest protected wetland and important tourist attraction for activities such as wildlife spotting, boating and scenic walks.

27.5.2.6 Tourism Activity in Proximity to Landfall and the Cable Corridor

- 79. SEP and DEP will make landfall close to Weybourne, which is a small village with a population of just over 500 residents. The landfall area is characterised by a shingle beach, called Weybourne Beach, which although being less suitable for bathers is popular with anglers and dog walkers. The beach has a car park and is easily accessible to the public. To the east of the car park there is a sea cliff that runs along the coast. Old Coastguard Cottages sit on the top of the sea cliff. To the west of the car park is the Kelling beach wreck area which is a sea fishing venue and home to the Weybourne Atmospheric Observatory. The Norfolk Coast Path stretches along the coastline and on top of the cliff.
- 80. Resources within 1 km of the landfall location include:
 - Norfolk / England Coastal Path Part of the new National Trail around the English Coast. The section from Sea Palling to Weybourne can be accessed from the car park on Beach Lane in Weybourne. Norfolk Coastal Path has many visitors with around 47,000 visitors in January and peaking at 64,000 visitors in August.
 - North Norfolk's Deep History Coast A 22-mile stretch of coastline between Weybourne and Cart Gap which has revealed important archaeological finds including the oldest and largest fossilised mammoth skeleton ever found in the UK.
 - Muckleburgh Hill A significant 21-hectare remnant heathland falling within the North Norfolk AONB, lying less than a kilometre from the coast, within proximity to several Sites of Special Scientific Interest (SSSI).

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- The Muckleburgh Military Collection Sited on the former Royal Artillery Anti-Aircraft training camp at Weybourne. It has the UK's largest privately owned collection of tanks, armoured cars and other military vehicles used in wars across the globe and attracts 38,000 visitors per year.
- Foxhills Campsite Campsite with 20 large pitches and open space.
- 81. The onshore cable corridor follows a north-south direction, passing through and/ or within close proximity of Weybourne, Baconsthorpe, Cawston, Attlebridge, Hethersett, Ketteringham and on to the onshore substation site close to the existing Norwich Main substation.
- 82. In addition to the resources mentioned above, resources within 1km of the onshore cable corridor are shown within the **Appendix 27.2 Socio-Economics and Tourism Technical Baseline**.

27.5.2.7 Tourism Perceptions of Wind farms

- 83. There is a limited body of evidence relating to the extent to which offshore wind farms impact upon tourism. The primary research base can be divided into three broad groups focusing on ex-ante research, ex-post research and wider research.
- 84. Appendix 27.2 Socio-Economics and Tourism Technical Baseline presents a detailed review of various research papers and studies that have analysed the impact of offshore wind farms on tourism and visitors to areas from which the wind farms are visible. The evidence suggests that offshore wind farm developments generate very limited or no lasting negative impacts on tourist and recreational users during the construction and operational phases. It is possible to generate positive benefits in the short term through the additional demand for accommodation and food and drink.

27.5.2.8 Visibility of the Offshore Infrastructure

85. The ZTV of the offshore wind turbines associated with SEP and DEP stretches inland into Norfolk, making SEP and DEP visible from various locations along the Norfolk coast. A full list of resources within the ZTV is presented in the **Appendix 27.2 Socio-Economics and Tourism Technical Baseline**.

27.5.3 Climate Change and Natural Trends

- 86. Under a moderate climate change scenario, the health of the wider population may be adversely affected by increased risk of overheating and other heat-related illnesses, drought as well as decreased water and food security. This would be partially offset against a reduced risk of cold weather-related illness during winter, particularly in vulnerable groups such as the elderly. As such, health infrastructure within the local area could expect to see increased levels of demand, with potentially increasing ill-health, along with an ageing population.
- 87. That said, the changes in demography in addition to the loss of/ disruption to local and social infrastructure brought about as a result of SEP and DEP could be expected to be small in magnitude and of no implications when considered in relation to climate change and natural trends.

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- 88. Furthermore, changes in climate are likely to impact on overall volume and value of the tourism economy. However, at this stage it is not clear whether these impacts would be adverse or beneficial.
- 89. As such, within the context of socio-economics and tourism, it is believed that climate factors have little or no influence on the socio-economic and tourism receptors assessed here. This needs to be considered within the overall magnitude of impact created, which for the operation phase (assumed to be 40-years) will be minimal, and which need to be weighed against the long-term environmental benefits.

27.6 **Potential Impacts**

27.6.1 Development Scenarios

- 90. There are five potential development scenarios which are captured in the construction and operation of SEP and DEP either in isolation, concurrently and/or sequentially:
 - Only DEP is constructed in isolation:
 - Only SEP is constructed in isolation;

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- SEP and DEP are constructed concurrently;
- DEP is constructed first followed by the construction of SEP; and
- SEP is constructed first followed by the construction of DEP.
- 91. The sequential scenarios are combined and presented as a range (low to high) in the following assessment.

27.6.2 Construction Port Based Scenarios

- The assessment has considered two potential scenarios for the location of the 92. construction port for SEP and DEP, including:
 - Local port the port is located within the East Anglia study area; and
 - UK-based port the port is located within the UK study area, but outside of the East Anglia study area.

27.6.3 Cost Savings

Classification: Open

93. The assessment has also tested the implications of potential cost savings occurring as a result of concurrent construction of SEP and DEP. More detail about potential savings and efficiencies that could be achieved as a result of parallel construction is set out in the Appendix 27.1 Socio-Economics Construction Costs and Sourcing Assumptions Note. This is presented alongside a non-cost savings scenario to show the breadth of potential impacts generated, whilst also reflecting upon the uncertainty about local sourcing and overall construction costs.

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27.6.4 Potential Impacts During Construction

94. This section lists the potential impacts resulting from the construction stage of SEP and DEP. The impacts are then assessed against the relevant baseline indicators for their significance.

27.6.4.1 Impact 1: Impact on the economy

95. Table 27.12 below summarises the potential annual economic activity (measured as GVA) that could be generated during the construction phase of SEP and DEP. The economic impact figures are based on the assumptions set out in Appendix 27.1 Socio-Economics Construction Costs and Sourcing Assumptions Note and are presented in more detail in Appendix 27.3 Socio-Economics Impact Assessment.

Table 27.12: Potential Economic Impacts Generated During Construction

Study Area	Port Based Scenario	Development Scenario	Total GVA Per Annum (£ million)	Total GVA (£ million)
East Anglia	Local port	DEP in isolation	£13.9	£55.5
		SEP in isolation	£9.8	£39.2
		Parallel construction – with no cost savings	£23.7	£94.7
		Parallel construction – with cost savings	£21.0	£83.9
		Sequential construction, DEP then SEP	£13.9 then £9.8	£94.7
		Sequential construction, SEP then DEP	£9.8 then £13.9	£94.7
	UK-based port	DEP in isolation	£1.6	£6.3
		SEP in isolation	£1.2	£4.7
		Parallel construction – with no cost savings	£2.7	£11.0
		Parallel construction – with cost savings	£2.7	£10.8
		Sequential construction, DEP then SEP	£1.6 then £1.2	£11.0
		Sequential construction, SEP then DEP	£1.2 then £1.6	£11.0
United	Local port or	DEP in isolation	£72.0	£287.9
Kingdom	UK-based port	SEP in isolation	£52.5	£210.0
		Parallel construction – with no cost savings	£124.5	£497.9
		Parallel construction – with cost savings	£101.7	£406.6
		Sequential construction, DEP then SEP	£72.0 then £52.5	£497.9
		Sequential construction, SEP then DEP	£40.1 then £55.0	£497.9

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27.6.4.1.1 SEP or DEP in Isolation

- 96. Based on a maximum generation capacity of 448MW, it is estimated that the construction of DEP would see an annual contribution (in GVA) over a four-year construction period of around £55.5 million to the UK economy. The contribution to the East Anglia study area economy is estimated to range from £1.6 million per annum if the port is located in the UK study area but outside of the East Anglia study area, to £13.9 million per annum if the port is based in the East Anglia study area.
- 97. Based on a maximum generation capacity of 338MW, it is estimated that the construction of SEP would see an annual (GVA) contribution each year over a four-year construction period of around £39.2 million on the UK economy. The contribution to the East Anglia study area economy is estimated to range from £1.2 million per annum if the port is based in the UK study area but outside the East Anglia study area, to £9.8 million per annum if the port is based in the East Anglia study area.

27.6.4.1.2 SEP and DEP Built Concurrently

- 98. With a total generation capacity of up to 786MW, and the assumption there are no cost savings resulting from parallel construction, the concurrent construction of SEP and DEP is estimated to see an annual contribution of around £124.5 million GVA to the UK economy each year over a four-year construction period. The benefit to the East Anglia study area economy is estimated to range from £2.7 million GVA per annum if the port is based in the UK study area but outside the East Anglia study area, to £23.7 million GVA per annum if the port is based in the East Anglia study area.
- 99. Assuming there are cost savings resulting from parallel construction, the concurrent construction of SEP and DEP is estimated to generate an annual contribution of £101.7 million GVA to the UK economy each year of construction. The benefit to the East Anglia study area economy is estimated to range from £2.7 million GVA per annum if the port is based in the UK study area but outside the East Anglia study area, to £21.0 million GVA per annum if the port is based in the East Anglia study area.

27.6.4.1.3 SEP and DEP Built Sequentially

- 100. At this stage it is not known which of SEP and DEP would proceed to construction first.
- 101. Should SEP be built first, it is estimated to contribute £52.5 million GVA each year over a four-year construction period, with a further £70.0 million GVA each year, over the four years when DEP is built.
- 102. At the East Anglia study area level, a UK-based port outside the East Anglia study area would see an estimated £1.2 million GVA per annum from the construction of SEP followed by £1.6 million GVA per annum for the construction of DEP. On the other hand, should the construction port be based in the East Anglia study area, the area's economy would see an estimated £9.8 million GVA per annum from the construction of SEP followed by £13.9 million GVA per annum from the construction of DEP.



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- 103. Should DEP be built first, it is estimated to contribute £52.5 million GVA each year over a four-year construction period, with a further £70.0 million GVA each year, over the four years when SEP is built.
- 104. At the East Anglia study area level, a UK-based port outside the East Anglia study area would see an estimated £1.6 million GVA per annum from the construction of DEP followed by £1.2 million GVA per annum for the construction of SEP. Should the construction port be based in the East Anglia study area, the area's economy would see an estimated £13.9 million GVA per annum from the construction of DEP followed by £9.8 million GVA per annum from the construction of SEP.

27.6.4.1.4 Magnitude of Effect

- 105. The largest benefit to the East Anglia study area economy would be in the local port, concurrent construction scenario with no cost savings. This would produce a total GVA contribution of £23.7 million per annum. The baseline analysis indicates that the East Anglia study area economy has a baseline of £38.8 billion GVA. The largest estimated annual benefit to the East Anglia study area economy would therefore generate an increase of 0.06% over and above the current baseline. On this basis, the magnitude of effect in the context of the East Anglia study area is therefore assessed as negligible under maximum impact scenario. All other scenarios are anticipated to generate a lower output and are also assessed as negligible.
- 106. The largest estimated annual contribution to the UK economy would also result from a concurrent construction scenario with no cost savings. This would produce an estimated total GVA benefit of £124.5 million per annum. It is estimated that the largest potential annual benefit to the UK economy would represent an increase of under 0.01% to the UK economy. On this basis, the magnitude of effect on the UK economy is assessed as negligible for the maximum impact scenario and all other scenarios.

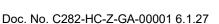
27.6.4.1.5 Sensitivity of the Receptor

107. Generating economic activity is identified as a policy priority within New Anglia LEP's Economic Strategy. Furthermore, GVA per head in the East Anglia study area is significantly lower than the UK average, evidencing a major socio-economic challenge. On this basis, the sensitivity of the receptor is therefore assessed as high.

27.6.4.1.6 Significance of Impact

- 108. With the sensitivity of the receptor assessed as high and the magnitude of effect assessed as negligible at both the East Anglia study area and UK levels, the significance of impact is therefore assessed as **minor beneficial**. This is not considered to be significant in EIA terms.
- 109. It is assumed the impact(s) of increased economic activity during the construction phase is temporary and short-term in nature.

Classification: Open



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27.6.4.2 Impact 2: Increased Employment

110. Table 27.13: below summarises the potential annual employment benefits during the construction phase over a range of port based and development scenarios for the East Anglia study area and UK study areas. The approach to deriving economic impacts (i.e. in terms of jobs supported as well as GVA created) as a result of the various scenarios assessed draws on the cost and sourcing assumptions used (please see Appendix 27.1 Socio-Economic Construction Costs and Sourcing Assumptions Note) and the analysis presented in Appendix 27.3 Socio-Economics Impact Assessment.

Table 27.13: Potential Employment Impacts During Construction

Study Area	Port Based Scenario	Development Scenario	Employment Per Annum (FTEs)
East Anglia	Local port	DEP is constructed in isolation	260
		SEP is constructed in isolation	190
		Parallel construction – with no cost savings	450
		Parallel construction – with cost savings	400
		Sequential construction DEP then SEP	260 then 190
		Sequential construction SEP then DEP	190 then 260
	UK-based port.	DEP is constructed in isolation	40
		SEP is constructed in isolation	30
		Parallel construction – with no cost savings	70
		Parallel construction – with cost savings	60
		Sequential construction DEP then SEP	40 then 30
		Sequential construction SEP then DEP	30 then 40
UK	Local Port or UK-based port	DEP is constructed in isolation	1,270
		SEP is constructed in isolation	920
		Parallel construction – with no cost savings	2,190
		Parallel construction – with cost savings	1,810
		Sequential construction DEP then SEP	1,270 then 920
		Sequential construction SEP then DEP	920 then 1,270

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27.6.4.2.1 DEP or SEP in Isolation

- 111. Based on a maximum generation capacity of 448MW, the construction of DEP in isolation is estimated to generate demand for around 1,270 FTE jobs per annum across the UK economy. At the East Anglia study area level, the employment benefit is estimated to range from 40 FTE jobs if the construction port is based in the UK study area but outside the East Anglia study area, to 260 FTE jobs if the construction port is based in the East Anglia study area.
- 112. Based on a maximum generation capacity of 338MW, the construction of SEP in isolation is estimated to generate demand for around 920 FTE jobs across the UK economy. At the East Anglia level, the employment benefit is estimated to range from 30 FTE jobs if the construction port is based in the UK study area but outside the East Anglia study area, to 190 FTE jobs if the construction port is based in the East Anglia study area.

27.6.4.2.2 SEP and DEP Built Concurrently

- 113. With a total generation capacity of up to 786MW, and the assumption there are no cost savings resulting from parallel construction, the concurrent construction of SEP and DEP is estimated to generate demand for 2,190 FTE jobs each year at the UK level. The benefit to the East Anglia economy is estimated to range from 70 FTE jobs if the construction port is based in the UK study area but outside the East Anglia study area, to 450 FTE jobs if the construction port is based in the East Anglia study area.
- 114. Assuming there are cost savings resulting from parallel construction, the concurrent construction of SEP and DEP is estimated to generate demand for 1,810 FTE jobs each year at the UK level. The benefit on the East Anglia economy is estimated to range from 60 FTE jobs if the construction port is based in the UK study area but outside the East Anglia study area, to 400 FTE jobs if the port is based in the East Anglia study area.

27.6.4.2.3 SEP and DEP Built Sequentially

- 115. As set out above, at this stage it is not known which of the two projects would proceed to construction first.
- 116. Should SEP be built first, it is estimated that demand for employment will be around 920 FTE jobs per annum nationally for a four-year construction period, followed by the demand for 1,270 FTE jobs per annum during the four-year construction period of DEP.
- 117. At the East Anglia level if SEP is built first, a UK-based port would see an estimated 30 FTE jobs supported by the construction of SEP, increasing to 40 FTE jobs throughout the construction of DEP. On the other hand, should the construction port be based in the East Anglia study area, the demand for employment is estimated to be 190 FTE jobs per annum during the construction of SEP, increasing to 260 FTE jobs per annum throughout the construction of DEP.

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- 118. Should DEP be built first, it is estimated that demand for employment will be around 1,270 FTE jobs per annum nationally for a four year construction period, followed by the demand for 920 FTE jobs per annum during the four year construction period of SEP.
- 119. At the East Anglia level if DEP is built first, a UK-based port would see an estimated 40 FTE jobs supported by the construction of DEP, then 30 FTE jobs throughout the construction of SEP. On the other hand, should the construction port be based in the East Anglia study area, the demand for employment is estimated to be 260 FTE jobs during the construction of DEP, decreasing to 190 FTE jobs throughout the construction of SEP.

27.6.4.2.4 Magnitude of Effect

- 120. The largest annual benefit to the UK economy is anticipated from the concurrent construction scenario, with no savings. This would produce a total employment benefit of up to 2,190 FTE jobs. This impact is estimated to represent less than 0.01% of the UK's current baseline. On this basis, the magnitude of effect at the UK level is therefore assessed as negligible for the maximum impact scenario.
- 121. The largest annual benefit to the East Anglia economy is estimated to result from a concurrent construction scenario, with no savings. This would support an estimated total employment benefit of up to 450 FTE jobs annually during the construction period. The largest annual benefit on jobs at the East Anglia level would therefore represent 0.08% of the area's employment baseline. On this basis, the magnitude of effect is therefore assessed as negligible under the maximum impact scenario.

27.6.4.2.5 Sensitivity of the Receptor

122. Job creation is identified as a policy priority within New Anglia LEP's Economic Strategy. This is especially relevant within the contexts of relatively high economic inactivity rates in the East Anglia study area. As such, the sensitivity of the receptor is therefore assessed as high.

27.6.4.2.6 Significance of Impact

- 123. With the sensitivity of the receptor assessed as high and the magnitude of effect assessed as negligible at both the UK and East Anglia levels, the significance of impact of SEP and DEP is therefore assessed as **minor beneficial**. This is not considered to be significant in EIA terms.
- 124. It is assumed the employment impact supported during the construction phase are temporary and short-term in nature.

27.6.4.3 Impact 3: Change in Demographics

125. As set out in Impact 2, the construction of SEP and DEP will create local jobs, some of which will be non-East Anglia based workers who will require accommodation within East Anglia and therefore are treated as temporary residents for the purposes of the assessment.



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- 126. Of the scenarios assessed, concurrent construction with an East Anglia-based port has the greatest potential to result in changes to demographics within the local study area. Overall, it is estimated that of the 2,190 FTE jobs nationally, around 1,740 FTE jobs are expected to be based elsewhere within the UK study area (i.e. outside the East Anglia study area).
- 127. The majority of these non-East Anglia-based jobs will support the development and project management phase, and/ or manufacturing of the turbine and balance of plant components. However, around 410 FTE jobs per annum will be required to support the construction, installation and commissioning of the onshore infrastructure, and a further 260 FTE jobs per annum required for the construction, installation and commissioning of the offshore infrastructure. Together, this adds up to 670 (FTE) non-East Anglia-based jobs per annum being required to support both the onshore and offshore construction, installation and commissioning elements of SEP and DEP.
- 128. For energy projects of this nature, the typical working assumption is for home-based workers to be drawn from within a 90-minute TTWA, whilst non-home-based workers typically find accommodation within a 60-minute TTWA catchment. As such, it is assumed that the 670 non-East Anglia-based workers are likely to choose to locate close to the construction port and/ or somewhere within close proximity to onshore construction along the cable corridor.
- 129. The demand for accommodation by non-home-based workers is therefore likely to be driven by port selection, and whether accommodation vessels will be used to house offshore construction workers.
- SEP and DEPs Offshore installation, foundation, wind turbines, cable, offshore substation workers will stay on the respective installation vessels. As will also be the case for the commissioning team (who will stay on the service operation vessel). Before going on board workers are assumed to require one night in a hotel. Where this will be, depends on where the vessel mobilizes. The commissioning team will travel with the service operation vessel from Great Yarmouth. It should be noted that this minimal demand for accommodation onshore only applies to certain elements of the offshore wind farm construction. There will be other workers at the port involved in fabrication and other activities that will not be staying on these vessels. However, the fact that the offshore installation and commissioning teams will be staying on vessels will substantially reduce demand for onshore accommodation.
- 131. Under the worst-case scenario, it is assumed that half of all (i.e. 330) non-East Anglia-based workers would require accommodation within the study area. However it should be noted that workers demand for workers will fluctuate over time. Given the type of accommodation that would typically be used by these construction workers it is assumed that these workers will not compete with and displace homeless people and their families who will mainly use shelters or some B&B accommodation allocated for these groups (with some exceptions).



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132. The assumptions above are based on evidence at East Anglia-based ports such as King's Lynn, Great Yarmouth, Lowestoft and Felixstowe and the travel times and availability of accommodation within 60 minutes provides justification for the assumption around non-home-based workers and local accommodation. Visit England (Visit England, 2022) latest data on occupancy rates for May 2022 shows that room occupancy rates in the East of England are currently at an average of 79% during 2022 (compared to pre pandemic levels of 78% during 2019). Using CoStar hospitality data (CoStar Group, 2022) there are at least 9,800 rooms within East Anglia as at June 2022 (during peak summer tourism season), assuming a 79% occupancy rate would result in around 2,000 rooms being available which far exceeds the demand for non-East-Anglia-based workers accommodation that would result from the construction of SEP and DEP. It should be noted that CoStar may not include all accommodation (for example it may not include many B&Bs) and is therefore likely to be an underestimate in the scale of accommodation. Norwich is within 60 minutes travel time at peak hours from Great Yarmouth and Lowestoft. Felixstowe is close to Ipswich. The implication is that the non-home-based construction workers will have a large choice of accommodation across a hinterland within 60 minutes travel time of these ports.

27.6.4.3.1 Magnitude of Effect

- 133. There are currently 1.68 million people living in the East Anglia study area, 978,000 of whom make up the core working age population (i.e. aged 16 to 64). Under the realistic worst-case scenario outlined above, the parallel construction of SEP and DEP would see around 330 non-East Anglia-based workers involved in construction, installation and commissioning activities of both offshore and onshore infrastructure.
- 134. Should the identified non-East Anglia-based workers be required to temporarily move to the study area during the construction period, it is estimated that this would represent around 0.02% of the area's total population, and 0.4% of East Anglia's core working age population. Please note that this estimate is based on the assumption that half of all non-East Anglia-based workers will require accommodation within the study area. In reality, the number of in-migrants to the East Anglia study area could vary from that outlined above.
- On this basis, the magnitude of effect is therefore assessed as negligible at the East Anglia scale, as the number of workers involved is relatively small when considered within the local context. Furthermore, any in-migration required to support either offshore and/ or onshore construction activity would be temporary, with the majority of workers being based either within close proximity to the selected construction port and/ or the onshore cable corridor.

27.6.4.3.2 Sensitivity of the Receptor

136. Overall, the East Anglia study area has a rapidly ageing population, with a lower proportion of core working aged residents when compared with the national average, which partially results from the loss of younger workers to other areas of the country. As such, the local demographic receptor is assessed as being of medium sensitivity.

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27.6.4.3.3 Significance of the effect

- 137. With the sensitivity of the receptor assessed as medium and the magnitude of effect assessed as negligible, the significance of impact of SEP and DEP is therefore assessed as minor adverse. This is not considered to be significant in EIA terms.
- 138. It is assumed the impact of increased in-migration on demographic change during construction is temporary, short-term and reversible in nature.

27.6.4.4 Impact 4: Disturbance to Social, Community and Healthcare Infrastructure

- 139. The assessment of the impact of the construction of SEP and DEP on disturbance to social, community and healthcare infrastructure consider the various social and community infrastructure assets (such as schools, community support centres, public spaces, sports and recreation venues, and arts and culture venues) along the proposed onshore corridor to understand how these could be impacted by the proposed development.
- 140. Of the scenarios considered, the concurrent construction of SEP and DEP with an East Anglia-based port has the largest potential to result in disturbances to social and community infrastructure whilst also leading to added pressure on local health infrastructure. The analysis above indicates that the construction, installation and commissioning of both offshore and onshore infrastructure has the potential to see around 330 non-East Anglia-based workers temporarily moving to the area. This has the potential to place additional demand on social and community infrastructure.
- 141. The extra demand could manifest itself in a number of ways, including increased pressure on housing and/ or local accommodation, and education facilities (for workers' families), in addition to increased demand on leisure and recreational facilities as a result of the in-migrant workforce which may restrict access for local residents given the current limited supply.
- 142. The impact of construction activity on air quality for residential properties, schools, hospital and care homes in close proximity (defined as 200m) of roads taking more than 100 heavy goods vehicle (HGV) movements per day is assessed **Chapter 22**Air Quality and is found to be not significant. Furthermore, **Chapter 22 Air Quality** has also considered the impact of human receptors located within 350m of the onshore project area, both in terms of dust soiling and human health. Overall, the assessment has identified low to medium risk, but no significant impacts either.
- 143. Using benchmark estimates of 1,800 patient registrations per one FTE GP (developed by the London Healthy Urban Development Unit (HUDU), 2019), it is estimated that the additional 330 non-East Anglia-based workers would generate demand for 0.2 FTE GP within the study area. Given the temporary nature of the impacts associated with construction, it is not anticipated that many of the non-East Anglia-based workers would require the services of local GPs. Furthermore, a basic form of on-site medical support would be available to both onshore and offshore construction workers through the arrangements in place for health, safety and welfare should the need arise.



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27.6.4.4.1 Magnitude of Effect

144. Whilst some disruption to local social and community infrastructure may occur and some added pressure placed on local health infrastructure, the overall level of disruption is anticipated to be minimal. On this basis, the magnitude of effect is therefore assessed as low within the context of the East Anglia study area.

27.6.4.4.2 Sensitivity of the Receptor

- 145. Whilst there is uncertainty about the location of the construction port, a significant proportion of construction activity could be expected to take place within North Norfolk district, given that the landfall will occur within the district's boundary, North Norfolk has the highest potential to see a disturbance to social, community and healthcare infrastructure. The overall position with regards to social and community infrastructure as well as health facilities in North Norfolk is set out in more detail within the **Appendix 27.2 Socio-Economics and Tourism Technical Baseline**. This indicates that whilst some challenges with regards to capacity might exist locally (e.g. on the need for additional green infrastructure, and additional leisure facilities), the overall provision of local social and community infrastructure is mostly adequate.
- Health infrastructure is a key asset everywhere but is likely to play an even bigger role in areas that are experiencing an ageing population (as in the case within the East Anglia study area). Furthermore, the baseline analysis indicates that whilst a high proportion of Accident and Emergency (A&E) patients are seen within the House of Commons' recommended four-hour target, primary health care provision (i.e. GPs) across the East Anglia study area is close to being over-stretched (with an average of 1,724 registered patients per FTE GP). Data for the NHS Norfolk & Waveney Clinical Commissioning Group (CCG) indicates that at the Norfolk level, capacity to absorb additional demand may be available (with an overall average of 1,716 registered patients per FTE GP against a maximum benchmark of 1,800 patients per FTE GP. On this basis, the sensitivity of the receptor is therefore assessed as medium.

27.6.4.4.3 Significance of the effect

- 147. With the sensitivity of the receptor assessed as high and the magnitude of effect assessed as low, the significance of impact of SEP and DEP is therefore assessed as minor adverse. This is not considered to be significant in EIA terms.
- 148. It is assumed that the impacts of construction activity on social, community and health infrastructure are temporary and short-term in nature.

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27.6.4.5 Impact 5: Visual Impact of Offshore Infrastructure on Volume and Value of Tourism Activity

27.6.4.5.1 Visual Impacts of Offshore Infrastructure in the Context of the Baseline Indicator

- 149. Under the worst-case scenario, it is assumed that SEP will consist of 23 and DEP will consist of 30, 26MW wind turbines, each with a maximum height of 330m, the closest being located 16.1km from shore. It is assumed that both wind farms will be operational for 40-years.
- 150. The analysis in Chapter 25 Seascape and Visual Impact Assessment, Appendix 25.5 Summary of Potential Impacts during the Construction and **Decommissioning Phases** indicates that under the realistic worst-case scenario the construction of SEP and DEP would be potentially visible from across the north Norfolk coast. Whilst SEP and DEP will both be visible from across a wide area along the north Norfolk coast, the distance of the two wind farms from shore and the fact that they are within parts of the seascape that is already influenced by the existing wind farms in the North Sea (including Dowsing, Lincs, Lynn, Race Bank, Triton Knoll, Sheringham Shoal and Dudgeon), the scale of the effects that would arise from the addition of SEP and/or DEP would be less than if the existing wind farms were not already present. This is particularly relevant in the assessment of the visual impact of offshore infrastructure on the volume and value of tourism in East Anglia. The assessment notes that Seascape, 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 and SEP would cause greater or the same effects as DEP, on all landscape, seascape or visual receptors.
- 151. The analysis presented in **Chapter 26 Landscape and Visual Impact Assessment** (document reference 6.1.26) has identified the following impacts:
 - The greatest effects that would arise from the construction of SEP and DEP (in isolation and/ or together) would occur along the northern extent of the north Norfolk coast, especially the settlements of Cromer and Sheringham. The assessment has identified a moderate adverse impact on the settlements of Cromer and Sheringham.
 - When considering recreational routes, Chapter 25 Seascape and Visual Impact Assessment (document reference 6.1.25) found that effects due to SEP and DEP would only occur along specific sections of Peddars Way, the Norfolk Coast Path and England Coast Path that run along the north Norfolk coast. The assessment found that the greatest scale of visual effects would occur to a section closest to the wind farm sites along approximately 1km of coastline in the vicinity of Sheringham and Cromer, resulting in a moderate adverse impact.



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- The Seascape and Visual Impact assessment identified that wind farm sites
 would also effect views from land to sea. These views are already influenced by
 existing offshore wind farms, with the impact assessed as having moderate
 adverse significance on the AONB.
- The baseline analysis undertaken as part of the socio-economics assessment indicates that there is a limited amount of research examining the relationship between the visual impacts of offshore wind farms and their construction upon tourism activity and the associated visitor economy. The evidence presented in **Appendix 27.2 Socio-Economics and Tourism Technical Baseline** indicates that:
 - Whilst there is potential for some visitors to be discouraged from making future visits to an area affected by a wind farm development, this is usually balanced (and in some cases exceeded) by visitors reporting that they will visit more frequently.
 - The research also points out that visitors and tourism-related businesses
 recognise the potential for positive impacts associated with extra expenditure
 within the sector and local economy arising from the construction activity, or in
 some cases the additional interest in the seeing of the development and its
 construction.
 - Finally, the research also focusses on measuring opinions of what the impacts
 on the visitor economy could be prior to implementation of the scheme.
 However, ex-post research suggests that even where there have been
 negative effects, these often occur in the form of displaced tourism with visitors
 diverting to neighbouring areas.
- 153. There are a complex range of factors which explain the attitudes of visitors to wind farm development and the consequences upon visitors' behaviour. The research, however, does not suggest that the extent to which tourists are attracted to an area by the quality of the landscape is important in determining visitors' reactions to wind farm developments. In addition, the analysis presented in **Appendix 27.2 Socio-Economics and Tourism Technical Baseline** states that visitors and tourism-related businesses usually recognise the potential for positive impacts associated with the extra expenditure in the sector, and the local economy, arising from construction activity.

27.6.4.5.2 Magnitude of Effect

154. Overall, the research indicates that the offshore construction associated with a wind farm development will not have a significant effect on the overall volume and value of tourism activity, and in most instances visitors do not expect their behaviour to be influenced (either positively or negatively) by the presence of the offshore construction related to wind farm developments.



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Data on the volume and value of tourism activity in Norfolk during the construction of the (now operational) DOW (i.e. between 2015 and 2017) shows that following a slight dip from pre-construction figures (43.0 million visits in 2014, to 42.7 million visits in 2015), the number of visits increased to over 52.0 million in 2019, contributing £2.42 billion to the regional economy. Furthermore, employment in tourism increased from 27,500 FTE jobs in 2015 to 29,000 FTE jobs in 2020. A similar positive trend was seen during the construction of SOW which experienced an increase in visitor numbers from 31 million in 2009, at the start of the construction period, to 38.1 million in 2013, at the end of the construction period. On this basis, the magnitude of effect is therefore assessed as negligible.

27.6.4.5.3 Sensitivity of the Receptor

- The baseline analysis indicates that during 2019 there were 52.0 million visitors to Norfolk, of which 9.9 million were to North Norfolk district. A large number of the visitors to North Norfolk are attracted to the area's natural assets (including The Broads AONB) along the North Norfolk coast, and as far north as Spurn Point. These assets, and others listed within the **Appendix 27.2 Socio-Economics and Tourism Technical Baseline** are important to local communities and visitors alike.
- 157. On this basis, the sensitivity of the receptor is assessed as high.

27.6.4.5.4 Significance of Impact

- 158. With the sensitivity of the receptor assessed as high and the magnitude of effect assessed as negligible, the significance of impact of SEP and DEP on the receptor is therefore assessed as **minor adverse**. This is not considered to be significant in EIA terms.
- 159. It is assumed the visual impacts on tourism activity associated with offshore construction are temporary, short-term and reversible in nature.
- 27.6.4.6 Impact 6: Impact of Onshore Construction on Volume and Value of Tourism Activity

27.6.4.6.1 Tourism Volume and Value Impact in the Context of the Baseline Indicator

- 160. The construction of SEP and DEP has the potential to negatively impact upon assets that are of value to tourism activity in Norfolk, primarily on areas that are within close proximity of the onshore cable corridor.
- 161. Installation of the onshore export cables may has potential to have a negative impact on walking and cycling routes, coastal paths, holiday parks and/ or other tourism-related assets.
- 162. Chapter 19 Land Use, Agriculture and Recreation considers the potential impacts of SEP and DEP on recreational assets and lists appropriate mitigation measures where required. The assessment finds the following relevant residual impacts and mitigation:
 - Deterioration of Blue Flag Beaches: No impact.
 - Disruption to Onshore Coastal Recreational Assets: No Impact, any areas subject to short-term restricted access would be agreed in advance.

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- Disruption to users of Inland Recreational Assets: Minor adverse, visual and noise impacts should be closely monitored to ensure they do not change in adherence to the Outline Code of Construction Practice (OCoCP) (document reference 9.17) and Outline Landscape Management Plan (OLMP) (document reference 9.18).
- Disruption to Users of Recreational Routes: Minor adverse with appropriately fenced (unmanned) crossing points; manned crossing points; and temporary alternative routes (assumed be required for approximately 1 week) required.
- 163. The assessment presented in **Chapter 24 Traffic and Transport** has considered traffic and transport receptors which are of relevance to the assessment of the impact of construction on the volume and value of tourism activity in Norfolk. The assessment considers a local routes including key tourist routes and the potential impacts on these routes as well as mitigation measures that have been implemented to avoid or reduce impacts:
 - Embedded Mitigation measures include (further information is provided in Table 27.3):
 - Trenchless crossings on transport routes
 - Use of TCCs
 - Construction access
 - Vehicle trips
- 164. Appropriate mitigation will be implemented where there is the prospect of construction works impacting negatively on tourists using recreational resources locally. The **Outline Construction Traffic Management Plan** (document reference 9.16) contains details of several measures that will mitigate against potential negative impacts on tourism volume and value within the Landfall and cable corridor within the North Norfolk AONB study area including:
 - HGV flows along the A149 through Weybourne would be reduced to ensure peak daily HGV demand does not exceed the forecast average daily HGV demand.
 - The Applicant would appoint a Community Liaison Officer who would be the first point of contact for all concerns raised. Contact details would be circulated to local communities and stored at community hubs (such as town halls and libraries) for reference.
 - Signs would be erected at all traffic management locations with the relevant contact number clearly displayed for public enquiries.
- 165. The traffic and transport assessment concluded that with the application of additional mitigation measures the residual impact upon all receptors was assessed to be not significant.



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- 166. Chapter 26 Landscape and Visual Impact Assessment considers the potential impacts of SEP and DEP on landscape and visual resources, including the area around landfall, the onshore corridor and area around the onshore substation. The assessment found that the effects arising as a consequence of construction of SEP and DEP would be short-term, temporary and reversible in nature, and that the landscape features would be reinstated following completion of construction activities.
- 167. The assessment presented in Chapter 26 Landscape and Visual Impact Assessment has considered visual and landscape receptors which are of relevance to the assessment of the impact of construction on the volume and value of tourism activity in Norfolk. These include:
 - Settlements The assessment has included a total of 34 settlements in the
 assessment of effects on visual receptors and finds that those closest to the
 cable corridor will experience the greatest effects, whilst those more distant will
 experience effects of a lesser magnitude. The assessment finds that views of
 construction activity would tend to be limited to the periphery of these
 settlements, on sides closest to the cable corridor, and would often be partially
 obscured by buildings and vegetation. Overall, the assessment found that the
 impact would range from moderate adverse (i.e. significant) negligible neutral
 (i.e. not significant).
 - Recreational routes (including long distance walking routes and national and regional cycle routes) Chapter 26 Landscape and Visual Impact Assessment found that the overall impacts on visual receptors using recreational routes would be of limited spatial extent, up to large-scale during peak construction works. When looking at the impact on users of the Coast Path, the assessment identified an impact of moderate adverse significance. The same level of significance (i.e. moderate adverse) was identified for users of other long distance walking routes, whilst the impact on users or cycle routes was of slight significance (albeit adverse).
 - Local roads and Public Rights of Way (PRoW) The assessment found that impacts on users of local roads and PRoWs would occur as a result of construction activities being seen by users of these routes, with the greatest impacts being experienced where the onshore cable corridor intersects routes using open trench techniques, and PRoW may be temporarily diverted for short distances. Overall, the impact of construction activity is anticipated to range from moderate-slight adverse to local roads outside the AONB to moderate significance on local roads within the AONB.
 - Norfolk Coast AONB Overall, the construction of the onshore cable corridor (including landfall) would have very little impact on the Norfolk Coast AONB, and will have limited potential to undermine the qualities its natural beauty, resulting in impact of slight significance (albeit adverse).

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- Onshore substation The principal effects arising from the onshore substation site are likely to occur during the 40-year operational lifetime of SEP and DEP, and are reversible. Chapter 26 Landscape and Visual Impact Assessment found that the greatest effects on both landscape and visual receptors would be no greater than those experienced during operations (i.e. of moderate adverse significance and major adverse significance respectively).
- 168. Chapter 23 Noise and Vibration describes the potential noise and vibration impacts of the proposed SEP and DEP as follows:
 - The assessment established that there will be some minor residual impacts on the landfall and cable corridor receptors during construction and decommissioning phases of SEP and DEP through construction work activities.
 - The assessment found potential residual noise impacts of construction phase road traffic, will be no greater than minor adverse i.e. not significant.

27.6.4.6.2 Magnitude of Effect

- 169. For ease of assessment the various assets within proximity of the onshore cable corridor (identified in **Appendix 27.2 Socio-Economics and Tourism Technical Baseline Report**) have been grouped into three categories. Furthermore, the magnitude of effect is likely to vary depending on both location of assets in addition to the level of project-related activity:
 - Landfall and cable corridor within the North Norfolk AONB The implementation of the embedded mitigation measures stated above in Section 27.6.4.6.1 would reduce potential for negative impacts on tourism volume and value associated with increased traffic congestion and disturbance to recreational routes. Given the use of embedded mitigation measures the assessment of the residual magnitude of effect is assessed as negligible.
 - Main onshore cable corridor from the North Norfolk AONB to the substation negligible.
 - Area around substation for connection to National Grid (at Norwich Main Substation) – low.

27.6.4.6.3 Sensitivity of the Receptor

- 170. Section 27.6.4.5.3 above indicates that in 2019 there were 52.0 million visitors to Norfolk, of which 9.9 million were visitors to North Norfolk district. The Appendix 27.2 Socio-Economics and Tourism Technical Baseline identifies the various assets located within proximity of the onshore cable corridor.
- 171. On this basis, it is assumed that the sensitivity of the receptor varies depending on the location of the receptor, as set out below:



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- Landfall and cable corridor within the North Norfolk AONB The north Norfolk coast plays a major role in attracting visitors to the study area, who in turn contribute to the volume and value of the tourism economy. Similarly, the area onshore within the AONB plays a key role, and contributes greatly towards the volume and value of the tourism economy in North Norfolk. As such, the sensitivity of the receptor located within the North Norfolk AONB is therefore assessed as high.
- Main onshore cable corridor from the North Norfolk AONB to the substation The Socio-Economics and Tourism Technical Baseline identifies several assets located within close proximity of the onshore cable corridor, which despite playing a role and contributing to the area's tourism economy, attract substantially fewer visitors relative to the North Norfolk coastline (including Weybourne). On this basis, the sensitivity of the receptor along the main onshore cable corridor is therefore assessed as medium.
- Area around the onshore substation for connection to the National Grid (at Norwich Main Substation) – The area around the substation is already characterised by activity related to energy generation, with very limited tourism-related activity. As such, the sensitivity of the receptor in proximity to the proposed substation is therefore assessed as low.

27.6.4.6.4 Significance of Impact

- 172. Based on the analysis above, the significance of impact may vary depending on the section of the onshore cable corridor considered.
 - Landfall and cable corridor within the North Norfolk AONB With the sensitivity
 of the receptor assessed as high and the magnitude of effect negligible, the
 significance of impact of construction within the North Norfolk AONB is
 assessed as minor adverse.
 - Main onshore cable corridor from the North Norfolk AONB to the substation –
 With the sensitivity of the receptor assessed as medium and the magnitude of
 effect negligible, the significance of impact of construction along the onshore
 cable corridor is assessed as minor adverse.
 - Area around substation for connection to the National Grid (at Norwich Main Substation) – With the sensitivity of the receptor assessed as low and the magnitude of effect low, the significance of impact of construction around the onshore substation is therefore assessed as minor adverse.
- 173. The analysis above indicates that the impact of onshore construction on the volume and value of tourism activity is anticipated to result in minor adverse impact, the implementation of the embedded mitigation measures related to transport, recreation and noise will minimise the overall impact on the volume and value of tourism activity during construction.

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174. Evidence of visitor numbers, employment and the overall value of construction activity during the construction of the Dudgeon Offshore Wind Farm between 2015 and 2017 indicates that the impact of construction activity on the overall volume and value of tourism activity is likely to be limited and localised. It is assumed the visual impacts on tourism activity associated with the construction of onshore infrastructure are temporary, short-term and reversible in nature.

27.6.5 Potential Impacts During Operation

27.6.5.1 Impact 1: Impact on the economy

175. Table 27.14: below summarises the potential GVA impacts generated each year during the operational phase of SEP and DEP. The assessment considers the direct and indirect economic benefit of SEP and DEP in line with the scenarios outlined in Section 27.3.3 above for the East Anglia and UK study areas.

Table 27.14: Potential GVA Impacts During Operation

Study Area	Development Scenario	GVA Per Annum once operational (£ million)
East Anglia	DEP is constructed in isolation	£5.8
	SEP is constructed in isolation	£5.3
	Parallel/ sequential construction	£7.0
UK	DEP is constructed in isolation	£12.4
	SEP is constructed in isolation	£10.2
	Parallel/ sequential construction	£18.4

27.6.5.1.1 DEP or SEP in Isolation

- 176. The delivery of DEP in isolation is estimated to generate an annual GVA impact of £12.4 million at the UK level, of which £5.8 million is captured within the East Anglia economy.
- 177. In comparison, the sole delivery of SEP is estimated to generate an annual GVA impact of £10.2 million nationally, of which £5.3 million is captured by the East Anglia economy.

27.6.5.1.2 SEP and DEP Both in Operation

Status: Final

Classification: Open

SEP and DEP together are estimated to generate an annual GVA contribution of 178. around £18.4 million nationally, of which £7.0 million is captured by the East Anglia economy.

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27.6.5.1.3 Magnitude of Effect

- 179. The analysis above shows that the largest annual contribution to the UK economy is generated when SEP and DEP are in operation (i.e. either from concurrent or sequential construction). At £18.4 million GVA per annum, this benefit is estimated to represent an increase of less than 0.01% of the total value of the UK's economy. On this basis, the magnitude of effect is therefore assessed as negligible at the national level.
- 180. At the East Anglia level, the largest economic contribution will also be generated by concurrent operations (i.e. from concurrent or sequential construction). At £7.0 million GVA per annum, the contribution generated by SEP and DEP (once operational) is estimated to represent an increase of 0.02% over the current baseline. On this basis, the magnitude of effect at the East Anglia level is therefore assessed as negligible.

27.6.5.1.4 Sensitivity of the Receptor

181. Generating economic activity is identified as a policy priority within the New Anglia LEP's Economic Strategy. Furthermore, the baseline analysis indicates that GVA per head is significantly lower in East Anglia study area when compared with the UK average, evidencing a major socio-economic challenge. As such, the sensitivity of the receptor is assessed as high.

27.6.5.1.5 Significance of Impact

- 182. With the sensitivity of the receptor assessed as high, and the largest potential benefit assessed as negligible in magnitude at both UK and East Anglia levels, the significance of impact of SEP and DEP is therefore assessed as **minor beneficial**. This is not considered to be significant in EIA terms.
- 183. It is assumed the impact of increased economic activity generated as a result of the operational phase of SEP and DEP is permanent, long-term and irreversible in nature.

27.6.5.2 Impact 2: Increased Employment

- 184. **Table 27.15:** below summarises the potential employment benefits supported during the operational phase of SEP and DEP. The assessment considers the employment benefit of SEP and DEP in line with the scenarios outlined in **Section 27.3.3** above for both East Anglia and UK study areas.
- The assessment considers both direct and indirect employment. Direct employment refers to employment that is directly involved in the Operation and Maintenance of the offshore wind farm in logistics, facilities, environmental local liaison and a range direct onsite employment such as service technicians. Indirect employment refers to employment in industries that supply and support the core operational activities of the offshore wind farm.

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To estimate the direct jobs, evidence has been drawn on previous experience from the offshore wind industry and current operations employment at SOW and DOW. This provides an estimate of around 67 full-time equivalent (FTE) posts across both wind farms if both projects were operational at the same time. Given the similarities in scale between SEP and DEP and the existing operational wind farms, the demand for direct O&M employment is estimated to be the same per Project. However, if only one project is operational it is anticipated that this would require 53 direct O&M jobs posts. Note this includes direct offsite and onsite jobs around 85% of which are assumed to be based within East Anglia.

Table 27.15: Potential Employment Impacts During Operation (rounded to the nearest 5)

Study Area	Development Scenario	Direct Employment Per Annum once operational (FTEs)	Indirect Employment Per Annum once operational (FTEs)	Total Employment Per Annum once operational (FTEs)
East Anglia	DEP is constructed in isolation	45	20	65
	SEP is constructed in isolation	45	15	60
	Parallel/ sequential construction	55	30	85
UK	DEP is constructed in isolation	55	100	155
	SEP is constructed in isolation	55	70	125
	Parallel/ sequential construction	65	165	230

27.6.5.2.1 SEP or DEP in Isolation

- 187. The delivery of DEP in isolation is estimated to support around 55 direct FTE jobs nationally, of which 45 FTE jobs are anticipated to be in the East Anglia study area.
- 188. The sole delivery of SEP is also estimated to support around 55 direct FTE jobs nationally, of which 45 FTE jobs are anticipated to be in the East Anglia study area.

27.6.5.2.2 SEP and DEP Both in Operation

189. It is estimated that when both are in operation SEP and DEP will support an estimated 65 direct jobs and 165 indirect FTE jobs per year nationally over their 40-year operational phase. Of these, around 55 direct and 30 indirect FTE jobs per year are estimated to be based in the East Anglia study area.

Classification: Open Status: Final

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27.6.5.2.3 Magnitude of Effect

- 190. The analysis above shows that the largest number of jobs supported nationally will be when both SEP and DEP are in operation. At 230 FTE jobs, the total number of jobs supported by SEP and DEP is estimated to represent significantly less than 0.01% of the current employment base nationally. On this basis, the magnitude of effect in the context of the UK study area is therefore assessed as negligible.
- 191. Similarly, at the East Anglia level, the largest number of jobs supported is also estimated to result from SEP and DEP being in operation (i.e. either following concurrent or sequential construction). At 85 FTE jobs, the total number of jobs supported by SEP and DEP at the East Anglia level, is estimated to represent less than 0.02% of the study area's current baseline. On this basis, the magnitude of effect is therefore assessed as negligible at the East Anglia level.

27.6.5.2.4 Sensitivity of the Receptor

192. Job creation, and especially more jobs within the renewable sector is identified as a policy priority within the New Anglia LEP's Economic Strategy, and as such the sensitivity of the receptor is therefore assessed as high.

27.6.5.2.5 Significance of Impact

- 193. With the sensitivity of the receptor assessed as high, and the largest-possible contribution to job creation assessed as negligible in magnitude at both UK and East Anglia levels, the significance of impact of SEP and DEP is therefore assessed as minor beneficial. This is not considered to be significant in EIA terms.
- 194. It is assumed the impact of increased employment during the operational phase of SEP and DEP is permanent, long-term and irreversible in nature.

27.6.5.3 Impact 3: Change in Demographics

- 195. Both SEP and DEP together will generate around 85 FTE jobs supported in the East Anglia study area during operation. Of these, around 55 FTE jobs will be directly linked O&M and are likely to be based at the O&M port. The rest (i.e. around 30 FTE jobs) will be supported elsewhere within the SEP and DEP supply chain throughout the East Anglia study area.
- 196. Based on experience from elsewhere, it is therefore assumed that around half of all jobs supported as a result of operation by SEP and DEP will be taken up by inmigrant workers to the East Anglia study area.

27.6.5.3.1 Magnitude of Effect

197. The baseline analysis indicates that there are currently 1.68 million people living in the East Anglia study area, 979,000 of whom make up the core working age population (i.e. aged 16 to 64). Assuming a maximum impact scenario where both SEP and DEP are in operation and half of all jobs supported in the East Anglia study area (i.e. around 40-45 FTE jobs) are taken up by in-migrant workers who relocate to the area, this would represent an increase of less than 0.01% over the current baseline (both in terms of total population and core working age population).

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198. On this basis, the magnitude of effect is therefore assessed as negligible at the East Anglia level.

27.6.5.3.2 Sensitivity of the Receptor

199. The East Anglia study area has a rapidly ageing population, with a lower proportion of core working aged residents when compared with the national average. This results partly from the loss of younger workers to other areas of the country. As such, the sensitivity of the local demographic receptor is therefore assessed as medium.

27.6.5.3.3 Significance of Impact

Classification: Open

- 200. With the sensitivity of the receptor assessed as medium and the magnitude of effect assessed as negligible, the significance of impact of SEP and DEP is therefore assessed as minor adverse. This is not considered to be significant in EIA terms.
- 201. It is assumed that the impact of increased in-migration during the operational phase is permanent, long-term and irreversible in nature.

27.6.5.4 Impact 4: Disturbance to Social, Community and Health Infrastructure

202. The assessment of the impact of the operation of SEP and DEP on disturbance to social, community and healthcare infrastructure consider the various social and community infrastructure assets (such as schools, community support centres, public spaces, sports and recreation venues, and arts and culture venues) along the proposed onshore corridor to understand how these could be impacted by the proposed development.

27.6.5.4.1 Social and Community and Health Impacts in Context of Baseline indicator

- 203 SEP and DEP operating together has the largest potential to result in disturbances to social and community infrastructure whilst also leading to added pressure on local health infrastructure.
- 204. The analysis above indicates that the annual operation of SEP and DEP is estimated to support around 120 FTE jobs within the East Anglia study area, 40 FTE jobs of which will be directly involved in operation activity (and based at the projects' O&M port). Under the worst-case scenario, it is assumed that half of all jobs supported as a result of SEP and DEP will be taken up by in-migrant workers to the East Anglia study area.
- 205. The extra demand placed by the in-migrants could manifest itself in several ways, including increased pressure on housing and/ or local accommodation and on education facilities (i.e. for workers' families), in addition to increased demand on leisure and recreational facilities. Ultimately, this has the potential to restrict access for local residents, especially where current social and community infrastructure assets may already be under pressure.

Status: Final



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206. The additional residents to the area may also result in increased pressure on local health care facilities. Based on accepted benchmarks (of 1,800 patients per one FTE GP), under the worst-case scenario, it is assumed that the additional demand will amount to less than 0.1 FTE GP. Furthermore, it should be noted that the demand is likely to spread across a wide area across the East Anglia study area.

27.6.5.4.2 Magnitude of Effect

207. Whilst some disruption to local social and community infrastructure may occur and some added pressure placed on local health infrastructure, the overall level of disruption is anticipated to be minimal. On this basis, the magnitude of effect is therefore assessed to be negligible within the context of the East Anglia study area.

27.6.5.4.3 Sensitivity of the Receptor

The overall position with regards to social, community and health infrastructure in the East Anglia study area and Norfolk is set out in more detail within the **Appendix 27.2 Socio-Economics and Tourism Technical Baseline**. This indicates that whilst some challenges with regards to capacity might exist locally (e.g. on the need for additional green infrastructure, and additional leisure facilities), the overall provision of local social and community infrastructure is mostly adequate. On this basis, the sensitivity of the receptor is therefore assessed as medium.

27.6.5.4.4 Significance of Impact

209. With the sensitivity of the receptor assessed as medium and the magnitude of effect assessed as negligible, the significance of impact of SEP and DEP is therefore assessed as **minor adverse**. This is not considered to be significant in EIA terms.

27.6.5.5 Impact 5: Visual Impact of Offshore Infrastructure on Volume and Value of Tourism Activity

27.6.5.5.1 Magnitude of Effect

- 210. Under the worst-case scenario, it is assumed that SEP and DEP will consist of 30, 26MW wind turbines, each with a maximum height of 330m, the closest being located 16.1km from shore. It is assumed that both wind farms will be operational for 40-years.
- 211. The analysis undertaken by the **Chapter 25 Seascape and Visual Impact Assessment** indicates that under the realistic worst-case scenario SEP and DEP will be visible from a number of locations along the north Norfolk coast. Whilst SEP and DEP will be visible from across a wide area, the distance of the two wind farms from shore means that even on clear days, the SEP and DEP wind turbines would be a very small addition on the horizon.
- 212. As outlined above (see **Section 27.6.4.5**), the research indicates the offshore infrastructure associated with wind farm development will not have a significant effect on the overall volume and value of tourism activity in most circumstances, and that in most instances visitors do not expect their behaviour to be influenced (either positively or negatively) by the presence of the offshore infrastructure related to wind farm developments.

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- 213. The analysis of the visual impact of the offshore infrastructure on the volume and value of tourism activity in East Anglia outlined above (see **Section 27.6.4.5**) is of relevance here. Whilst it is acknowledged that operational wind farms might have consequences upon visitors' behaviour, the presence of wind farms is rarely the primary reason why visitors would choose to visit (or not visit) the area.
- 214. Evidence on the volume and value of tourism activity in Norfolk following construction of the DOW suggests that both visitor numbers and total employment in tourism increased between 2014 and 2019 respectively (by 21% and 9% respectively).
- 215. On this basis, the magnitude of effect is therefore assessed as negligible.

27.6.5.5.2 Sensitivity of the Receptor

- 216. The baseline analysis indicates that, as of 2019 there were 52.0 million visitors to Norfolk, 9.9 million of whom were to North Norfolk district. A large number of the visitors to North Norfolk are attracted to the area's natural assets (including The Broads AONB) along the North Norfolk coast, and as far north as Spurn Point. These assets, and others listed within the **Appendix 27.2 Socio-Economics and Tourism Technical Baseline Report** are important to local communities and visitors alike.
- 217. Overall, the study area has a high concentration of important and quality landscapes which (whilst not particularly diversified) are very popular with ramblers and nature enthusiasts.
- 218. On this basis, the sensitivity of the receptor is assessed as high.

27.6.5.5.3 Significance of Impact

- 219. With the sensitivity of the receptor assessed as high and the magnitude of effect assessed as negligible, the significance of impact of SEP and DEP is therefore assessed as **minor adverse**. This is not considered to be significant in EIA terms.
- 220. It is assumed the visual impact of offshore infrastructure on the volume and value of the tourism economy will be permanent, long-term, and irreversible in nature.
- 27.6.5.6 Impact 6: Impact of Onshore Infrastructure on Volume and Value of Tourism Activity

27.6.5.6.1 Magnitude of Effect

221. There is no ongoing requirement for regular maintenance of the onshore cables following installation, however access to the onshore export cables would be required to conduct emergency repairs, if necessary. Access to each field parcel along the cable corridor would be from existing field entry points where possible or accessing the cable corridor from road crossings. Where this is required, this is likely to result in minor localised disturbances that are significantly less than those experienced throughout construction activity. In addition, **Chapter 24 Traffic and Transport** notes that no significant traffic impacts are anticipated during the O&M phase and as agreed with stakeholders through the EPP and as set out in the scoping opinion, no operational scenarios are assessed within the traffic and transport impact assessment.

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- 222. In the assessment of the onshore infrastructure from landfall to the end of the onshore corridor (but excluding the area around the substation), the magnitude of effect is anticipated to be negligible as in all instances (with the exception where the cable corridor goes through woodland/ is located under trees), original conditions are to be reinstated.
- 223. The assessment presented in **Chapter 26 Landscape and Visual Impact Assessment** found that the effects arising from the onshore substation site would range from large scale from within the sites themselves to medium and small scale within the zone of visual influence, with the impact being of moderate adverse significance.
- 224. On this basis of the analysis outlined above, the magnitude of effect is therefore assessed as negligible for the onshore corridor (including landfall), but medium for the area around the onshore substation.

27.6.5.6.2 Sensitivity of the Receptor

- 225. Tourism activity plays a major role within the Norfolk and particularly the North Norfolk economy. The year 2019 saw 52.0 million visitors to Norfolk, 9.9 million of whom were visitors to North Norfolk district. A large number of the visitors to North Norfolk are attracted to the area's natural assets (including The Broads AONB) along the North Norfolk coast. The Appendix 27.2 Socio-Economics and Tourism Technical Baseline Report identifies various assets located within proximity of the onshore cable corridor, and which are likely to be affected by SEP and DEP operations.
- 226. As outlined in the assessment of the receptor during construction, the sensitivity of the receptor is expected to vary depending on the location of the assets considered. The assessment of sensitivity is based upon both policy as well as socio-economic context, as follows:
 - Landfall and cable corridor within the North Norfolk AONB Sensitivity is assessed as high.
 - Main onshore cable corridor from the North Norfolk AONB to the substation Sensitivity is assessed as medium.
 - Area around substation for connection to the National Grid (at Norwich Main Substation) – Sensitivity is assessed as low.

27.6.5.6.3 Significance of Impact

- 227. Based on the analysis above, the significance of impact of SEP and DEP may vary depending on the section of the onshore cable corridor considered.
 - Landfall and cable corridor within the North Norfolk AONB With the sensitivity
 of the receptor assessed as high and the magnitude of effect negligible, the
 significance of impact of SEP and DEP at Landfall and the cable corridor within
 the North Norfolk AONB is assessed as minor adverse.



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- Main onshore cable corridor from the North Norfolk AONB to the substation –
 With the sensitivity of the receptor assessed as medium and the magnitude of
 effect negligible, the significance of impact of the operations phase along the
 onshore is therefore assessed as minor adverse.
- Area around substation for connection to the National Grid (at Norwich Main Substation) – With the sensitivity of the receptor assessed as low and the magnitude of impact medium, the effect of SEP and DEP on the receptor around the onshore substation is therefore assessed as minor adverse.
- 228. It is assumed the visual impact of onshore infrastructure on the volume and value of the tourism economy will be permanent, long-term, and irreversible in nature.

27.6.6 Potential Impacts During Decommissioning

- 229. The impacts of the decommissioning phase of SEP and DEP is assessed in line with the methodology outlined above. Whilst detailed plans for the proposed approach to decommissioning are still being developed, the following assumptions have been used to guide the assessment of the decommissioning phase of SEP and DEP:
 - Approach to decommissioning will be in reverse to construction;
 - Turbines will be removed in a reverse to construction methodology;
 - Hazardous materials will be removed or contained prior to removal from site;
 - The same number and type of offshore vessels (as per construction) will be used throughout decommissioning;
 - Turbines' transmission piece and foundations will be removed;
 - Offshore cables may be left in situ or removed depending on available information at the time of decommissioning; and
 - Onshore cables can be recovered from ducts..
- 230. There is, however, considerable uncertainty with the costs that are likely to be associated with the decommissioning phase of SEP and DEP. Nationally, there are very few examples of recently decommissioned projects. This means that the assessment has been unable to generate accurate cost and sourcing assumptions to allow for a detailed assessment.
- 231. As such, the assessment of the decommissioning phase of SEP and DEP is based on a high-level assessment of the potential effects on the various receptors identified as part of the socio-economics and tourism assessment.
- 232. In principle, it is assumed that the magnitude of effect of all impacts considered will mirror (but likely to be lower than) the effect relating to the construction phase. Similarly, the sensitivity of the receptor is based on the current policy context and socio-economic conditions, as per the assessment of both construction and operational phases. On this basis, the impact of the decommissioning phase of SEP and DEP is assessed as set out in **Table 27.16** below.

Table 27.16: Impacts of Decommissioning Phase of SEP and DEP



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Impact	Magnitude	Sensitivity	Significance of Impact	Study Area	Nature of Impact
1. Impact on the economy	Negligible	High	Minor Beneficial	UK East Anglia	Temporary Short-term
2. Increased employment	Negligible	High	Minor Beneficial	UK East Anglia	Temporary Short-term
3. Change in demographics	Negligible	Medium	Minor adverse	East Anglia	Temporary Short-term Reversible
4.Disturbance to social, community & health infrastructure	Low	Medium	Minor Adverse	East Anglia	Temporary Short-term
5. Visual impact of offshore decommissioning on volume and value of tourism activity	Negligible	High	Minor Adverse	Norfolk	Temporary Short-term Reversible
6.Impact of onshore decommissioning on volume and value of tourism activity	Landfall and cable corridor within the North Norfolk AONB – Negligible Onshore corridor – Negligible Around substation – Medium	Landfall and cable corridor within the North Norfolk AONB – High Onshore corridor – Medium Around substation – Low	Minor Adverse	Norfolk	Temporary Short-term Reversible

233. As identified in **Table 27.16** there are no impacts that are significant in EIA terms.

27.7 Cumulative Impacts

Classification: Open

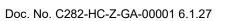
27.7.1 Identification of Potential Cumulative Impacts

- 234. The first step in the cumulative assessment is the identification of which residual impacts assessed for SEP and/or DEP on their own have the potential for a cumulative impact with other plans, projects and activities (described as 'impact screening'). This information is set out in **Table 27.17** below. Only potential impacts assessed in **Section 27.6** as negligible or above are included in the CIA (i.e. those assessed as 'no impact' are not taken forward as there is no potential for them to contribute to a cumulative impact).
- 235. **Table 27.17** concludes that in relation to socio-economics and tourism, all receptors considered as part of the assessment have potential to be generate cumulative impacts at the local and sub-regional levels.

Table 27.17: Potential Cumulative Impacts (Impact Screening)

Impact	Potential for Cumulative Impact	Rationale
Construction Impact 1:	Yes	Multiple construction projects over a sustained
Impact on the economy		period could increase economic contribution to

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Impact	Potential for Cumulative	Rationale
	Impact	local, sub-regional and national economies. Scope to enhance local supply chains and hence benefit.
Construction Impact 2: Increased employment	Yes	An ongoing succession of construction projects could provide confidence in the construction market and drive investment. Scope to enhance local supply chains and hence benefit
Construction Impact 3: Change in demographics	Yes	An ongoing succession of construction projects could have an impact on local demographics, altering overall structure and influence community cohesion.
Construction Impact 4: Disturbance to social, community and health infrastructure	Yes	Increased population at the local level may add increased pressure on the provision of social, community and health infrastructure locally.
Construction Impact 5: Visual impact of offshore infrastructure on volume and value of tourism activity	Yes	Ongoing offshore construction may impact tourism activity within the study area, and its overall volume and value. There is limited evidence of cumulative visuals impacts of offshore wind farms having a negative effect on local tourism economies.
Construction Impact 6: Impact of onshore infrastructure on volume and value of tourism activity	Yes	Similarly, an ongoing succession of onshore construction may impact tourism activity within the study area, and its overall volume and value.
Operational Impact 1: Impact on the economy	Yes	Substantial long-term and permanent employment and economic benefits (both direct
Operational Impact 2: Increased employment	Yes	and indirect) may be supported as a result of operations supported by cumulative projects. A strategic approach to the delivery and operation of cumulative projects could lead to significant investment and development of the local supply chain. In addition, increased employment opportunities will lead to opportunities in upskilling and re-skilling of the local labour market.
Operational Impact 3: Change in demographics	Yes	Due to the long-term and permanent nature of the jobs, there may be potential for long-term changes to the local population. The operations phase typically support far fewer jobs, and therefore have an overall lower impact. Furthermore, the potential for re-skilling and upskilling from within the local labour market could reduce the overall need for in-migration to the study area.
Operational Impact 4: Disturbance to social, community and health infrastructure	Yes	The impact of onshore infrastructure on social, community and health infrastructure should be limited. That said, an increase in industrial infrastructure and (potential) demand for inmigrant workers may add pressure and/ or reduce access to social, community and health infrastructure for incumbent residents.



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Impact	Potential for Cumulative Impact	Rationale		
Operational Impact 5: Visual impact of offshore infrastructure on volume and value of tourism activity	Yes	The operational phase of cumulative projects may impact tourism activity within the study area, and its overall volume and value. That said, there is little evidence suggesting either positive and/ or adverse impacts on overall volume and value of tourism activity associated with offshore infrastructure.		
Operational Impact 6: Impact of onshore infrastructure on volume and value of tourism activity	Yes	The impact of onshore infrastructure of cumulative projects should be limited. That said, it may impact on tourism activity not only within close proximity of the infrastructure itself, but also across the wider area. However, an increase in industrial infrastructure could have a long-term impact on tourism activity, potentially affecting its attractiveness (both actual and/ or perceived).		
Decommissioning Impact	Detailed plans for the approach (i.e. method) to the decommissioning of SEP and DEP are still being developed. More detail about the decommissioning of SEP and DEP will be provided in due course, however, assumptions guiding the assessment of the decommissioning phase are outlined in Table 27.2 above. Detailed information about the decommissioning phase of the other cumulative projects identified varies. It has been assumed that overall, the detail to decommissioning will be determined by the relevant legislation and guidance at the time of decommissioning. That said, the cumulative impacts generated as a result of decommissioning activity are assumed to be the same, albeit lower than those identified during the construction stage.			

27.7.2 Other Plans, Projects and Activities

Status: Final

Classification: Open

- 236. The second step in the cumulative assessment is the identification of the other plans, projects and activities that may result in cumulative impacts for inclusion in the CIA (described as 'project screening'). This information is set out in **Table 27.18** below, together with a consideration of the relevant details of each, including current status (e.g. under construction), planned construction period, closest distance to SEP and DEP, status of available data and rationale for including or excluding from the assessment.
- 237. The project screening has been informed by the development of a CIA Project List which forms an exhaustive list of plans, projects and activities in a very large study area relevant to SEP and DEP. The list has been appraised, based on the confidence in being able to undertake an assessment from the information and data available, enabling individual plans, projects and activities to be screened in or out.

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Table 27.18: Summary of Projects Considered for the CIA in Relation to Socio-Economics and Tourism (Project Screening)

Project	Status	Construction Period	Closest Distance from the Project (km)	Confidence in Data	Included in the CIA (Y/N)	Rationale
Hornsea Project Three Offshore Wind Farm	DCO consented and has CfD	2023-2025 (single phase) 2023-2031 (two phase)	0km (Export cable corridor - ECC)	High	Y	The Hornsea Project Three Offshore Wind Farm's catchment is focused around the East Anglia area, and therefore interacts with the assessment's local (i.e. East Anglia) study area. Whilst the Hornsea Project Three Offshore Wind Farm will make landfall along the North Norfolk coast, this project will not be visible from North Norfolk coast. There could be significant cumulative effects subject to the exact timing of construction of the two schemes.
East Anglia ONE Offshore Wind Farm	In Operation	Construction completed	113km	High	Y	Whilst construction is completed, the East Anglia ONE Offshore Wind Farm is likely to interact with some of the receptors identified during the operational phase.
East Anglia ONE North Offshore Wind Farm	DCO consented	2022 - 2027	95km	High	Y	The East Anglia ONE North, East Anglia Two and East Anglia Three Offshore wind Farm projects' impact area is likely to overlap with the assessment's East Anglia





Project	Status	Construction Period	Closest Distance from the Project (km)	Confidence in Data	Included in the CIA (Y/N)	Rationale
						study area on a number of the receptors considered.
East Anglia TWO Offshore Wind Farm	DCO consented		96km	High	Y	
East Anglia THREE Offshore Wind Farm	DCO consented		95km	High	Y	
East Anglia GREEN	Site selection / pre-scoping	2027-2031	NA	Low	N	Screened out as insufficient details available about this proposal to undertake any meaningful cumulative impact assessment.
Norfolk Vanguard Offshore Wind Farm	DCO consented	2024 - 2027	0 (ECC)	High	Y	The Norfolk Vanguard Offshore Wind Farm's impact area is likely to overlap with the assessment's East Anglia study area on a number of receptors. Furthermore, the onshore cable corridor will cut across the onshore cable corridor for both SEP and DEP.
Norfolk Boreas Offshore Wind Farm	DCO consented and has CfD	2024 - 2027	0 (ECC)	High	Y	The Norfolk Boreas Offshore Wind Farm's impact area is likely to overlap with the assessment's East Anglia study area on a number of the receptors considered.





Project	Status	Construction Period	Closest Distance from the Project (km)	Confidence in Data	Included in the CIA (Y/N)	Rationale
Norwich Western Link (highway improvement scheme)	Pre-application	2023	0km, (ECC)	N/A	N	As detailed in Chapter 24 Traffic and Transport, it has been agreed with NCC and National Highways that potential cumulative impacts between the construction phases of the highway scheme could be managed through the respective CTMP rather than in the DCO application. Therefore, these schemes have been screened out of the CIA.
Solar farm and associated infrastructure north of Cawston	Final Decision	n/a			N	Scoping opinion for proposed development determines that there will be no significant impacts on socio-economics. The Local Planning Authority has adopted the opinion that the proposed solar farm is not EIA development as defined in the 2017 Regulations. The scale of the proposed solar farm (23.1MW) will support very little (temporary) employment throughout construction, and virtually nothing during its operations phase.
Expansion of Luton Airport	Pre-application DCO	2023-26			N	The Luton Airport expansion project's impact area does not



Project	Status	Construction Period	Closest Distance from the Project (km)	Confidence in Data	Included in the CIA (Y/N)	Rationale
						interact with the assessment's East Anglia study area for any of the receptors.
Sunnica Energy Farm	Pre-application DCO	2022-25			N	Whilst the Sunnica Energy Farm is located in East Anglia, it does not interact with the onshore cable corridor, and is therefore excluded from the CIA.
Sizewell C Nuclear Power Station	DCO examination	2022-34			Y	Sizewell C Nuclear Power Station may interact with some receptors included in the assessment, in particular in-migration of (non-home- based) workers who typically locate themselves within a 60- minute catchment area. This reaches as far north as Lowestoft.
Bramford to Twinstead Overhead Line	Pre-application DCO	n/a			N	The construction of the Bramford to Twinstead Overhead Line does not overlap with the study area used in the assessment. Furthermore, the project is currently on-hold until connection of Sizewell C to the national grid is required (in the late-2020s). The construction of the Bramford to Twinstead Overhead Line



Project	Status	Construction Period	Closest Distance from the Project (km)	Confidence in Data	Included in the CIA (Y/N)	Rationale
						has potential to not overlap with construction of SEP and DEP.
Bradwell B Nuclear Power Station	Pre-application DCO	n/a			N	The construction of Bradwell B Nuclear Power Station impact area does not overlap with the study area used in the assessment. Furthermore, given the early stages for this project (Stage 1 consultation undertaken in 2020), there is a possibility that construction does not overlap.
Dualling of A47 between North Tuddenham and Easton	Pre-examination DCO	2021-24			N	The dualling of the A47 project cuts across the onshore cable corridor of SEP and DEP and will impact on a number of the receptors included in the assessment. However it is excluded from CIA because construction period does not overlap, and its impacts once operational will be positive.
Galloper Offshore Wind Farm	In Operation	n/a			N	The operations base for the Galloper Offshore Wind Farm is located outside the assessment's study area, and as such is not anticipated to interact with SEP and DEP during either of their





Project	Status	Construction Period	Closest Distance from the Project (km)	Confidence in Data	Included in the CIA (Y/N)	Rationale
						construction and/ or operational phases.
Nautilus Interconnector	Pre-application DCO	2024-28			N	The application is expected to be submitted to the Planning Inspectorate Q2 2023. As such there is limited information available at this stage. However Nautilus will include underground cabling works and onshore infrastructure which will be located in East Suffolk. There is not enough information to include this in the assessment
TiGRE Project 1	Pre-application DCO	n/a			N	Very little information is available at this stage, and TiGRE Project 1 is therefore excluded from CIA.
Eurolink interconnector	Planning submission date to be confirmed	n/a			N	Project is less developed in status compared to the Nautilus Interconnector
Affordable housing development (IB/18/0570)	Advice Given	n/a			N	The proposal is for ten affordable dwellings. Whilst the proposal falls within the PEIR boundary, the impact on socio-economics and tourism is anticipated to be negligible.



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27.7.3 Assessment of Cumulative Impacts

238. Having established the residual impacts from SEP and/or DEP with the potential for a cumulative impact, along with the other relevant plans, projects and activities, the following sections provide an assessment of the level of impact that may arise.

27.7.3.1 Cumulative Impact 1a: Impact of construction on the economy

- Table 27.18 shows that of the nine projects identified for the CIA, Hornsea Project Three, East Anglia ONE North, East Anglia TWO, East Anglia THREE, Norfolk Vanguard, Norfolk Boreas, and Sizewell C have potential to overlap with the construction of SEP and DEP (starting in 2025 at the earliest).
- 240. Of the projects listed above, only the Hornsea Project Three socio-economic assessment considered the direct economic benefit of construction to the local economy. The assessment identified the project as having minor beneficial impact on the receptor (i.e. the New Anglia LEP's economy).
- 241. Whilst none of the other assessments (either at pre-examination and/ or DCO examination stage) considered the impact of construction on the economy (i.e. in terms of GVA) associated with construction activity, they have all considered the projects' impact on direct and indirect employment, which can in turn be used to benchmark the impact on direct economic benefit. The following section sets out the key findings from these assessments which are then used to inform their cumulative impact with SEP and DEP.
 - Based on the methodology used for the socio-economics assessment of Norfolk Boreas, its EIA found a major beneficial impact on direct job creation, and minor beneficial impact on indirect job creation at the regional level.
 - The socio-economics assessment of Norfolk Vanguard found moderate beneficial impacts on direct and indirect job creation.
 - The tourism, recreation and socio-economics assessment of East Anglia TWO identified a moderate beneficial impact of both onshore and offshore construction on the local, regional and national labour markets.
 - The tourism, recreation and socio-economics assessment of East Anglia THREE identified a minor beneficial impact of onshore construction and a moderate beneficial impact on offshore construction on the local labour markets.
 - The tourism, recreation and socio-economics assessment of East Anglia ONE north identified a moderate beneficial impact of onshore construction employment on the local and regional labour market and a moderate beneficial impact on offshore construction on the national and regional labour market.

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- The socio-economics assessment of Sizewell C found that at peak construction, the project has potential to support around 7,800 jobs (including home-based, as well as non-home-based workers). Overall, the assessment found a moderate beneficial impact on the labour market (including home-based recruitment) within the project's 90-minute catchment (extending from Colchester in the south, to Bury St Edmunds in the west and Norwich in the north). It should be noted that only part of the Sizewell C 90-minute catchment overlaps with the East Anglia study area of the assessment.
- 242. Given that the impact on the economy is not considered by all assessments, it is not possible to quantify this in terms of GVA output created throughout the construction period.
- 243. Furthermore, it should be noted that construction activity at Sizewell C will not persist at the levels identified above throughout the whole construction period. This is likely to build reaching around 7,000 jobs for a four-year period around peak construction.
- 244. Based on the assessment of the projects' impacts on the economy (where available) and employment activity, and the fact that most of the jobs supported by construction activity (particularly on nuclear new build projects) include high skilled employment, and high productivity sectors, the overall magnitude of effect created cumulatively by these projects and SEP and DEP is anticipated to be high. However, given the variance in on-site jobs at Sizewell C, this assessment should be considered as an upper limit.
- 245. With the sensitivity of the receptor assessed as high at the East Anglia study area, and a magnitude of effect assessed as medium, the cumulative impact of the projects identified alongside SEP and DEP on the receptor at construction is therefore assessed as **major beneficial**, which is considered to be significant in EIA terms.
- 246. It is assumed that the cumulative impact of increased economic activity resulting from construction of the identified schemes is temporary and short-term in nature.

27.7.3.2 Cumulative Impact 1b: Impact of operation on the economy

- 247. The operational phase of SEP and DEP will overlap with the operational phase of several projects identified in **Table 27.18** above. As per the assessment of the direct economic benefit during construction, only the assessment of the Hornsea Project Three considered the direct impacts on the economy of its operations. This assessment assessed two scenarios (i.e. a low and high scenario) and identified a maximum impact of minor beneficial.
- 248. None of the other projects identified have considered the direct economic benefit of operations in their assessment. Once more, the CIA of the projects' direct economic benefit resulting from their respective operations phase uses the assessment on local, regional and national employment as a benchmark.



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- The socio-economics assessment of East Anglia ONE North, and East Anglia TWO identifies a major beneficial effect on local employment of the operations phase. The assessment of East Anglia Three identified a minor beneficial impact of O&M FTEs on the local labour market during the Operational phase.
- The socio-economics assessment of Norfolk Vanguard identified a minor beneficial impact of operations on regional employment, whilst the assessment of Norfolk Boreas identified a minor/ moderate beneficial impact.
- The socio-economics assessment of Sizewell C found that once it reaches steady state operations, Sizewell C has potential to support around 900 workers of which 700 are expected to be permanent staff and 200 contractors. Contractor support would increase by approximately 1,000 workers during each unit's refuelling/ maintenance outages (scheduled every 18-months).
- 249. Based on the assessment of the projects' impacts on operational economic impact and employment activity, the overall magnitude of effect created cumulatively by these projects and SEP and DEP is anticipated to be medium. This is primarily driven by employment at Sizewell C, which will more than double every 18-months or so.
- 250. With the sensitivity of the receptor assessed as high, and the magnitude of effect on O&M employment assessed as medium, the cumulative impact on the receptor is therefore assessed as **major beneficial**, which is considered to be significant in EIA terms.
- 251. It is assumed that the impact of increased economic activity generated as a result of the schemes identified is permanent, long-term and irreversible in nature.

27.7.3.3 Cumulative Impact 2a: Increased Employment at Construction

- 252. Section 27.7.3.1 above indicates that construction of SEP and DEP is likely to overlap only with the construction of the Hornsea Project Three, East Anglia TWO, East Anglia ONE north, East Anglia THREE, Norfolk Vanguard, Norfolk Boreas and Sizewell C projects. A review of the projects' assessment on the impact of construction on employment is outlined above, and ranges from minor to major beneficial. Based on this, the magnitude of effect is therefore assessed as high at the East Anglia level.
- 253. With the sensitivity of the receptor assessed as high, and the magnitude of effect assessed as high, the impact on the receptor is therefore assessed as **major beneficial**. This is considered to be significant in EIA terms.
- 254. It is assumed that the cumulative impact of increased employment resulting from construction of the identified schemes is temporary, short-term and irreversible in nature.



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27.7.3.4 Cumulative Impact 2b: Increased Employment during Operations Phase

- 255. The cumulative impact of O&M employment across all projects considered as part of the CIA is anticipated to be driven by the Sizewell C project. Once fully operational, Sizewell C is anticipated to support around 900 jobs, to which a further 1,000 temporary jobs will be added every 18-months to support refuelling and/ or maintenance activity. To this, several direct jobs supported by offshore wind farm projects need to be added, which are likely to add up to a few hundred jobs (but fewer than the direct jobs supported at Sizewell C).
- 256. On this basis, the overall magnitude of effect on employment during the projects' operational phase is therefore assessed as low.
- 257. With the sensitivity of the receptor assessed as high, and the magnitude of effect assessed as low, the impact on the receptor is therefore assessed as **moderate** beneficial. This is considered to be significant in EIA terms.
- 258. It is assumed that the impact of increased employment supported as a result of the schemes identified is permanent, long-term and irreversible in nature.

27.7.3.5 Cumulative Impact 3a: Change in Demographics during Construction

- Very few of the assessments reviewed as part of the CIA have considered the impact of change in demographics during construction. Based on the assessment of SEP and DEP, the magnitude of impact during the construction of East Anglia TWO, East Anglia ONE north and East Anglia THREE, Hornsea 3 and Norfolk Boreas could be expected to be negligible to low. Temporary (i.e. in-migrant) workers are likely to settle within close proximity of the selected construction port(s) and the onshore cable corridors.
- 260. The assessment of Sizewell C found that of the peak employment of 7,900 on-site jobs during construction, around 2,000 are likely to be taken up by home-based workers. The remaining 5,900 workers are anticipated to be non-home-based. The project's Accommodation Strategy set out that around 3,000 bedspaces could be made available in a bespoke worker campus and/ or caravan park located close to site. Ultimately this means that around 2,900 construction workers on the Sizewell C project will be required to be based either within formal (e.g. hotels and B&Bs) or latent (e.g. people's spare bedrooms) accommodation. Traditionally, non-home-based workers locate themselves within a 60-minute catchment of the site, which in the case of the Sizewell C project, this corresponds roughly with the Suffolk county boundary. The assessment found that, following mitigation, there were no significant accommodation effects.
- 261. Given the scale of the non-home-based workforce that is likely to locate within the East Anglia study area and the available accommodation base as set out in **Section 27.6.4.3**, the magnitude of effect on the receptor is therefore assessed as low.
- 262. The sensitivity of the receptor is assessed as medium and the magnitude of impact assessed as low. Where the effects of Sizewell C and SEP and DEP overlap, which is assumed to be the entire construction period of SEP and DEP, the effect of the projects identified as part of the CIA is therefore assessed as **minor adverse**. This is not considered to be significant in EIA terms.

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263. It is assumed that the change in demographics resulting from construction of the identified schemes is temporary, short-term and reversible in nature.

27.7.3.6 Cumulative Impact 3b: Change in Demographics during Operations Phase

- 264. Once operational, the overall level of employment supported by the projects identified as part of the CIA is anticipated to be substantially lower than that supported during their respective construction phases. Almost all assessments reviewed (with the exception of the socio-economic assessment of Sizewell C) exclude the assessment of the projects' impact on demographics during the operational phase.
- 265. However, given the nature of the operational phase, the magnitude of impact for all offshore wind farm projects considered (i.e. Hornsea Project Three, East Anglia ONE, East Anglia ONE North, East Anglia TWO, East Anglia THREE, Norfolk Vanguard and Norfolk Boreas) is anticipated to be negligible in nature.
- 266. Similarly, the socio-economics assessment of Sizewell C found that operation of the power station will have a negligible impact on community cohesion and integration at all levels assessed (i.e. including the project's 90-minute catchment area).
- 267. On this basis, the overall magnitude of effect on the receptor is therefore assessed as being negligible to low at the East Anglia level.
- 268. With the sensitivity of the receptor assessed as medium and the magnitude of effect assessed as negligible to low, the cumulative impact of the projects considered (including SEP and DEP) is therefore assessed as **minor adverse**. This is not considered to be significant in EIA terms.
- 269. It is assumed that the change in demographics as a result of the operation of the schemes identified is permanent, long-term and irreversible in nature.

27.7.3.7 Cumulative Impact 4a: Disturbance to Social, Community and Health Infrastructure during Construction

- 270. The impact of the proposed developments on social, community and health infrastructure is considered for Hornsea Project Three, Norfolk Boreas and Sizewell C projects. The socio-economics assessment for Norfolk Boreas identified a minor adverse impact on the receptor during construction. Whilst the receptor is not considered in the assessment of East Anglia TWO, THREE and ONE north offshore wind farms the overall impact could be expected to be of a similar nature, albeit smaller in magnitude (based on the difference in generating capacity between the two projects). The Hornsea Project Three assessment identified a negligible impact on the receptor during construction.
- 271. The socio-economics assessment of Sizewell C went into further detail and assessed the project's impacts on various indicators that comprise the receptor (such as pre-school, primary school and secondary school capacity, the provision of social services, County Council-run services, sports facilities, District Council services, policing services in addition to fire and rescue services). Overall, the assessment identified a negligible impact at the Suffolk and/ or district level(s), but minor adverse impact at the ward level.

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- 272. Whilst some disruption/ disturbance to social, community and health infrastructure could be expected, the impact is likely to be localised. Overall, the magnitude of the effect at the East Anglia level is therefore assessed as negligible.
- 273. With the sensitivity of the receptor assessed as medium, and the magnitude of effect assessed as negligible, the overall impact of the projects considered as part of the CIA (including SEP and DEP) during construction is therefore assessed as **minor adverse**. This is not considered to be significant in EIA terms.
- 274. It is assumed that the disturbance to social, community and health infrastructure resulting from construction of the identified schemes is temporary, short-term and reversible in nature.
- 27.7.3.8 Cumulative Impact 4b: Disturbance to Social, Community and Health Infrastructure during Operations Phase
- 275. The assessments for Hornsea Project Three, Norfolk Boreas and Sizewell C projects identify a negligible impact on social, community and health infrastructure during the projects' operational phase. As set out above, the impact of the East Anglia TWO, ONE north and THREE projects is anticipated to be of a similar nature to that identified for the Norfolk Boreas project, albeit a lower magnitude (based on the difference in size between the two projects).
- 276. On this basis, the overall magnitude of the impact on social, community and health infrastructure during the projects' operational phase (i.e. including SEP and DEP) is therefore assessed as negligible.
- 277. With the sensitivity of the receptor assessed as medium, and the magnitude of impact assessed as negligible, the overall impact of the CIA projects (including SEP and DEP) is therefore assessed as minor adverse. This is not considered to be significant in EIA terms.
- 278. It is assumed that the disturbance to social, community and health infrastructure as a result of operation of the schemes identified is permanent, long-term and irreversible in nature.
- 27.7.3.9 Cumulative Impact 5a: Visual Impact of Offshore Construction on Volume and Value of Tourism Activity
- 279. In the case of the visual impact of offshore infrastructure on the volume and value of tourism activity, the CIA has considered only the construction of offshore wind farms (and has therefore excluded Sizewell C). Of the five offshore wind farms which may overlap with the construction of SEP and/or DEP, only the East Anglia TWO and ONE north projects have considered the project's visual impact on tourism and recreation. The offshore construction of Hornsea Project Three is not expected to be visible from the North Norfolk Coast.
- 280. The assessment of East Anglia TWO and ONE North found that the project's construction will have a negligible impact on the volume and value of tourism activity, whereas East Anglia THREE found there to be minor adverse impacts on tourism and recreation from the offshore wind farm offshore infrastructure, but this considered a wider receptor by the inclusion of recreation in the assessment.





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- 281. This is in line with the evidence presented in this assessment, and as such the overall magnitude of the visual impact of offshore construction for all projects (including SEP and DEP) will cause no discernible change to the baseline volume and value of tourism activity and is therefore assessed as negligible.
- With the sensitivity of the receptor assessed as high, and the magnitude of impact identified as negligible, the overall impact of the CIA projects (including SEP and DEP) is therefore assessed as **minor adverse**. This is not considered to be significant in EIA terms.
- 283. It is assumed that the visual impact of offshore infrastructure construction on the volume and value of tourism activity is temporary, short-term and reversible in nature.
- 27.7.3.10 Cumulative Impact 5b: Visual Impact of Offshore Infrastructure on Volume and Value of Tourism Activity during Operations Phase
- 284. The construction and operation of East Anglia TWO, East Anglia THREE, Norfolk Boreas, Hornsea Project Three and SEP and DEP will see the development of a significant quantity of turbine generators that have potential to have a visual impact depending on the distance from shore to the wind farm location. Of all CIA projects considered, the closest wind turbines to the Norfolk coast will be those from SEP and DEP.
- 285. Based on the assessment above, whilst the two projects will be visible from across a wide area, the distance of the two wind farms from shore means that even on clear days, their turbines would be a very small addition on the horizon. Given their distance to the Norfolk coast, none of the turbines from the East Anglia TWO, Norfolk Boreas and Hornsea Project Three wind farms will be visible.
- 286. On this basis, the magnitude of the visual impact of offshore infrastructure of all projects considered (including SEP and DEP) is therefore assessed as negligible.
- 287. With the sensitivity of the receptor assessed as high and the magnitude of impact assessed as negligible, the impact of all projects considered as part of the CIA (including SEP and DEP) on the volume and value of tourism activity when operational is therefore assessed as **minor adverse**. This is not considered to be significant.
- 288. It is assumed that the visual impact of offshore infrastructure on the volume and value of tourism activity as a result of operation of the schemes identified is permanent, long-term and irreversible in nature.



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27.7.3.11 Cumulative Impact 6a: Impact of Onshore Construction on Volume and Value of Tourism Activity

- 289. The cumulative impact of onshore construction considers the interaction of construction activity. Overall, the onshore construction of the projects considered has potential to negatively impact upon assets that are of value to tourism activity within Norfolk, in particular those located within close proximity of the various offshore wind farm onshore cable corridors proposed. The cumulative impact of the various projects considered as part of the CIA on the onshore construction impact on Volume and Value of Tourism Activity on is likely to be limited only to where construction of the export cable corridor (ECC) overlaps. Where construction does not overlap the impacts would be much more localised and so are of less relevance.
- 290. This includes adverse impacts on walking and cycling routes, coastal paths, holiday parks and/ or other tourism-related assets, which are (however) likely to be mitigated by appropriate measures where required. Furthermore, please note that the impact of onshore construction will vary depending on the location of the assets considered, their respective sensitivity and contribution to local tourism activity.
- 291. The East Anglia TWO and East Anglia ONE north assessment has identified an overall negligible impact on tourism and recreation activity as a result of the project's construction activity, whilst East Anglia THREE identified an overall minor adverse impact on tourism and recreation facilities as a result of the project's construction activity. However, these wind farms ECC will not overlap with SEP and DEP's ECC.
- 292. Hornsea Project Three, Norfolk Vanguard Offshore Wind Farm and Norfolk Boreas Offshore Wind Farm overlap SEP and DEPs ECC. The assessment of SEP and DEP found that the residual magnitude of effect during construction will range from negligible (at landfall to the substation) to medium (for the area around the onshore substation). The assessment of Hornsea Project Three, Norfolk Vanguard and Norfolk Boreas identified an overall minor adverse impact on tourism and recreation facilities as a result of the project's onshore construction activity.
- 293. On this basis the overall magnitude of effect of onshore construction on the volume and value of tourism as a result of all projects considered is assessed as negligible to low.
- 294. The assessment of SEP and DEP indicates that the sensitivity of the receptor varies from high at landfall and the cable corridor within the North Norfolk AONB, which falls to medium along the onshore corridor and low around the onshore substation for connection to the National Grid. Similarly, the assessment of East Anglia TWO found that the overall sensitivity of the receptor ranges from low to medium and the assessment of East Anglia ONE North found the sensitivity of tourism and recreation disturbance to be low whereas the sensitivity of tourism and recreation facilities was found to be medium for East Anglia THREE. On this basis, the overall sensitivity of the receptor across the whole study area is assessed as medium.
- 295. With the sensitivity of the receptor assessed as medium, and the magnitude of effect assessed as negligible to low, the impact of onshore construction on the volume and value of tourism activity is therefore assessed as **minor adverse**.
- 296. It is assumed that the impact of onshore construction activity of the identified schemes is temporary, short-term and reversible in nature.



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27.7.3.12 Cumulative Impact 6b: Impact of Onshore Infrastructure on Volume and Value of Tourism Activity during Operations Phase

- 297. In general, the day-to-day operation of the CIA projects considered (including SEP and DEP) is not expected to impact upon onshore tourism activity. In the case of SEP and DEP there is no ongoing requirement for regular maintenance of the onshore cables following installation, however access to the onshore export cables would be required to conduct emergency repairs, if necessary. Access to each field parcel along the cable corridor would be from existing field entry points where possible or accessing the cable corridor from road crossings.
- 298. In most cases, the pre-construction conditions along the onshore cable corridor routes will be reinstated once construction is completed and all projects are operational. The key divergence to this will be the onshore substation required to connect each project to the National Grid, however their overall impact on the volume and value of tourism activity is anticipated to be limited, primarily due to the lack of tourism receptors located in close proximity to the substation.
- 299. On this basis, the magnitude of effect generated by all projects considered (including SEP and DEP) is therefore assessed as negligible.
- 300. With the sensitivity of the receptor assessed as high and the magnitude of effect assessed as negligible, the cumulative impact of onshore infrastructure on the volume and value of tourism activity is therefore assessed as **minor adverse**, which is not considered to be significant in EIA terms.
- 301. It is assumed that the visual impact of onshore infrastructure as a result of operation of the schemes identified is permanent, long-term and irreversible in nature.

27.7.3.13 Cumulative Impacts during Decommissioning

- 302. At present there is very little information about the approach to decommissioning of the projects considered as part of the CIA. This is, in part due to the different life cycle of each project (e.g. the operational life of a nuclear power station is substantially longer, often twice that of traditional offshore wind farms). As such, there is considerable uncertainty associated with the CIA of decommissioning activity.
- 303. For most projects, a Decommissioning Plan for each project considered will be implemented at or following DCO stage. In some cases, this requires decommissioning and removal of the onshore cables, whilst in other cases cables will be just de-energised. Please note that the detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and agreed with the regulator.
- 304. As such, the cumulative impacts during the decommissioning phase are assumed to be similar in nature to those identified during construction, and likely to be of lower magnitude and therefore significance.

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27.8 Inter-relationships

- 305. This section establishes the inter-relationships between socio-economics and tourism and other physical, environmental and human receptors. The objective is to identify where the accumulation of effects on a single receptor may result in the need for additional mitigation measures.
- 306. **Table 27.19** below summarises the inter-relationships that are considered of relevance to socio-economics and tourism, and identifies where these have been considered within this assessment.

Table 27.19: Socio-economics and Tourism Inter-relationships

Impact / Receptor	Related Chapter	Where	Rationale
,		Addressed in	
		this Chapter	
Construction			
Impact 1: Impact of Construction on the Economy	n/a	n/a	No additional inter-related effects on employment during construction have been identified that would change the standalone assessment from minor beneficial.
Impact 2: Increased Employment	n/a	n/a	No additional inter-related effects on employment during construction have been identified that would change the standalone assessment from minor beneficial.
Impact 3: Changes in Demographics	n/a	n/a	No additional inter-related effects on demographics during construction have been identified that would increase the standalone assessment from minor adverse (and not significant in EIA terms).
Impact 4: Disturbance to Social, Community and Healthcare Infrastructure	Chapter 22: Air Quality	See Sections 27.6 and 27.7of this assessment.	Potential impacts related to air quality have potential to impact on the area's community infrastructure. This is assessed in full within the
			Sections 27.6 and 27.7
	Chapter 24: Traffic and Transport	See Sections 27.6 and 27.7of this assessment.	Potential impacts on transport and traffic have potential to impact on the area's and community infrastructure. This is assessed in full within the Sections 27.6 and 27.7
	Chapter 23: Noise and Vibration	See Sections 27.6 and 27.7of this assessment.	Potential impacts related to noise and vibration have potential to impact on the area's community infrastructure. This is assessed in full within the Sections 27.6 and 27.7
Impact 5: Visual Impact of the Offshore Infrastructure on the	Chapter 25: Seascape and Visual Assessment	See Sections 27.6 and 27.7of this assessment.	The visual impact of SEP and DEP (both onshore and offshore infrastructure) has potential to affect the area's tourism economy.



Impact / Receptor	Related Chapter	Where	Rationale		
		Addressed in this Chapter			
Volume and Value of Tourism Activity	Chapter 26: Landscape and Visual Assessment	See Sections 27.6 and 27.7of this assessment.	This is assessed in full within the Sections 27.6 and 27.7		
Impact 6: Impact of the Onshore Construction on the Volume and Value of Tourism Activity	Chapter 24: Traffic and Transport	See Sections 27.6 and 27.7of this assessment.	Potential impacts on transport and traffic have potential to impact on the area's tourism economy. This is assessed in full within the Sections 27.6 and 27.7		
	Chapter 23: Noise and Vibration	See Sections 27.6 and 27.7of this assessment.	Potential impacts related to noise and vibration have potential to impact on the area's tourism economy. This is assessed in full within the Sections 27.6 and 27.7		
	Chapter 22: Air Quality	See Sections 27.6 and 27.7of this assessment.	Potential impacts related to air quality have potential to impact on the area's tourism economy. This is assessed in full within the Sections 27.6 and 27.7		
Operational					
Impact 1: Impact of Operation on the Economy	n/a	n/a	No additional inter-related effects on employment during operation have been identified that would change the standalone assessment from minor beneficial.		
Impact 2: Increased Employment	n/a	n/a	No additional inter-related effects on employment during operation have been identified that would change the standalone assessment from minor beneficial.		
Impact 3: Changes in Demographics	n/a	n/a	No additional inter-related effects on demographics during operation have been identified that would increase the standalone assessment from minor adverse (and not significant in EIA terms).		
Impact 4: Disturbance to Social, Community and Healthcare Infrastructure	Chapter 22: Air Quality	See Sections 27.6 and 27.7of this assessment	Potential impacts related to air quality have potential to impact on the area's tourism economy. This is assessed in full within the Sections 27.6 and 27.7		
	Chapter 23: Noise and vibration	See Sections 27.6 and 27.7of this assessment	Potential impacts related to noise and vibration have potential to impact on community infrastructure. This is assessed in full within the Sections 27.6 and 27.7		



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Impact / Receptor	Related Chapter	Where Addressed in this Chapter	Rationale		
	Chapter 24: Traffic and Transport	See Sections 27.6 and 27.7of this assessment	Potential impacts on transport and traffic have potential to impact on community infrastructure. This is assessed in full within the Sections 27.6 and 27.7		
Impact 5: Visual Impact of the Offshore Infrastructure on the Volume and Value of	Chapter 25: Seascape and Visual Assessment	See Sections 27.6 and 27.7 of this assessment.	The visual impact of SEP and DEP (both onshore and offshore infrastructure) has potential to affect the area's tourism economy.		
Tourism Activity	Chapter 26: Landscape and Visual Assessment	See Sections 27.6 and 27.7of this assessment.	This is assessed in full within the Sections 27.6 and 27.7		
Impact 6: Impact of the Onshore Infrastructure on the Volume and Value of Tourism Activity	Chapter 23: Noise and vibration	See Sections 27.6 and 27.7of this assessment	Potential impacts related to air quality have potential to impact on the area's tourism economy. This is assessed in full within the Sections 27.6 and 27.7		
	Chapter 23: Noise and vibration	See Sections 27.6 and 27.7of this assessment	Potential impacts related to noise and vibration have potential to impact on the area's tourism economy. This is assessed in full within the Sections 27.6 and 27.7		
	Chapter 24: Traffic and Transport	See Sections 27.6 and 27.7of this assessment	Potential impacts on transport and traffic have potential to impact the area's tourism economy.		
	Chapter 25: Seascape and Visual Impact Chapter 26: Landscape and Visual Impact	See Sections 27.6 and 27.7of this assessment. See Sections 27.6 and 27.7of this assessment.	The visual impact of SEP and DEP (both onshore and offshore infrastructure) has potential to affect the area's tourism economy. This is assessed in full within the Sections 27.6 and 27.7		
Decommissioning	Chapter 23: Air Quality	See Sections 27.6 and 27.7of this assessment	Potential impacts related to air quality have potential to impact on the area's tourism economy. This is assessed in full within the Sections 27.6 and 27.7		

Decommissioning

Impacts associated with the decommissioning phase would be no greater than those identified for the construction phase

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27.9 **Interactions**

Classification: Open

- 307. The impacts identified and assessed in this chapter have the potential to interact with each other. The areas of potential interaction between impacts are presented in Table 27.20. This provides a screening tool for which impacts have the potential to interact. Table 27.21 provides an assessment for each receptor (or receptor group) as related to these impacts.
- 308. Within Table 27.21 the impacts are assessed relative to each development phase (Phase assessment, i.e. construction, operation or decommissioning) to see if (for example) multiple construction impacts affecting the same receptor could increase the level of impact upon that receptor. Following this, a lifetime assessment is undertaken which considers the potential for impacts to affect receptors across all development phases.

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Table 27.20: Interaction Between Impacts - Screening

Potential Interaction between Impacts

Construction and Operation

	Impact 1: Impact on the Economy	Impact 2: Increased Employment	Impact 3: Changes in Demographics	Impact 4: Disturbance to Social, Community and Healthcare Infrastructure	Impact 5: Visual Impact of the Offshore Infrastructure on the Volume and Value of Tourism Activity	Impact 6: Impact of the Onshore Construction/Infrastructure on the Volume and Value of Tourism Activity
Impact 1: Impact on the Economy	-	Yes	No	No	Yes	Yes
Impact 2: Increased Employment	Yes	-	No	Yes	No	No
Impact 3: Changes in Demographics	No	No	-	Yes	No	No
Impact 4: Disturbance to Social, Community and Healthcare Infrastructure	No	Yes	Yes	-	No	No
Impact 5: Visual Impact of the Offshore Infrastructure on the Volume and Value of Tourism Activity	Yes	No	No	No	-	Yes
Impact 6: Impact of the Onshore Construction/ Infrastructure on the Volume and Value of Tourism Activity	Yes	No	No	No	Yes	-

Decommissioning

It is anticipated that the impacts associated with decommissioning of SEP and DEP will be similar in nature to those identified for the construction phase of SEP and DEP.

Classification: Open Status: Final



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Table 27.21: Interaction Between Impacts – Phase and Lifetime Assessment

Receptor	Highest Significan	ce Level				
	Construction	Operation	Decommissioning	Phase Assessment	Lifetime Assessment	
Impact on the economy			Negligible	No greater than individually assessed impact Investment will generate benefits at all levels of the economy (i.e. East Anglia and nationally)	No greater than individual assessed impact Under the concurrent operation scenario (i.e. either through concurrent or sequential operation) it is estimated that SEP and DEP will generate up to around £450 million GVA at the East Anglia level, and up to £800 million GVA nationally.	
Increased employment			Negligible	No greater than individually assessed impact Employment opportunities will create benefit at all levels (i.e. East Anglia and nationally)	No greater than individual assessed impact Although there will be benefits created at each stage, different groups will be employed at different stages. The bulk of the employment created/ supported will be during construction (and to a lesser extent at decommissioning).	
Volume and value of tourism (onshore and offshore infrastructure)	Negligible	Negligible	Negligible	No greater than individually assessed impact Impacts will be localised primarily to North Norfolk coast and along the onshore corridor.	No greater than individual assessed impact Most of the disturbance to the volume and value of tourism activity, is anticipated to occur at construction phase. The impacts of decommissioning will be of a similar, albeit lower nature	



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27.10 Potential Monitoring Requirements

309. No monitoring requirement has been identified for socio-economics and tourism.

27.11 Assessment Summary

- 310. This chapter has provided a characterisation of the existing environment for socioeconomics and tourism based on existing data, which has established that there will be a range of residual impacts on socio-economics and tourism during construction, operation and decommissioning phases of SEP and DEP.
- 311. Potential impacts for the proposed SEP and DEP are summarised in **Table 27.22**. This shows that East Anglia and the UK has the potential to benefit through increased employment opportunities and direct economic benefit.
- 312. A number of minor adverse impacts were found, this is not significant in ES terms. No significant adverse impacts were identified on socio-economics and tourism in the cumulative impact assessment.

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Table 27.22: Summary of Potential Impacts on Socio-Economics and Tourism

Potential impact	Receptor	Sensitivity	Magnitude	Pre-Mitigation Impact	Mitigation Measures Proposed	Residual Impact	Cumulative Residual Impact
Construction							
1. Impact on the economy	Economy	High	Negligible (both UK and East Anglia)	Minor beneficial (both UK and East Anglia)	n/a	Minor beneficial (both UK and East Anglia)	Major beneficial
2. Increased employment	Economy	High	Negligible (both UK and East Anglia)	Minor beneficial (both UK and East Anglia)	n/a	Minor beneficial (both UK and East Anglia)	Major beneficial
3. Change in demographics	Population	Medium	Negligible	Minor adverse	n/a	Minor adverse	Minor adverse
4. Disturbance to social, community and health infrastructure	Social, community and health infrastructure	Medium	Low	Minor adverse	n/a	Minor adverse	Minor adverse
5. Visual impact of offshore infrastructure on volume and value of tourism activity	Tourism activity	High	Negligible	Minor adverse	n/a	Minor adverse	Minor adverse
6. Impact of onshore construction on volume and value of tourism activity	Tourism activity	Landfall and cable corridor within the North Norfolk AONB – High Onshore corridor – Medium Onshore substation – Low	Landfall and cable corridor within the North Norfolk AONB – Low Onshore corridor – Negligible Onshore substation – Low	Minor adverse	n/a	Minor adverse	Minor adverse
Operation					'	•	
1. Impact on the economy	Economy	High	Negligible (both UK and East Anglia)	Minor beneficial (both UK and East Anglia)	n/a	Minor beneficial (both UK and East Anglia)	Major beneficial



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Potential impact	Receptor	Sensitivity	Magnitude	Pre-Mitigation Impact	Mitigation Measures Proposed	Residual Impact	Cumulative Residual Impact
2. Increased employment	Economy	High	Negligible (both UK and East Anglia)	Minor beneficial (both UK and East Anglia)	n/a	Minor beneficial (both UK and East Anglia)	Moderate beneficial
3. Change in demographics	Population	Medium	Negligible	Minor adverse	n/a	Minor adverse	Minor adverse
4. Disturbance to social, community and health infrastructure	Social, community and health infrastructure	Medium	Negligible	Minor adverse	n/a	Minor adverse	Minor adverse
5. Visual impact of offshore infrastructure on volume and value of tourism activity	Tourism activity	High	Negligible	Minor adverse	n/a	Minor adverse	Minor adverse
6. Impact of onshore construction on volume and value of tourism activity	Tourism activity	Landfall and cable corridor within the North Norfolk AONB – High Onshore corridor – Medium Onshore substation – Low	Landfall and cable corridor within the North Norfolk AONB – Negligible Onshore corridor – Negligible Onshore substation – Medium	Minor adverse	n/a	Minor adverse	Minor adverse

Decommissioning

Given the uncertainty associated with the approach to decommissioning and the position of the sector nationally and locally, it is not possible to undertake a detailed assessment of this phase. Decommissioning activities of SEP and DEP are anticipated to be similar to, but no worse than the impacts identified during the construction phase.

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