East Anglia TWO Offshore Windfarm

Chapter 30

Tourism, Recreation and Socio-Economics

Environmental Statement
Volume 1

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Glossary of Acronyms

AONB	Area of Outstanding Natural Beauty
BEIS	Department for Business, Energy and Industrial Strategy
BOAT	Byway Open to All Traffic
BTEC	Business and Technology Education Council
CIA	Cumulative Impact Assessment
CfD	Contracts for Difference
cSAC	candidate Special Areas of Conservation
DCLG	Department for Communities and Local Government
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DMO	Destination Management Organisation
EEA	European Economic Area
EEEGR	East of England Energy Group
EIA	Environmental Impact Assessment
ES	Environmental Statement
ESC	East Suffolk Council
ETG	Expert Topic Group
EU	European Union
FTE	Full Time Equivalent jobs per year
FTE Year	Full Time Equivalent jobs over the duration of the project
GSS	Government Statistical Service
GVA	Gross Value Added
GW	Gigawatt
HDD	Horizontal Directional Drilling
IAIA	International Association for Impact Assessment
IEMA	Institution of Environmental Management and Assessment
IMD	Indices of Multiple deprivation
IOI	Intervention or Investment
IRTS	International Recommendations on Tourism Statistics
JSA	Jobs Seekers Allowance
km	Kilometre
LEP	Local Enterprise Partnership
LPA	Local Planning Authority
LSOA	Lower Super Output Area
MoU	Memorandum of Understanding
MSOA	Middle Super Output Area
NALEP	New Anglia LEP
NCTA	National Coastal Tourism Academy
NOMIS	NOMIS – a branch of ONS where the acronym has been dropped
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
NUTS	Nomenclature of Territorial Units for Statistics
NVQ	National Vocational Qualifications

O&M	Operation and Maintenance
OCoCP	Outline Code of Construction Practice
ONS	Office for National Statistics
OPRoWS	Outline Public Rights of Way Strategy
PEIR	Preliminary Environmental Information Report
PID	Public Information Day
PRoW	Public Right of Way
Q	Quarter
SAC	Special Area of Conservation
SCC	Suffolk County Council
SCI	Sites of Community Importance
SCDC	Suffolk Coastal District Council
SIC	Standard Industrial Classification
SoC	Secretary of State
SPA	Special Protection Area
SPR	ScottishPower Renewables
STEM	Science, Technology, Engineering, and Maths
UK	United Kingdom
UNWTO	United Nations World Tourism Organisation
WDC	Waveney District Council

Glossary of Terminology

Applicant	East Anglia TWO Limited.
Cable sealing end compound	A compound which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation.
Cable sealing end (with circuit breaker) compound	A compound (which includes a circuit breaker) which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation.
Construction consolidation sites	Compounds associated with the onshore works which may include elements such as hard standings, lay down and storage areas for construction materials and equipment, areas for vehicular parking, welfare facilities, wheel washing facilities, workshop facilities and temporary fencing or other means of enclosure.
Development area	The area comprising the onshore development area and the offshore development area (described as the 'order limits' within the Development Consent Order).
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
European site	Sites designated for nature conservation under the Habitats Directive and Birds Directive, as defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017 and regulation 18 of the Conservation of Offshore Marine Habitats and Species Regulations 2017. These include candidate Special Areas of Conservation (cSAC), Sites of Community Importance (SCI), Special Areas of Conservation (SAC) and Special Protection Areas (SPA).
FTE	Full Time Equivalence is the number of jobs that would be sustained if all of the people were employed full time for a defined period of time. This assessment uses one year as the standard period of time. For example: if 20 people worked for half a year each that would be equivalent to 10 full time jobs – 10 FTE. Whereas is 10 people worked full time for a year that would still be 10 FTE.
FTE Year	Full Time Equivalent years is the sum of FTE per year over the duration of a project. If a project had an annual FTE of 10 for 5 years then it would sustain 50 FTE Years. This is an important concept when calculating regional value as a high employment for a short term could have the same number of FTE Years as a low employment over a long term.
Gross Domestic Product (GDP)	A measure of the total value of market goods produced and services provided in the country in one year. It should be noted that GDP was developed to measure the market production of a nation and, as such, does not capture the value from non-market goods such as services provided by nature and non-salaried services provided by households.

Gross Value Added (GVA)	A measure of the value of goods and services produced in an area, industry or sector of an economy. It is a component of GDP growth and, similarly, does not capture value added from non-market goods such as services provided by nature and non-salaried services provided by households.
Horizontal directional drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
HDD temporary working area	Temporary compounds which will contain laydown, storage and work areas for HDD drilling works.
Jointing bay	Underground structures constructed at intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables.
Link boxes	Underground chambers within the onshore cable route housing electrical earthing links.
Local Enterprise Partnerships (LEPs)	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.
Lower Super Output Areas (LSOAs) and Middle Super Output Areas (MSOAs)	LSOAs and MSOAs are a geographic hierarchy designed to improve the reporting of small area statistics in England and Wales following the 2001 Census. These are built from groups of contiguous Output Areas and have been automatically generated by the Office for National Statistics. LSOAs have a population of 1,000 to 3,000 and from 400 to 1,200 households. MSOAs have a population of 5,000 to 15,000 and from 2,000 to 6,000 households.
Mitigation areas	Areas captured within the onshore development area specifically for mitigating expected or anticipated impacts.
National electricity grid	The high voltage electricity transmission network in England and Wales owned and maintained by National Grid Electricity Transmission
National Grid infrastructure	A National Grid substation, cable sealing end compounds, cable sealing end (with circuit breaker) compound, underground cabling and National Grid overhead line realignment works to facilitate connection to the national electricity grid, all of which will be consented as part of the proposed East Anglia TWO project Development Consent Order but will be National Grid owned assets.
National Grid overhead line realignment works	Works required to upgrade the existing electricity pylons and overhead lines (including cable sealing end compounds and cable sealing end (with circuit breaker) compound) to transport electricity from the National Grid substation to the national electricity grid.
National Grid overhead line realignment works area	The proposed area for National Grid overhead line realignment works.
National Grid substation	The substation (including all of the electrical equipment within it) necessary to connect the electricity generated by the proposed East Anglia TWO

	project to the national electricity grid which will be owned by National Grid but is being consented as part of the proposed East Anglia TWO project Development Consent Order.
National Grid substation location	The proposed location of the National Grid substation.
Natura 2000 site	A site forming part of the network of sites made up of Special Areas of Conservation and Special Protection Areas designated respectively under the Habitats Directive and Birds Directive.
New Anglia LEP	New Anglia Local Enterprise Partnership which works with businesses, local authority partners and education institutions across the counties of Norfolk and Suffolk.
Nomenclature of Territorial Units for Statistics	Nomenclature of Territorial Units for Statistics (NUTS) are statistical divisions of areas of the United Kingdom (UK) based on population. Within the UK, NUTS1 is generally regional. NUTS2 is generally at a county level. NUTS3 is generally at a grouped local authority and district level.
Non-market goods	Most environmental goods and services, such as clean air and water, and healthy fish and wildlife populations, are not traded in markets. Their economic value (i.e. how much people would be willing to pay for them) and societal value (i.e. how much they contribute to society) is not captured in market prices.
Onshore cable corridor	The corridor within which the onshore cable route will be located.
Onshore cable route	This is the construction swathe within the onshore cable corridor which would contain onshore cables as well as temporary ground required for construction which includes cable trenches, haul road and spoil storage areas.
Onshore cables	The cables which would bring electricity from landfall to the onshore substation. The onshore cable is comprised of up to six power cables (which may be laid directly within a trench, or laid in cable ducts or protective covers), up to two fibre optic cables and up to two distributed temperature sensing cables.
Onshore development area	The area in which the landfall, onshore cable corridor, onshore substation, landscaping and ecological mitigation areas, temporary construction facilities (such as access roads and construction consolidation sites), and the National Grid Infrastructure will be located.
Onshore infrastructure	The combined name for all of the onshore infrastructure associated with the proposed East Anglia TWO project from landfall to the connection to the national electricity grid.
Onshore preparation works	Activities to be undertaken prior to formal commencement of onshore construction such as pre–planting of landscaping works, archaeological investigations, environmental and engineering surveys, diversion and laying of services, and highway alterations.
Onshore substation	The East Anglia TWO substation and all of the electrical equipment within the onshore substation and connecting to the National Grid infrastructure.
Onshore substation location	The proposed location of the onshore substation for the proposed East Anglia TWO project.

Productivity	Productivity is an economic measure of output per unit of input. Inputs include labour and capital, while output is typically measured in revenues and other gross domestic product components such as business inventories.
Transition bay	Underground structures at the landfall that house the joints between the offshore export cables and the onshore cables.

30Tourism, Recreation and Socio-Economics

30.1 Introduction

1. This chapter of the Environmental Statement (ES) presents the assessment of socio-economic, tourism, and recreation effects for the proposed East Anglia TWO project. The approach to the assessment uses the project design as currently defined in ***Chapter 6 Project Description*** to provide the basis of analysis. The worst case parameters have been defined in ***section 30.3.2*** following this project design. This chapter was produced by Royal HaskoningDHV.

2. ***Chapter 2 Need for the Project*** highlights the national benefits of the proposed East Anglia TWO project. In accordance with the Overarching National Policy Statement for Energy (EN-1) (Department of Energy and Climate Change (DECC 2011), this ES chapter describes the potential for impacts relating to:

   - The creation of employment and training opportunities;
   - The tourism and hospitality economy; and
   - Effects to tourism and recreational assets.

3. Potential impacts are considered during construction and operation. Decommissioning impacts are assumed to be similar to construction impacts.

4. Impacts to the local population are considered in detail in ***Chapter 27 Human Health***. This includes both a consideration of changes to public health and the wellbeing of the local population, in line with the World Health Organisation definition of health. In combination, this chapter and ***Chapter 27 Human Health*** respond to the updated requirements of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 to consider significant effects to population and human health.

5. The socio-economic baseline has been developed as a framework using the Sustainable Livelihoods Approach. Recognised as a key concept for social impact assessment by the International Association for Impact Assessment (IAIA) (Vanclay 2015) and further developed in relation to the context of the UK by the Social Impact Taskforce of the Government Economic Services (Harper and Price 2011).

6. The tourism and hospitality economy is a valuable part of the wider economy (Office for National Statistics (ONS) 2011b) and as such the effects have been considered as part of the socio-economic assessment.

30.2 Consultation

7. Consultation is a key feature of the Environmental Impact Assessment (EIA), and is an ongoing process throughout the lifecycle of a project, from the initial stages through to consent and post-consent.

8. To date, consultation with regards to tourism, recreation and socio-economics has been undertaken through the East Anglia TWO Scoping Report (SPR 2017) and the Preliminary Environmental Information Report (PEIR) (SPR 2019) and Expert Topic Group (ETG) consultation meetings held in June 2018 and January 2019, Feedback received through this process has been considered in preparing the ES where appropriate and this chapter has been updated for the final assessment submitted with the Development Consent Order (DCO) application. The responses received from stakeholders with regards to the Scoping Report, PEIR, as well as feedback to date from the tourism, recreation and socio-economics ETG, are summarised in ***Appendix 30.1***, including details of how these have been taken account of within this chapter.

9. Ongoing public consultation has been conducted through a series of Public Information Days (PIDs) and Public Meetings. PIDs have been held throughout Suffolk in November 2017, March 2018, June / July 2018 and February / March 2019. A series of stakeholder engagement events were also undertaken in October 2018 as part of phase 3.5 consultation. Details of the consultation phases are discussed further in ***Chapter 5 EIA Methodology***. ***Table 30.1*** summarises public consultation comments pertaining to tourism, recreation and socio-economics. Full details of the proposed East Anglia TWO project consultation process are presented in the Consultation Report (document reference 5.1), which is provided as part of the DCO application.

Table 30.1 Public Consultation Responses relevant to Tourism, Recreation and Socio-Economics

Topic	Response / where addressed in the ES
Phase 1	
• Impact of substation affecting local housing and quality of life • Safety and security concerns • Impacts on tourism • Knodishall Common is very important to the local community at Knodishall	Impacts on tourism are assessed in ***section 30.6.1.3*** and ***30.6.1.4*** Impacts on Common land are assessed in ***Chapter 21 Land Use*** Quality of life issues are covered in ***Chapter 27 Human Health***

Topic	Response / where addressed in the ES
Phase 2	
• Impacts on tourism and recreation (in both construction and operation phases) • Impacts upon tourist accommodation at Aldeburgh • Impacts upon tourist accommodation at Thorpeness • Concern over reduced quality of life for Friston residents, • Access to footpaths/bridleway diversion or closure • Impacts on Aldringham Court nursing home • Impacts due to construction workers and activities • Implications of the proposed substation on selling land. • Economic impacts on fishing, holiday trade and farming • Compensation payments for adverse impacts • Consideration of an environmental mitigation fund to be available to affected local communities • Concerns over buying property in Aldringham due to the project • Concerns over impacts on property prices due to substations	Impacts on tourism are assessed in ***section 30.6.1.3*** and ***30.6.1.4*** Economic impacts are assessed in ***section 30.6*** Quality of life issues are covered in ***Chapter 27 Human Health***
Phase 3	
• Development at the Grove Wood site will cause disruption and damage to tourism which is vital to the local economy; • Impacts on holiday lets and social events • Impacts of onshore cable corridor and pylon re-alignment on pheasant shoot at Blackheath Farms; • Reduced tourism and economic implications • Increased traffic impacting tourism and local amenities • Impacts on recreational activities such as walking, cycling, carnival, golf etc. • Impacts on Friston and surrounding environment, including villages along cable route • Impacts on rural environment • Local community benefit projects e.g. Leiston Football Club, Pro Corda • Support future coastal defence work as mitigation • Impacts on public footpaths (Sandlings Way, Fitches Lane, Suffolk Coastal Path, between Sizewell and	Impacts on tourism (and therefore the local economy) are assessed in ***section 30.6.1.3*** and ***30.6.1.4*** Economic impacts are assessed in ***section 30.6*** Traffic impacts are assessed in ***Chapter 26 Traffic and Transport*** Impacts on Public Rights of Way (PRoWs) are considered in ***section 30.6.1.4.2.1*** Impacts due to chemical leakage are assessed in ***Chapter 18 Ground Conditions and Contamination*** Impacts related to flood risk are assessed in ***Chapter 20 Water Resources and Flood Risk***

Topic	Response / where addressed in the ES
Thorpeness, north of Friston Parish Church, High House Farm, circular walk around proposed site) • Implications for Benhall and Saxmundham outlined in the SCDC local plan • Compensation for adverse impacts • Dropping house prices • Loss of value to property and farming land • Post-construction economic benefits to local communities • Impacts on farming • Only short term construction jobs created • Impact of cable corridor on local businesses • Impacts on local economy/small businesses from noise/reduced visitors to area • Flood risk and home insurance • Safety and security at the substation • Fire risk concerns in close proximity to village • Chemical spill concerns	
Phase 3.5	
• Development should not deter people from visiting Aldborough and Thorpeness • Tourism main source of income • Traffic on Aldeburgh Road will affect tourism • Impact on tourism in Aldeburgh • Heavy reliance on tourism • Impact on local economy • Impact on local services such as medical, fire, police and lifeboat • Impacts on businesses around the landfall	Impacts on tourism (and therefore the local economy) are assessed in ***section 30.6.1.3*** and ***30.6.1.4*** Economic impacts are assessed in ***section 30.6***
Phase 4	
• Impacting Area of Outstanding Natural Beauty (AONB) and Sandlings will impact tourism • Impacts on hotels, holiday rentals, shops and restaurants • Impacts on footpaths such as the Sandlings Way and Coastal Path • Economy reliant on tourism impacted	Impacts on tourism and recreation, including consideration of the AONB and Sandlings SPA, are given in ***section 30.6.1.4*** Impacts on tourism (and therefore the local economy) are assessed in ***section 30.6.1.3*** and ***30.6.1.4*** Impacts on footpaths and PRoW are given in ***section 30.6.1.4.2.1***

Topic	Response / where addressed in the ES
• Impacts on the local economy • Need details on compensation	Economic impacts are assessed in ***section 30.6***

30.3 Scope

30.3.1 Study Area

10. The assessment uses two study areas as agreed with stakeholders at the ETG and in the method statement. These reflect the pathway of effect as shown in ***section 30.3.1.1***.

30.3.1.1 Economic Study Area

11. The economic study area falls within the geography covered by the New Anglia Local Enterprise Partnership (NALEP)[1] with particular focus on the local authorities of Suffolk County, East Suffolk, Ipswich and Great Yarmouth. Suffolk Coastal District Council and Waveney District Council merged to form the East Suffolk Council on 01/04/2019. The majority of the local plans and datasets available for this area however, are still presented separately as Suffolk Coastal and Waveney and as such, the assessment may refer to either East Suffolk or Suffolk Coastal and Waveney as appropriate.

12. This study area was defined by the 60-minute travel to work radius for residential workers identified in ***Chapter 26 Traffic and Transport*** which shows that the most likely origin of residential workers is Ipswich, Lowestoft and Great Yarmouth, travelling to work along the A12. However, the supply chain that supports the construction and operation would include the entire NALEP area due to the wider development of the offshore wind industry in the region.

13. At this stage, it is not possible to identify the exact location of the entire supply chain for the offshore windfarm at a national level because the supply contracts have not been agreed. Therefore, a probabilistic assessment of supply from the NALEP area is included.

30.3.1.2 Tourism and Recreation Study Area

14. During construction, the potential for visitors to tourism and recreational assets to be affected would be limited to the following buffer zone around the onshore development area:

- Direct impact – within the onshore development area;
- Indirect impacts:

[1] The New Anglia LEP includes the counties of Norfolk and Suffolk

- Noise – generally within 1km of the onshore development area and as defined in ***Chapter 25 Noise and Vibration***;
- Visual – within 1km of the substation with varying short term impacts along the onshore cable corridor, as defined in ***Chapter 29 Landscape and Visual Impact***, and windfarm visual impacts for only 15-33% of the year during periods of high visibility as defined in ***Chapter 28 Seascape, Landscape and Visual Impact***;
- Dust – generally within 200m of the onshore development area and as defined in ***Chapter 19 Air Quality***;
- Traffic obstruction – the onshore highway study area divided into 15 highway sections (links) as defined in ***Chapter 26 Traffic and Transport (see Figure 26.1)***; and
- Water sports obstruction – considered with regards to study areas / receptors covered in ***Chapter 8 Water and Sediment Quality*** (coastal water quality) and the impacts to recreational navigation in ***Chapter 14 Shipping and Navigation***.

15. It should be noted that the majority of tourism and recreation receptors are located beyond this buffer zone. Within the buffer zone there is a low density of receptors that could potentially be affected.

16. There is potential for the tourism and hospitality economies to be affected by non-residential workers. The study area is defined by the 45-minute travel to work radius for non-residential workers staying in temporary accommodation. This is identified in ***Chapter 26 Traffic and Transport***.

17. During the offshore windfarm's operation, the potential effect is driven mainly by the visual change to the seascape. The study area is defined by the visual impacts defined in ***Chapter 28 Seascape, Landscape and Visual Amenity***.

30.3.2 Worst Case Scenarios

18. This section identifies realistic worst case parameters associated with the proposed East Anglia TWO project alone. This includes all onshore infrastructure for the proposed East Anglia TWO project and the National Grid infrastructure that the proposed East Anglia TWO project will require for ultimate connection to national electricity grid.

19. ***Chapter 6 Project Description*** details the project parameters using the Rochdale Envelope approach for the ES.

20. ***Table 30.2*** identifies those realistic worst case parameters of the infrastructure that are relevant to construction, operation and decommissioning phases of the

proposed East Anglia TWO project. Please refer to ***Chapter 6 Project Description*** for more detail regarding specific actvities, and their durations, which fall within the construction phase.

21. As described in ***Chapter 5 EIA Methodology,*** there are two co-located onshore substation locations for either the proposed East Anglia TWO project or the proposed East Anglia ONE North project. It should be noted that the draft DCOs for both the proposed East Anglia TWO and East Anglia ONE North projects have the flexibility for either project to use either onshore substation location. There is no difference in the scoped in and assessed impacts between the two onshore substation locations, therefore the 'project alone' assessment in ***section 30.6,*** and associated chapter figures***,*** have been presented on the intended development strategy of the proposed East Anglia TWO project using the eastern onshore substation location.

Table 30.2 Realistic Worst Case Assumptions

Impact	Parameter	Notes
Construction		
Onshore	Size of employment opportunity. Residual magnitude of determinants. Duration of construction phase. Travel to work times	It is assumed that the onshore construction would take three years, with two years of intensive construction and one year of commissioning. Employment on site over this period would equate to 502 Full Time Equivalent Years (FTE years). Indirect and induced employment multipliers have been calculated based on the supply chain assessment for East Anglia ONE. These are 1.31 for indirect and 1.21 for induced at a regional scale. If the labour market is considered to be more local the multipliers are reduced by 0.05 to reflect the smaller scale. Residual magnitudes for the determinants listed in ***section 30.6.1.4*** are based on relevant chapters and it is assumed that all relevant mitigation measures would be implemented. It is assumed that residential workers would travel up to 60 minutes to work whereas non-residential workers would prefer to stay in accommodation 45 minutes from work. This means that direct employment for residential workers would extend along the A12 to Great Yarmouth and Ipswich. However, it is assumed that much of the indirect and induced employment could be supplied from the NALEP region.
Offshore	Size of employment opportunity. Duration of construction phase.	Offshore employment and the supply chain to support the proposed East Anglia TWO project has been estimated using a supply chain assessment for East Anglia ONE. This assumes that direct employment would generate between 500 Full Time Equivalent Jobs (FTE) and 1,500 FTE in the UK. Full time equivalent jobs are not permanent full time jobs as defined in section 30.4.2.5, rather a calculated equivalent used to make employment comparisons.

Impact	Parameter	Notes
		To reduce this to a regional estimate a probabilistic approach has been taken based on current availability of relevant businesses in NALEP. It is assumed that the proposed East Anglia TWO project would operate for at least 25 years (25 years is therefore taken as the worst case as any greater period would increase positive effects)
Operation		
Onshore	Size of employment opportunity. Duration of operation phase	Offshore employment and the supply chain to support the proposed East Anglia TWO project has been estimated using a supply chain assessment for East Anglia ONE. This assumes that the proposed East Anglia TWO project direct employment would generate between 100 FTE and 300 FTE in the UK. It is assumed that the majority of this would be procured from the NALEP region. It is assumed that the proposed East Anglia TWO project would operate for at least 25 years (25 years is therefore taken as the worst case as any greater period would increase positive effects).
Offshore	Location of offshore wind farm.	The offshore wind turbines would be approximately 32.6km at the closest point to shore and therefore visible from multiple locations. It is also assumed that variety of national studies used ensures that the data is representative of visitors to the East Anglia coast.
Decommissioning		
No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the recruitments of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. 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. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase.		

30.3.3 Enhancements and Mitigations

22. Potential socio-economic impacts can be both beneficial or negative therefore both mitigation and enhancement measures need to be considered where appropriate. This section summarises these project commitments with regards the potential impacts outlined in ***Table 30.45***.

30.3.3.1 Skills and Training Enhancement

23. The Applicant is in the process of developing several windfarms off the coast of Suffolk. A Skills Strategy was formally agreed with Suffolk County Council (SCC) as a planning condition for East Anglia TWO.

24. The parties have agreed that the previously agreed planning condition and East Anglia ONE Skills Strategy could be more effectively delivered in a more collaborative and less transactional way. This would allow both parties to promote Science, Technology, Engineering, and Mathematics (STEM) career opportunities in the offshore wind sector.

25. The partnership agreement has been formalised in a non-legally binding Memorandum of Understanding (MoU) between SCC and the Applicant. The MoU states that both parties will work together to achieve the following aims:

- Promote **employment and re-skilling** opportunities in the communities most closely associated with the projects and support people into long term, sustainable employment;
- Focus on **informing and inspiring teachers**, **students** and those that support the education infrastructure at all levels of participation to encourage people into careers in the energy sector and related industries;
- Make best use of existing local and national education and skills infrastructures and add value to these where appropriate;
- Utilise the Applicant's existing **parent company skills** programmes where and when possible and appropriate; and
- Work in **collaboration with the associated supply chain and contracted partners** to maximise the benefit of education, skills and employment interventions to the majority of the workforce.

26. The implementation of this MoU has created the skills environment required for the proposed East Anglia TWO project.

30.3.3.2 Supply Chain Plan

27. To participate in the Contracts for Difference (CfD) scheme applicants must demonstrate that they have an approved Supply Chain Plan for the project they intend to build. The aim of the Supply Chain Plan is described in published guidance from the Department of Business, Energy and Industrial Strategy (BEIS) (BEIS 2019). The applicant must submit and receive written approval of the Supply Chain Plan from BEIS before it can enter into a CfD scheme.

28. The Government will assess the extent to which plans:

- Support the development of competition in supply chains;
- Support innovation in supply chains; and
- Support the development of skills in supply chains.

29. If a project is successful in the CfD scheme then the Supply Chain Plan will be monitored by BEIS. This will include gathering evidence relating to the delivery of commitments and/or actions identified in the Supply Chain Plan. Monitoring will be conducted through quarterly meetings by BEIS. In addition to this the developer will submit a Post Build Report approximately three months after the first CfD payment is received. The Post Build Report will provide a written update on all commitments and/or actions in the Supply Chain Plan. Therefore, project level planning intervention is not required

30.3.3.3 Embedded Mitigation and Best Practice

30. The proposed East Anglia TWO project has committed to a number of techniques and engineering designs/modifications inherent as part of the proposed East Anglia TWO project, during the pre-application phase, in order to avoid a number of impacts or reduce impacts as far as possible. Embedding mitigation into the proposed East Anglia TWO project design is a type of primary mitigation and is an inherent aspect of the EIA process. Aspects of this relevant to tourism and recreation effects are discussed in ***Table 30.3***.

31. A range of different information sources has been considered as part of embedding mitigation into the design of the proposed East Anglia TWO project. These include engineering requirements, feedback from the community and landowners, ongoing discussions with stakeholders and regulators, commercial considerations and environmental best practice. For further details see ***Chapter 4 Site Selection and Assessment of Alternatives*** and ***Chapter 6 Project Description.***

Table 30.3 Embedded Mitigation Measures and Best Practice for Tourism, Recreation and Socio-Economics

Parameter	Mitigation measures embedded into the project design
General	
Site Selection	The proposed East Anglia TWO project has undergone an extensive site selection process which has involved incorporating environmental considerations in collaboration with the engineering design requirements. Key design principles relevant to this chapter include: • Avoiding proximity to residential dwellings;

Parameter	Mitigation measures embedded into the project design
	• Avoiding proximity to historic buildings; • Avoiding siting permanent operational onshore infrastructure (the onshore substation and National Grid infrastructure) within the AONB and other designated sites (such as common land); and • Minimising impacts to local residents in relation to access to services and road usage, including footpath closures;
Construction	Use of relevant best practice and techniques (including pollution prevention) to avoid or reduce impacts which will affect both the onshore and offshore development areas. See the following: • ***Chapter 8 Water and Sediment Quality;*** • ***Chapter 14 Shipping and Navigation;*** • ***Chapter 19 Air Quality;*** • ***Chapter 24 Archaeology and Cultural Heritage;*** • ***Chapter 26 Traffic and Transport;*** • ***Chapter 25 Noise and Vibration;*** • ***Chapter 28 Offshore Seascape, Landscape and Visual Amenity;*** and • ***Chapter 29 Landscape and Visual Impact Assessment.***
Onshore Substation and National Grid Infrastructure (operational phase)	
Landscape mitigation	Landscape mitigation (e.g. habitat creation and screening from trees and hedgerows) will reduce the significance of landscape effects through the operational phase (see ***Chapter 29 Landscape and Visual Impact Assessment***.)

30.3.4 Monitoring

32. Post-consent, the final detailed design of the proposed East Anglia TWO project will refine the worst-case parameters assessed in this ES. It is recognised that monitoring is an important element in the management and verification of the actual impacts based on the final detailed design. Where monitoring is proposed for tourism, recreation and socio-economics, this is described in the Outline Code of Construction Practice (OCoCP) submitted with this DCO application (document reference 3.1). Final details of monitoring will be agreed post-consent with the Local Planning Authority and relevant stakeholders. Assessment Methodology.

30.4 Assessment Methodology

33. There is no statutory guidance to direct the assessment of socio-economic, tourism, and recreation impacts on local communities affected by Nationally Significant Infrastructure Projects (NSIP). As such, a methodology has been developed by combining best practice from community development and human

health assessment. This methodology is consistent with good practice to assess tourism, recreation and socio-economic effects of infrastructure projects used on large infrastructure projects.

30.4.1 Guidance

34. There are a number of pieces of legislation, policy and guidance applicable to tourism, recreation and socio-economics. The following sections provide detail on key pieces of international and UK legislation, policy and guidance which are relevant.

35. Further detail is provided in ***Chapter 3 Policy and Legislative Context***.

36. Effects to tourism and recreational assets are estimated with reference to the following chapters:

- ***Chapter 8 Water and Sediment Quality;***
- ***Chapter 14 Shipping and Navigation;***
- ***Chapter 19 Air Quality;***
- ***Chapter 24 Archaeology and Cultural Heritage;***
- ***Chapter 26 Traffic and Transport;***
- ***Chapter 25 Noise and Vibration;***
- ***Chapter 28 Seascape, Landscape and Visual Amenity;*** and
- ***Chapter 29 Landscape and Visual Impact Assessment.***

30.4.1.1 National Legislation, Policy and Guidance

37. The Overarching National Policy Statement (NPS) for Energy (EN-1) states that where a project is likely to have an impact on socio-economics at a local or national scale the assessment should consider all relevant impacts. ***Table 30.4*** describes the requirements of the EN-1, Regulation 5(2) and Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

38. Although EN-1 is the most relevant planning policy in this context it does not provide specific guidance on what should be considered under a socio-economic assessment. Therefore, the National Planning Policy Framework (NPPF 2019) has also been reviewed for further guidance.

Table 30.4 Requirements of Policy in Relation to Socio-Economic (including tourism and recreation) and Population Impacts

Paragraph	Description	Reference
National Policy Statements (NPS) for Energy (DECC 2011)		
5.5.7	The Environmental Statement (ES) should include an assessment of the effects on the coast. In particular, applicants should assess the effects of the proposed project on maintaining coastal recreation sites and features.	This is included in ***section 30.6.1.4*** and ***30.6.2.2***.
5.10.6	Applicants will need to consult the local community on their proposals to build on open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space including green infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal. Applicants should use any up-to-date local authority assessment or, if there is none, provide an independent assessment to show whether the existing open space, sports and recreational buildings and land is surplus to requirements.	Consultation is shown in ***section 30.2*** and described in ***Chapter 5 EIA Methodology***.
5.12.1	The construction, operation and decommissioning of energy infrastructure may have socio-economic impacts at local and regional levels. Parts 2 and 3 of this NPS set out some of the national level socio-economic impacts.	Parts 2 and 3 of NPS EN-1 set out the national level socio-economic impacts therefore these will not be considered further within this assessment. However, a brief assessment of employment compares to the national labour market is included in ***section 30.6.1.2*** and ***30.6.2.1***.
5.12.2	Where the proposed East Anglia TWO 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.	In combination with ***Chapter 27 Human Health*** and, this ES chapter responds to this overarching statement. The assessment is found in ***section 30.6***.
5.12.3	This assessment should consider all relevant socio-economic impacts, which may include:	Potential employment is considered in ***sections 30.6.1.2, 30.6.1.3*** and ***30.6.2.1.***
	the creation of jobs and training opportunities;	
	the provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities;	Additional local services are not within the scope of the proposed project. However, part of the scope of the MoU previously agreed between the Applicant and SCC includes the provision of career

Paragraph	Description	Reference
		guidance and examples in local educational facilities.
	effects on tourism;	Potential impacts are considered in ***sections 30.6.1.3, 30.6.1.4*** and ***30.6.2.2.***
	the impact of a changing influx of workers during the different construction, operation and decommissioning phases of the energy infrastructure; and	As discussed in ***Chapter 27 Human Health*** potential impacts have been scoped out due to the low number of non-residential workers in comparison to the regional population, that incoming workers are expected to be distributed across the region, and are expected to return to their permanent residence over the weekend.
	cumulative effects.	Cumulative impacts, inter-relationships, and interactions are considered in ***sections 281*** and ***30.7.2.1****.*
5.12.4	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.	The existing socio-economic conditions are described in ***section 30.5***. Potential impacts are discussed in ***section 30.6***.
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017		
5(2)(a)	The EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors— (a) population and human health.	In combination with ***Chapter 27 Human Health***, this ES chapter responds to this overarching statement. The assessment is found in ***section 30.6***.
Schedule 4.4	A description of the factors specified in regulation 5(2) likely to be significantly affected by the development: population, human health.	In combination with ***Chapter 27 Human Health***, this ES chapter responds to this overarching statement. The assessment is found in ***section 30.6***.
National Planning Policy Framework, February 2019		
Section 6 Building a strong, competitive economy		
80	Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development.	This chapter of the ES specifically focusses on understanding the employment opportunity created by the proposed East Anglia TWO project, whether the local labour market would be able to supply this, and if work is ongoing to develop the labour market to enable the supply. This is covered in ***section 30.6****.*
83	Supporting a prosperous rural economy: Planning policies and decisions should:	This ES chapter assesses the impact of the proposed East Anglia TWO project

Paragraph	Description	Reference
	a) enable the sustainable growth and expansion of all types of business in rural areas both through conversion of existing buildings and well-designed new buildings; b) the development and diversification of agricultural and other land-based rural businesses; sustainable rural tourism and leisure developments which respect the character of the countryside; and c) and, the retention and development of accessible local services and community facilities, such as local shops, meeting places, sports venues, open space, cultural buildings, public houses and places of worship.	on supply chain businesses and tourism businesses (***section 30.6***). ***Chapter 24 Onshore Archaeology and Cultural Heritage*** details the potential impacts to community facilities such as cultural buildings and places of worship. This chapter also includes mitigation to ensure that these features are retained. Potential impacts to residents health, wellbeing and access to necessary health care facilities are discussed in Chapter ***27 Human Health***.
Section 8 Promoting healthy and safe communities		
92	To provide the social, recreational and cultural facilities and services the community needs, planning policies and decisions should: a) plan positively for the provision and use of shared spaces, community facilities (such as local shops, meeting places, sports venues, open space, cultural buildings, public houses and places of worship) and other local services to enhance the sustainability of communities and residential environments; b) take into account and support the delivery of local strategies to improve health, social and cultural well-being for all sections of the community; c) guard against the unnecessary loss of valued facilities and services, particularly where this would reduce the community's ability to meet its day-to-day needs; d) ensure that established shops, facilities and services are able to develop and modernise, and are retained for the benefit of the community; and	Potential tourism and recreation impacts are considered in ***sections 30.6.1.4*** and ***30.6.2.2***. Impacts to PRoWs and management methods are considered in ***section 30.6.1.4.2.1***. Further details on the management of PRoWs are included within the Outline PRoW Strategy (OPRoWS) (document reference 8.4) submitted with this DCO application. Shared open spaces are considered in ***section 21.5.10*** of ***Chapter 21 Land Use.*** Cultural buildings are considered in ***sections 24.6.1*** and ***24.6.2*** of ***Chapter 24 Onshore Archaeology and Cultural Heritage.*** The heritage setting assessment is included in ***Appendix 24.7 and 24.8.*** Access issues are considered ***Chapter 26 Traffic and Transport.*** The site selection process has avoided facilities and services where possible as stated in ***Chapter 4 Site Selection and Assessment of Alternatives.*** Community assessment is included in ***Chapter 27 Human Health***. ***Chapter 19 Air Quality*** and ***Chapter 25 Noise and Vibration*** both assess

Paragraph	Description	Reference
	e) ensure an integrated approach to considering the location of housing, economic uses and community facilities and services.	impacts to receptors and include mitigation to minimise impacts .
98	Planning decisions should protect and enhance public rights of way.	Potential PRoW impacts and relevant management methods are considered in ***section 30.6.1.4***. Further details on the management of PRoWs are included within the OPRoWS (document reference 8.4) submitted with this DCO application.

30.4.1.1.1 The Offshore Wind Sector Deal

39. The Offshore Wind Sector Deal (BEIS 2019) has been produced to reinforce the aims of the UK Government's Industrial Strategy and help move Britain towards a low carbon future and maximise clean growth. The Industrial Strategy aims to help people develop the skills needed to do high-paid high-skilled jobs. The Sector Deal builds on the UK's global leadership in offshore wind, maximising the advantages for UK industry from the global shift to clean growth. This includes a number of key drivers and opportunities to improve the offshore wind sector, including:

- Providing forward visibility of future Contracts for Difference;
- The sector has set a target of 60% lifetime UK content in domestic projects;
- A drive to increase productivity;
- Export capacity; and
- Boost competitiveness.

40. Over the next decade, there will be a huge expansion of offshore wind around the world with some estimates envisaging a 17% annual growth from 22GW to 154GW in total installed capacity by 2030 (BEIS 2019). In the UK, this could see offshore wind contributing up to 30GW of generating capacity. Building up to 30GW of offshore wind by 2030 could support over 27,000 jobs and account for over £40bn of infrastructure spending in the next decade (BEIS 2019), creating material economic benefits in the UK.

41. Regional clusters are forming located close to windfarms or areas, as is seen in East Anglia. Linking the clusters with educational institutions, centres for innovation, manufacturing bases, can provide the conditions for local incubation of innovation, drive competitiveness, increase economies of scale and productivity. The Deal proposes capitalising on naturally existing clusters and

providing sector leadership to create more opportunities for investment and growth in local economies.

42. The proposed East Anglia TWO project would aim to work within the positive framework created by the offshore wind sector deal. Through enhancing the current labour market through skills and training enhancement (***section 30.3.3.1***) in the East Anglia region, support will be provided to help meet the job supply needed, creating opportunities for investment and growth at a local level.

30.4.1.2 Regional Policy

43. ***Table 30.5*** provides detail on regional legislation and policy.

Table 30.5 Summary of Relevant Regional Legislation and Policy Relating to Socio-Economics and/or Tourism

Policy/Section/Priority	Policy/ Guidance Purpose	Addressed within the ES
NALEP Norfolk and Suffolk Economic Strategy (2017)		
Foreword	Building on success of the original 2014 Strategic Economic Plan which delivered more jobs, new businesses and housing. £350 million of UK Government funding has been secured and will be invested in the region by 2021 in a wide range of projects to: • Improve skills; • Drive innovation; • Support growing businesses; and • Improve transport and other infrastructure.	The proposed East Anglia TWO project represents an important contributor to the High Impact sector of clean energy and will act as a collaborator to drive future success.
Norfolk and Suffolk 2017 – People and Skills	Skill levels and wages are lower than the national average with more jobs in lower paying industries. Focus on continuing to enable local people to access the skills they need to benefit from and drive future growth sectors such as clean energy, digital, life sciences and higher end business services. These will be central to continuing to increase wage levels and living standards	The proposed East Anglia TWO project represents clean energy as a growth sector.
Our Sectors	Identifies nine key sectors where Norfolk and Suffolk have competitive advantages: • Energy; • Life Sciences and Biotech; • ICT, Tech and Digital Creative; • Advanced Agriculture, Food and Drink; • Visitor Economy – Tourism and Culture; • Financial Services and Insurance;	SPR is a platinum sponsor of EEEGR and is therefore contributing to driving this sector and collaboration forward within the region. SPR has worked with EEEGR to deliver supply chain engagement events in East Anglia.

Policy/Section/Priority	Policy/ Guidance Purpose	Addressed within the ES
	• Transport, Freight and Logistics; • Construction and Development; and • Advanced Manufacturing and Engineering. In terms of Energy: The East of England Energy Zone is unrivalled in the UK for its unique mix of wind power, gas and nuclear energy production. The OrbisEnergy Centre of Excellence and the East of England Energy Group (EEEGR) bring together over 300 energy businesses. The coast around Great Yarmouth and Lowestoft is at the centre of the world's largest market for offshore wind with capital investment in clean energy worth £50 billion planned for the region by 2020.	SPR are also members of the Suffolk Chamber of Commerce and of Norfolk Chamber of Commerce.
Priority Themes and Places	Driving business growth and productivity by increasing and encouraging connectivity, including investments in physical and digital infrastructure. It also focusses on human aspects by driving inclusion and skills growth through outreach and education programmes in schools, back to work schemes for adults, and the Youth Pledge which offers personal support to young people aged 16-24 to get an apprenticeship, training or work experience or job within three months of leaving education or employment. There is also a wider commitment to investment in the wider community through infrastructure and wellbeing, health and care.	The development of the proposed East Anglia TWO project is a part of the development of four offshore windfarms in the NALEP area that would lead to economic growth for the region.
Suffolk County Council: Raising the Bar Strategy 2018-2020		
	Suffolk County Council aims to promote young people's progression to higher education, including Higher Apprenticeships and also to improve youth employment rates. This will improve the skills base in the region in line with the Economic Strategy, to support and drive business development and local employment opportunities.	The Applicant and SCC have agreed an MoU to promote career opportunities in the offshore wind sector, as described in ***section 30.3.3.1***.
Transforming Suffolk: Suffolk's Community Strategy 2008-2028. Suffolk Strategic Partnership		
Priority 1	Being the most innovative and diverse economy in the East of England. By 2028, the aim is to have: • Used Suffolk's unique selling points to capture emerging markets; • Reduced economic inequalities across the county; and • Improved transport and the infrastructure to support sustainable economic growth.	Suffolk is well placed to benefit from the development of offshore wind which can contribute to the regeneration of coastal communities.

Policy/Section/Priority	Policy/ Guidance Purpose	Addressed within the ES
Priority 2	Having learning and skills levels in the top quartile in the country. By 2028, the aim is to have: A workforce with the skills to meet the needs of Suffolk's economy. High aspirations, and opportunities to realise them through quality learning opportunities.	The Skills Strategy for East Anglia ONE project included an Assessment of the gaps between now and the future requirements to inform. This is reviewed and updated to inform Industry Career and STEM activities as described in ***section 30.3.3.1***.
East Suffolk Economic Growth Plan, 2018-23		
Priority 1	This economic growth plan aims to build business confidence and the capacity for investment and growth. Supporting entrepreneurs and entrepreneurship in East Suffolk where the economy is currently dominated by micro and small enterprises. This includes providing small business owners/managers with the skills they need.	The development of the proposed East Anglia TWO project is a part of the development of four offshore windfarms in NALEP area that would have an operational life of at least 25 years. This would provide confidence for business investment.
Priority 2	Encouraging established businesses to invest and grow.	
Priority 3	Attracting inward investment to East Suffolk, focussed around existing emerging sectors and supply chains. In particular paying attention to seven key sectors which include energy and the visitor economy and cultural sectors. Progress will be measured through the use of Key Performance Indicators.	As evidenced by the development of the Supply Chain Plan for East Anglia ONE. SPR is actively enabling inward investment to the Suffolk region.
East Suffolk Tourism Strategy 2017-2022		
Making our Visitor Economy Work - priorities	Outlines key areas that need to be developed: Develop and support key tourism assets including seaside resorts, beaches, family attractions, heritage, natural landscapes, market towns, and culture. Improve the visitor experience by having a clear vision of the unique offer the key destinations need to make, focussing on active tourism and health and wellbeing. Ensure that the foundations underpinning the tourism economy are in place for the long term, including the infrastructure to support it such as car parking, mobile/broadband coverage, public toilet facilities. Excel at destination marketing by exploiting digital technologies and filming to attract and	Potential impact to tourism assets is covered in ***section 30.6***.

Policy/Section/Priority	Policy/ Guidance Purpose	Addressed within the ES
	engage visitors before during and after their stay to boost the volume and value of tourism.	
Suffolk Coast Tourism Strategy 2013-2023		
Paragraph 4.9	Tourism needs to be developed in a manner that is sympathetic to the environmental character, and through measures that are able to bring mutual benefits to businesses, conservation organisations and communities.	Potential impact to tourism assets is covered in ***section 30.6***.
Objective 7	Ensure that tourism activity and visitor behaviour is truly sustainable by seeking mutual benefits for all stakeholders involved in the visitor economy, environmental conservation and community welfare. This will involve continuing to manage visitor interests, behaviours and impacts through the AONB and beyond.	Potential impact to tourism assets is covered in ***section 30.6***.

30.4.1.3 Local Planning Policy

44. The onshore development area falls within the administrative area of SCC and under East Suffolk Council local planning authority (LPA). East Suffolk Council was formed by the merger of the former Suffolk Coastal District Council (SCDC) with the former Waveney District Council (WDC) on the 1st April 2019. Therefore, to ensure a robust assessment, local planning policy for both WDC and SCDC are considered, alongside local planning policy for the East Suffolk Council (ESC) where it exists, as these will be used for their respective geographic regions until they are replaced.

45. ESC published their Suffolk Coastal Final Draft Local Plan for a final stage of consultation in January 2019 (ESC 2019). This plan sets out strategic planning policies within East Suffolk and how the Local Planning Authority addresses the NPPF on a local basis. ***Table 30.6*** details Objectives, Strategic Policies and Development Management Policies that are relevant to socio-economics and tourism.

46. The Local Plan has eight strategic priorities and objectives. The following three are relevant to socio-economics, tourism and recreation:

- To achieve diverse and prosperous economic growth in towns and rural areas to provide at least, 500 new jobs in the District;
- Protect and enhance the tourism and cultural facilities across the District; and
- Enhance the vitality and viability of town centres and villages.

Table 30.6 Regional and Local Planning Policy Review

Policy/Section	Policy/ Guidance Purpose	Addressed within the ES
ESC (2019) Suffolk Coastal Final Draft Local Plan		
Policy SCLP4.1 – Existing Employment Areas	Proposals involving the redevelopment or change of use of employment premises to other employment uses will be supported and encouraged. Aims to ensure that the economy is able to prosper with a combination of suitable sites for serviced employment land and infrastructure.	Potential for short and long-term employment is covered in ***section 30.6***.
Policy SCLP4.2 – New Employment Areas	The council will support the delivery of new employment areas to provide greater site choice and economic opportunities.	Potential for short and long-term employment is covered in ***section 30.6***.
Policy SCLP4.3 – Expansion and Intensification of Employment Sites	Facilitating the expansion and intensification of existing economic activities through allowing businesses to expand or intensify existing employment areas	Potential for short and long-term employment is covered in ***section 30.6***.
Policy SCLP4.5 – Economic Development in Rural Areas	Proposals will be supported that grow and diversify the rural economy, particularly where this will secure employment locally. This is provided that the design and construction does not have an adverse impact on the character of the surrounding area and landscape and provides additional community, cultural or tourism benefits.	Potential for short and long-term employment is covered in ***section 30.6***. Particular attention is given to the opportunity for construction and accommodation employment in rural Suffolk. Other potential effects are considered in ***section 30.6***.
SCLP6.1 – Tourism	Seeks to manage tourism across the district in a way that protects the features that make it attractive to visitors, and supports local facilities where the local road network has the capacity to accommodate the traffic generated from proposals. Seeks to improve the visitor experience by developing the tourist opportunities both in and out of season, as well as those less sensitive areas of the District where increased tourism uses can be accommodated.	Potential impact to tourism assets is covered in ***section 30.6***.
SCLP6.2 – Existing Tourist Accommodation	Existing tourist accommodation will be protected.	Potential impacts to tourism accommodation are covered in ***section 30.6***.
SCLP8.1 – Community Facilities and Assets	It is considered important to retain community facilities across the District to both serve the local community and support tourism activities in the area. The Local Plan also provides protection to community facilities.	Community impacts are covered in ***Chapter 27 Human Health***.

30.4.1.4 Assessment Guidance

30.4.1.4.1 Sustainable Livelihoods Approach

47. The socio-economic assessment takes the Sustainable Livelihoods Approach to develop a baseline for the existing environment. This is internationally recognised as a key concept for social impact assessment by the IAIA (Vanclay 2015). The concept was further developed in relation to the context of the UK by the Social Impact Taskforce of the Government Economic Services (Harper and Price 2011).

48. The International Principles for Social Impact Assessment considers that "*social impacts include all the issues associated with a planned intervention (i.e. a project) that affect or concern people, whether directly or indirectly"* (Vanclay 2012). Furthermore, *"because 'social impact' is conceived as being anything linked to a project that affects or concerns any impacted stakeholder group, almost anything can potentially be a social impact so long as it is valued by or important to a specific group of people."*

49. This would lead to a risk that the assessment of socio-economic impacts would be expansive and disproportionate to the risks identified at scoping. Therefore, Glasson (in Chapter 13, Therivel and Wood 2017) categorises impacts but gives no framework to compare the interrelated effects against one another. Therefore, this methodology would need to be adapted to relate to current regulations.

50. The other population impact assessed under the EIA 2017 Regulations is human health. Emergent best practice is provided by the Institution of Environmental Management and Assessment (IEMA), 'Health in Environmental Impact Assessment: A Primer for a Proportionate Approach' (Cave et al. 2017). This states that in determining 'physical, mental and social wellbeing', contributory factors, known as 'determinants', are considered. Determinants are a reflection of a mix of influences from an individual's society and environment (***Plate 30.2***).

51. Similarly, modern economists such as Algan et al. (2017) and Raworth (2017) describe the economy as embedded within the wider environment and founded on a set of social foundations (***Plate 30.1***). This conceptual approach mirrors that proposed in the IEMA guidelines (Cave et al. 2017). Therefore, it will support in understanding the interrelationships between effects as stipulated under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

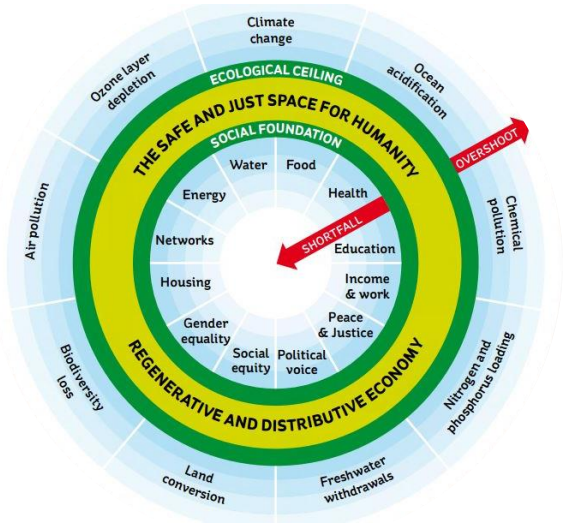

Plate 30.1Social Foundations of the Doughnut Economy model (Raworth 2017)

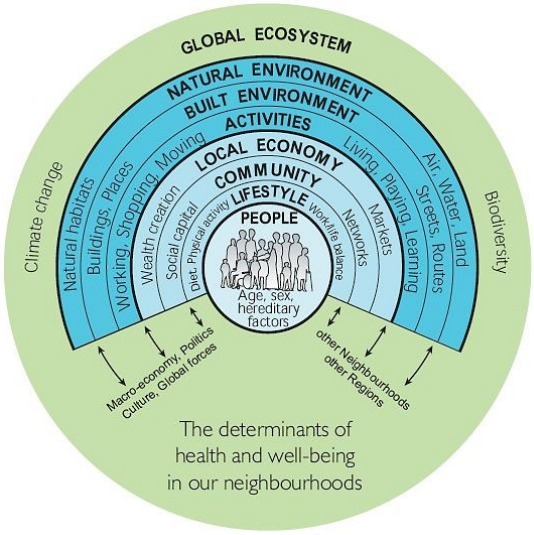

Plate 30.2 Wider Determinants of Health. Based on the Whitehead and Dahlgren (Dahlgren and Whitehead 1991) diagram as amended by Barton

52. Following the Sustainable Livelihood Approach, the social foundations outlined by Raworth and the impact areas described by Glasson can be grouped in to different stocks of Community Capital to form a baseline as described in ***Table 30.7***. This approach is consistent with that advised by the Social Impact Taskforce (Harper and Price 2011).

Table 30.7 Community Capital Stocks

Stock	Description	Measured by
Human	The human resources available in population.	Skills, education, population size, spread of age, health, deprivation
Produced	Financial productivity of the population.	(Un)Employment, Gross Value Added (GVA), average wage, etc
Social	The strength of social support, feeling of satisfaction, and connection within the population	Well Being Statistic from the ONS, and Indices of Multiple Deprivation.
Physical	The physical assets available to the population like roads, hospitals, schools, etc	Location and density of roads, schools, GP surgeries, and communities.
Natural	The natural assets available to the population	Location of national parks, protected areas, recreational assets, PRoW.

53. ***Plate 30.3*** sets out the conceptual framework developed by the Social Impact Taskforce (Harper and Price 2011) as the basis for understanding the relationships between the different components of capital, the production or flows of goods and services using the stock of capital; the consumption or experience of those goods and services by society, and their combined impact on wellbeing. Both production and consumption of goods and services have social impacts.

54. For example, construction increases employment demand by creating jobs in an area. Productive and human capital is required for the local or regional population to benefit from this demand. If these are lower than required, the construction project could invest in development through training or supply chain engagement. However, by creating jobs through construction, environmental impacts have the potential to degrade natural capital. This may reduce the surrounding area's ability to produce tourism services and, therefore, its productive capital may be reduced.

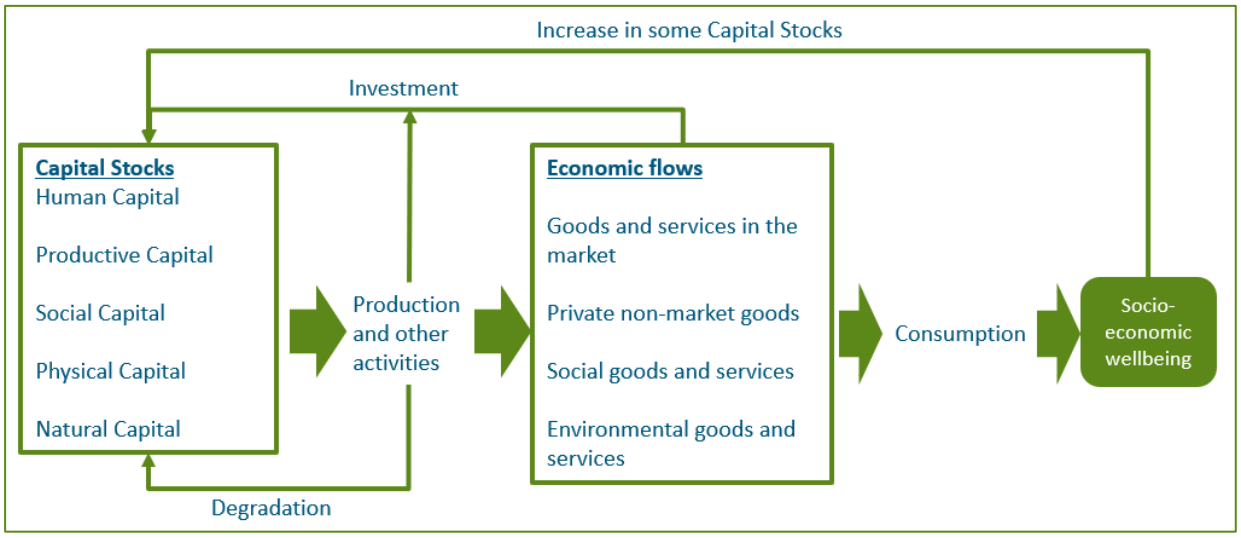

Plate 30.3 Stocks and Flows of Community Capital, adapted from Harper and Price 2011

30.4.1.4.2Guidance on Employment

55. The employment assessment is consistent with the HM Treasury Green Book (HM Treasury 2018). This is guidance issued on how to appraise policies, programmes and projects. It also provides guidance on the design and use of monitoring and evaluation before, during and after implementation.

56. In line with Chapter 6: Valuation of Costs and Benefits, both market and non-market goods and services are considered in the assessment as well as concepts of subject wellbeing. However, financial value is not given to non-market goods or subjective wellbeing. Instead it is assumed that a disturbance to non-market goods would create a negative economic impact and a precautionary approach is considered.

57. This is supported by the Homes and Communities Agency Additionality Guide (2014). Additionality is defined as the extent to which something happens as a result of an intervention, which would not have occurred in the absence of the intervention.

58. In addition, the ONS series 'Measuring the Economic Impact of an Intervention or Investment (IOI)' (ONS 2011a) provides "*independent advice to regional users on the use of ONS and Government Statistical Service (GSS) statistics, including on technical issues, such as the use of statistics in monitoring performance against targets*".

59. Section 5.1 of Paper One of this series considers the issues with using GVA to evaluate the economic impact of an investment at a company scale, it states that: *"GVA estimates from official sources are volatile at low geographical levels. Any approach to estimating GVA (whether or not using official data) should produce consistently robust estimates at the scale of the IOI. If this issue is ignored any such approach will be unreliable when assessing an IOI."* (ONS 2011a)

60. Section 3.10 of Paper Two of this series states that, *"The complex calculations and imputations used to produce GDP and regional GVA estimates cannot be applied at the firm level to produce IOI Value Added."* (ONS 2011a)

61. Section 8.4 of Paper Two states that, *"An alternate, holistic approach to the calculation of GVA estimates could be the use of a scorecard, composite or basket indicator approach combining factors known to affect GVA."* (ONS 2011a)

30.4.1.4.3Guidance on Tourism

62. ONS (2011b) also published guidance notes explaining the framework within which data on tourism activity at local authority or destination level is measured and collected. These guidance notes were produced by the Tourism Intelligence Unit at ONS with the aim of providing a consistent framework within which to measure and collect data on various facets of tourism activity.

63. This defines tourism as *"a movement of people to places outside their usual place of residence, pleasure being the usual motivation."* The tourism industry has two sides; a demand driven by visitors to an area and a supply side of businesses serving these visitors.

64. The guidance uses the definition for a visitor from International Recommendations on Tourism Statistics (IRTS) United Nations World Tourism Organisation (UNWTO) 2008) "*A Visitor is a traveller taking a trip to a main destination outside his/her usual environment, for less than a year, for any main purpose (business, leisure or other personal purpose) other than to be employed by a resident entity in the country or place visited*." As well as the definition of

Usual Environment (IRTS 2008) as "*the geographical area within which an individual conducts his/her regular life routines.*"

65. The ONS defines the supply side as *"the provision to visitors of the goods and services that make up tourism expenditure."* The supply side is made up of many types of businesses such as accommodation, food and beverage, passenger transportation, travel agencies, and various forms of cultural, sporting, or recreational activities. It is recommended that accommodation and the employment of people within this sector are appropriate indicators of the tourism industry. This is because all other sectors are also used by local residents whereas only visitors need accommodation services.

66. The National Academy of Coastal Tourism has produced several guidance documents in understanding the tourism industry. In particular the Customer Journey: An analysis of decision making at a coastal resort (National Coastal Tourism Academy 2015) is used to understand how recreational visitors would choose which area to visit and whether disturbance would have a negative effect to this.

30.4.1.4.4 Assessment Guidance Summary

67. Following guidance developed by various departments of the UK Government an approach considering a basket of goods or services will be used to assess the socio-economic impacts on employment and tourism. First a baseline will be developed by considering the five capitals that sustainable communities require (these are described in ***Plate 30.3*** and ***section 30.5***). Then assessments will be developed based on best practice guidance from across social and population impact assessment in combination with economic guidance from HM Treasury, Homes and Communities Agency, and ONS.

30.4.2 Definitions

68. Based on ***section 30.4.1*** the following socio-economic aspects and relationships have been defined to inform the assessment.

30.4.2.1 The Economy

69. The market economy of the United Kingdom (UK) is made up of firms employing people to produce goods and services (Algan et al. 2017). All economies (regardless of type) are reliant upon the ecological capacity of the environment they are in and the social foundations that enable people to be productive (Raworth 2017, see ***Plate 30.1*** and Algan et al. 2017). Therefore, this assessment will study how people interact with each other and with their natural surroundings in producing their livelihoods, and how this changes over time (Algan et al. 2017).

70. As the UK has a market-led economic system, the assessment will focus on supply and demand of goods or services. This includes the demand for labour and the demand for tourism services. The connectivity of this supply and demand with other environmental aspects is also covered. The productivity of labour is considered outside of the scope of an assessment because aspects required to understand contribution to GVA (ONS 2011a, and Roberts and Westbrook 2017) are not well known at a pre-consent stage. But aspects of productivity such as the potential for training and comparative wages are covered where possible. All other chapters focus on the potential environmental impact that a project within the economy may create.

30.4.2.2 The Tourism and Hospitality Economies

71. The tourism and hospitality economies generate income from the activities of visitors (ONS 2011b) – many of these are recreational visitors. It is an important part of the wider economy and a good indicator of quality of life because if more people are able to take time off and spend money on recreational activities it shows they must have a reasonable amount of disposable income to do so. However, jobs in the hospitality sector which the tourism industry is largely built on, are often lower skilled and lower paid than jobs in more technical industries. Therefore, its value should be considered in context of the wider economy.

72. Visitors create a demand for tourism and increase the demand for hospitality services. This assessment uses the ONS (2011b) definition taken from the IRTS (2008) definition of visitors. *"A Visitor is a traveller taking a trip to a main destination outside his/her usual environment, for less than a year, for any main purpose (business, leisure or other personal purpose) other than to be employed by a resident entity in the country or place visited."* (IRTS 2008)

73. The supply side is defined by the ONS (2011b) as *"the provision to visitors of the goods and services that make up tourism expenditure."* This is provided by a variety of business and services such as accommodation, food and beverage, passenger transport, travel agencies, cultural activities, sports & recreation, and regionally specific goods or services.

74. This assessment mainly focusses on the accommodation industry as the main indicator of the supply side of the tourism and hospitality economy because statistics relating to this are more accurate. The assessment considers the demand side by considering the effect to recreational visitors by disturbance due to physical activities.

30.4.2.3 Averages and Scenarios

75. The economy is made of millions of individual people, all are unique and none are average. When considering large datasets, such as those provided by ONS

(see ***Table 30.8***), many of the differences do even out and an average can be taken. It cannot be assumed that this average reflects every person. To explore this, the assessment presents a range of averages from high to low so as to show if the relationship is sensitive to this change. Where possible these averages are based on evidence (such as the assessment of East Anglia ONE's supply chain in ***section 30.6.1.2***) and if this is not available it is taken around an average agreed as part of the wider assessment (such as the non-residential employment used in ***section 30.6.1.3***). To undertake the impact assessment the mean value is used unless there is evidence to use a higher or lower figure. This provides a conservative but not pessimistic assessment.

30.4.2.4 Direct, Indirect, and Induced Employment Multipliers

76. Direct employment is the number of people employed by the project. The construction of a project requires other companies to provide goods and services. This is indirect employment. It is additional employment as a result of the demand created by the project. The people directly and indirectly employed by the project will spend money where they work and where they live. This expenditure induces additional demand which is provided by additional employment in the economy as a result of the project. It is important to explain if the indirect and induced employment will be within the local or regional area around the project or outside of this.

77. Multipliers are used to calculate these quantities which are often based on national averages produced by the ONS. As explained above, averages do not reflect every person or every project. So sometimes these are modified based on additional evidence that is more relevant to the sector being considered (such as the assessment of East Anglia ONE's supply chain in ***section 30.6.1.2***).

78. For example: an indirect employment multiplier of 1.9 shows that for every one job sustained by the project, 0.9 indirect jobs are sustained. An induced employment multiplier of 1.2 shows that for every one job directly and indirectly sustained by the project, 0.2 additional jobs are sustained.

30.4.2.5 Full Time Equivalent Jobs and Years

79. All projects and companies have full time and part time employees (either permanently or by contract). But to compare employment demand that is created to the labour market that is available there is a need to convert everything to equivalent full time employees. In this assessment one year is used to show this.

80. For example, if 10 people work constantly for one year that equates to 10 Full Time Equivalent (FTE) jobs. If 20 people each work for six months across one year (regardless of how this six months is achieved) this equates to 10 FTE (20 people x 0.5 years worked in one year).

81. A project lasts for more than one year. If the FTE is known for each year (or an average can be calculated) then this can be summed for every year of the project (or the average multiplied by the number of years of duration). This provides the FTE Years which allows two projects to be compared.

82. A project lasting three years and employing 200 FTE per year creates 600 FTE Years. Whereas a project lasting 30 years and employing 20 FTE per year also creates 600 FTE Years. However, due to the longer duration the long-term benefit of the second project may be greater than the short-term benefit of the first one.

30.4.3 Data Sources

83. The sources of data that have been used are outlined with a confidence level in ***Table 30.8***. High confidence is associated with recent and localised datasets, lower confidence is associated with more broad scale or older datasets or those which include predictions / extrapolations.

84. The data used to portray the baseline is the most up to date available at the time of writing. The various data sets range from being updated monthly to decennially, as such the most recent dataset available may date as far back as 2011. Similarly, some extensive datasets may require years of processing prior to being published, for example a 2019 publication may, as a result of this, represent a 2017 dataset.

Table 30.8 Data Sources Features

Data	Year	Coverage	Confidence	Notes
Indices of Multiple deprivation (IMD)	2013	Local Authority and County level	High	https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015
Population estimates	1981 – 2017	Local Authority, County and LEP level	High	NOMIS website https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=31
Employment statistics	2018	Local Authority and County level	High	NOMIS website https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=17
Earnings and gender equality	2018	Local Authority, County and National level	Medium	NOMIS website https://www.nomisweb.co.uk/query/select/getdatasetbytheme.asp?collapse=yes
UK Business: Activity	2018	Local Authority Level	High	ONS https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/ukbusinessactivitysizeandlocation

Data	Year	Coverage	Confidence	Notes
Method of Travel to Work	2016	Local Authority and County Level	High	ONS, Labour Force Survey https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/adhocs/008005traveltoworkmethodsandthetimeittakestocommutefromhometoworklabourforcesurvey2007to2016
Distance Travelled to Work	2011	Local Authority Level	Low	National Archives, ONS 2011 Census: http://webarchive.nationalarchives.gov.uk/20160107181444/http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-353514
Future Population Predictions	2011	County Level	Medium	ONS: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/localauthoritiesinenglandtable2
GVA	1997 – 2018	National and County Level	High	ONS: https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/regionalgrossvalueaddedincomeapproach
Access to Health Assets and Hazards, rate of people killed or seriously injured on the roads, rate of smoking, exercise, violent crime, early deaths, other health-related statistics	2016	Local Authority and National Level	High	Public Health Profiles, Fingertips website https://fingertips.phe.org.uk/search/AHAH#pat/6/ati/101/par/E12000006 https://fingertips.phe.org.uk/
Self-reported health statistics	2011	Local Authority and National level	Medium – high accuracy, old data	NOMIS: https://www.nomisweb.co.uk/query/select/getdatasetbytheme.asp?collapse=yes
Tourism Employment Summaries	2014	NUTS 3 Level	Medium	ONS: https://www.ons.gov.uk/peoplepopulationandcommunity/leisureandtourism/articles/tourismemploymentsummaries/characteristicsoftourismindustries2014

Data	Year	Coverage	Confidence	Notes
NALEP Norfolk and Suffolk Economic Strategy	Nov 2017	LEP level	High	https://newanglia.co.uk/our-economic-strategy/
SCC: Raising the Bar Strategy	2018 - 2020	County Level	High	https://www.suffolk.gov.uk/assets/Children-families-and-learning/raising-the-Bar/RtB-Strategy-2018-20.pdf
Transforming Suffolk: Suffolk's Community Strategy 2008-2028. Suffolk Strategic Partnership	2008 - 2028	County Level	High	https://www.ipswich.gov.uk/sites/default/files/scd07_-_suffolk_community_strategy.pdf
East Suffolk Economic Growth Plan	2018 -23	District Level	High	http://www.eastsuffolk.gov.uk/assets/Your-Council/WDC-Council-Meetings/2018/April/Cabinet-11-04-18/Item-08a-Appendix-A-Draft-East-Suffolk-Economic-Growth-Plan.pdf
East Suffolk Tourism Strategy	2017 - 2022	District Level	High	http://www.eastsuffolk.gov.uk/assets/Visitors/East-Suffolk-Tourism-Strategy.pdf
Suffolk Coast Tourism Strategy	2013 - 2023	District Level	High	http://www.suffolkcoastandheaths.org/assets/Projects--Partnerships/BALANCE/Executive-Summary.pdf
ESC (2019) Suffolk Coastal Final Draft Local Plan	2019	District Level	High	https://www.eastsuffolk.gov.uk/planning/local-plans/suffolk-coastal-local-plan/local-plan-review/final-draft-local-plan/
WDC - Renewable Energy and Sustainable Construction – Supplementary Planning Document	2013	District Level	High	http://www.eastsuffolk.gov.uk/assets/Planning/Waveney-Local-Plan/Supplementary-Planning-Documents/Renewable-and-Sustainable/Adopted-Renewable-Energy-and-Sustainable-Construction-SPD.pdf

30.4.4 Impact Assessment Methodology

85. The impact assessment methodology is adapted from the general approach described in ***Chapter 5 EIA Methodology***, as follows. There is no statutory guidance on assessing socio-economic, tourism, or recreation impacts, therefore a methodology has been developed using the principles set out in ***section 30.4.2*** and using:

- Good practice from the IAIA's Social Impact Assessment: Guidance for assessing and managing the social impacts of projects (Vanclay 2015);
- Emerging best practice published by the IEMA in line with the 'Health in Environmental Impact Assessment: A Primer for a Proportionate Approach' (Cave et al. 2017);
- Published guidance from Glasson and Chadwick in Methods of Environmental and Social Impact Assessment (Natural and Built Environment Series) Fourth Edition. (Therivel and Wood 2017):
  - Chapter 13 Socio-economic impacts 1: overview and economic impacts and Socio-economic impacts;
  - Chapter 14 Socio-economic impacts 2: Social impacts;
- The methodology used to estimate the economic impacts follows the guidance set out in the HM Treasury's Green Book (HM Treasury 2018) and Homes and Communities Agency Additionality Guide (2014); and
- Guidance notes from the Office for National Statistics have been used to ensure appropriate use of national statistics:
  - Measuring the Economic Impact of an Intervention or Investment (ONS 2011a); and
  - Measuring Tourism locally (ONS 2011b).

86. Value rather than sensitivity has been assigned to tourism and recreation assets. This is because if a tourism or recreation asset is visited by a large number of people this would lead to induced expenditure elsewhere. If a project obstructed this it would generate a wider effect but the asset itself may not be sensitive to the change, i.e. it would continue functioning, whereas the rest of the economy may suffer.

87. Value has not been assigned to the economy as a single receptor as it is made of many component parts which make it difficult to qualify accurately. The broad economic impact is focussed on the outcomes or results from likelihood and magnitude of impact on the various component parts.

30.4.4.1 Pathway Model

88. The first issue to consider in the assessment is the likelihood of the proposed East Anglia TWO project having an effect. A likely effect should be both plausible and probable:

- Plausible in the context of this assessment relates to there being a relevant source, pathway and receptor; and

- Probable in the context of this assessment relates to a qualitative judgement to exclude those effects that could only occur under certain very rare conditions.

89. The source-pathway-receptor model describes how a specific activity of the proposed East Anglia TWO project could change a community capital stock and potentially result in a change in socio-economic outcomes (an effect). These are defined below and the relationships further developed in ***Table 30.44*** of ***section 30.6***:

- A 'source' represents an activity or factor that could affect community capital stock;
- A 'pathway' describes whether a community stock is likely to be affected; and
- A 'receptor' is determined based on the impact being assessed.

30.4.4.2 Tourism and Recreation Sensitivity

90. The Green Book (HM Treasury 2018) defines the value of an economic asset (such as a tourism supply business) based on the national status of the asset. This approach was used to assess tourism and recreation assets within the Tourism and Recreation study area but it was found that the result did not describe the importance of the assets with enough rigour. For example, a small bed and breakfast would be classified as a low value asset but due to it being small scale any change that reduces guest numbers could have a significant effect for the business owners.

91. Due to this, an alternative approach was developed and agreed with the ETG This considers the sensitivity of the receptor based on its capacity to adjust to the proposed change and whether the receptor is interlinked with other receptors. There are no standard sensitivity criteria for tourism and recreational receptors, thus a matrix approach, ***Table 30.9***, will be used to inform professional judgement the definitions set out in ***Table 30.10*** are based on experience and professional judgement.

Table 30.9 Sensitivity Matrix

Local interconnection	Ability to adjust to change			
	Very Vulnerable	Vulnerable	Resilient	Very Resilient
High	High	High	Medium	Low
Moderate	High	Medium	Low	Negligible
Minor	Medium	Low	Low	Negligible
Negligible	Low	Negligible	Negligible	Negligible

Table 30.10 Examples of the Sensitivity Levels for a Tourism and Recreation Receptors

Sensitivity	Examples
High	A small but locally renowned restaurant or guest house. One where people visit and stay to visit other places. A popular beach or nature resort would also be included.
Medium	A regionally or nationally important footpath. One that people are likely to travel to enjoy and spend money in other places to do so.
Low	A medium sized tourist business that is used locally but does not attract national or international visitors.
Negligible	A large attraction with a large turnover of visitors where potential impacts could be temporarily mitigated.

30.4.4.3 Likelihood of Economic Effect

92. ***Table 30.11*** sets out factors characterising likelihood of economic pathways. The table informs the professional judgement on scoring high, medium, low or negligible significance. The 'higher' and 'lower' characterisations represent instructive positions on a spectrum that would also include more extreme, as well as intermediate, positions. Most situations have a mix of higher and lower characterising factors, so a balanced expert view of sensitivity is taken.

Table 30.11 Factors Characterising the Likelihood of a Pathway Existing

Likelihood	Economy	Tourism and Hospitality economy
Likely	There is a significant labour force with appropriate skills, people of working age, low levels of inequality, normal levels of unemployment in relation to the wider economy, plausible transport links, comparative projects being developed in the area, and there is opportunity for an employment pipeline to be created.	There are sufficient bed spaces for non-residential labour force to be accommodated within travelling distance of the East Anglia TWO onshore development area and the labour curve indicates that non-residential workers would be employed for relatively short to medium durations – i.e. days or weeks. This would indicate that it would be economically viable to stay in hotels or similar for short periods.

Likelihood	Economy	Tourism and Hospitality economy
Unlikely	There is a small population, with low levels of skills, a significant proportion are not of working age, there is high inequality, high levels of unemployment, this project is unique to the area, and there is limited opportunity to that an employment pipeline would be created.	The non-residential labour force far exceeds the available bed spaces and the labour curve shows that non-residential workers would be employed long-term – i.e. months or years. This would suggest that it would be economically viable for them to rent accommodation rather than stay in hotels.

30.4.4.4 Magnitude

93. The magnitude is characterised by first considering the size of the change (as defined in ***Table 30.12***) and then considering the duration, frequency, and timing of the change (as shown in ***Table 30.13***).

94. This allows the assessment to differentiate between large short-term effect and smaller long-term effects. For example, construction usually results in the short to medium term employment of a relatively large number of people. But this in itself is not enough to bring about a positive socio-economic benefit. Operation of an industrial site leads to long-term employment. Even if operations employ a smaller number of people the overall socio-economic benefit may be greater because people would have the opportunity to settle and invest in the local economy.

Table 30.12 Definitions of Magnitude of Change

Size of change	Employment	Tourism employment	Tourism and recreation
High	Change of + or – 2% on baseline	Change of + or – 50% on baseline levels	Highly likely that majority of visitors would change their behaviour.
Medium	Change of + or – 1-2% on baseline employment levels	Change of + or – 20-50% on baseline levels	Likely that some visitors would change their behaviour.
Low	Change of less than + or – 1% of baseline employment	Change of + or – 10-20% on baseline levels	Plausible that some visitors may change their behaviour.
Negligible	No measurable change in employment levels	Change of less than + or – 10% on baseline levels	Unlikely that the majority of visitors would change their behaviour.

Table 30.13 Factors used for Characterising Magnitude of Effect

	Size of change	Duration	Frequency	Timing	Inter-relationship
Higher	Large change in comparison to baseline conditions.	Medium to long term temporal scope.	Continuous or daily effects.	Clashes with other periods of high turn-over, such as peak tourism season.	Are multiple effects combining on one or more receptors at the same time?
Lower	Small change in baseline conditions.	Very short to short temporal scope.	Monthly or yearly affects.	Supports periods lower turnover, such tourism offseason.	Is the receptor only affected with one disturbance?

Table 30.14 Definitions of Temporal Scope

Temporal Scope	Definition
Very short term	Effects measured in hours, days or weeks (e.g. effects, associated with cable laying activity past a particular dwelling)
Short term	Effects measured in months (e.g. requirements of the overall construction stage, such as workforce use of accommodation)
Medium term	Effects measured in years (e.g. the maturing of screening)
Long term	Effects measured in decades (e.g. the operational stage)

30.4.4.5 Impact Significance

95. Significance for economic impacts is determined using the matrix as presented in ***Table 30.15***. Significance of impacts to tourism assets is determined using the matrix as presented in ***Table 30.16***.

96. It is important that the matrix is seen as a framework to aid understanding of how a judgement has been reached from the narrative of each impact assessment and it is not a prescriptive formulaic method. The magnitude of effect is compared to the sensitivity of the receptor and/or the likelihood that the impact would occur to determine the significance of the impact.

Table 30.15 Economic Impact Significance Matrix

Economic Likelihood	Magnitude				
	High	Medium	Low	Negligible	No change
Likely	Major	Major	Moderate	Minor	No change
Possible	Major	Moderate	Minor	Negligible	No change
Unlikely	Moderate	Minor	Minor	Negligible	No change
Highly unlikely	Minor	Negligible	Negligible	Negligible	No change

Table 30.16 Tourism Asset Impact Significance Matrix

Tourism Asset Sensitivity	Magnitude				
	High	Medium	Low	Negligible	No change
High	Major	Major	Moderate	Minor	No change
Medium	Major	Moderate	Minor	Negligible	No change
Low	Moderate	Minor	Minor	Negligible	No change
Negligible	Minor	Negligible	Negligible	Negligible	No change

97. Guide questions set out in ***Table 30.17*** are used to inform the professional judgement on scoring major, moderate, minor or negligible significance.

Table 30.17 Guide Questions for Determining Significance

Factor	Guide Questions
Type of impact pathway	Is the impact an economic effect or physical disturbance? If the effect were to happen would there be a multiplier effect in the region? Has embedded mitigation avoided the effect?
Baseline conditions	Is there evidence that the baseline is resilient, or would this change be unmanageable? Or are businesses reporting confidence in their future?
Value of Tourism Receptor	Is the tourism or recreation asset nationally significant or has a high visitor number? If it were affected would it lead to a change in the surrounding economy due to lower visitor numbers?
Likelihood of Economic Effect	Is it likely that the effect would occur? Is the asset close enough to actually be disturbed? Is there evidence to show that employment would be realised within the study area?
Size of change	Is the employment opportunity deliverable by the labour market? Do physical disturbances breach regulatory requirements?

Factor	Guide Questions
Inter-relationship	Do multiple physical disturbances combine to make a more significant effect for one or more receptors?
Duration, frequency, reversibility and timing of effect	Is it a long or short-term effect? If it's a physical effect would it be reversed once the proposed East Anglia TWO project is complete? Are there any other factor that the effect would clash with such as low or high tourist season?
Policy context	Is the change affecting an area that is a policy priority?
Consultation responses	Have local communities or statutory stakeholders expressed particular concern or support with regards the effect?
Mitigation	Is it possible to mitigate the impact and would this be likely to occur? If this did occur would the residual impact change?

98. As with the definitions of magnitude and sensitivity, the matrix used for a topic is clearly defined by the assessor within the context of that assessment. The impact significance categories are divided as shown in ***Table 30.18***.

Table 30.18 Impact Significance Definitions

Value	Definition
Major	Very large or large change, 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.

99. Note that for the purposes of the EIA, major and moderate impacts are deemed to be significant. In addition, whilst minor impacts are not significant in their own right, it is important to distinguish these from other non-significant impacts as they may contribute to significant impacts cumulatively or through interactions.

30.4.5 Cumulative Impact Assessment

100. The proposed East Anglia TWO project CIA will initially consider the cumulative impact with only the proposed East Anglia ONE North project against two different construction scenarios (i.e. construction of the two projects concurrently and sequentially). The realistic worst case scenario of each impact is then carried

through to the full CIA which considers those developments which have been screened into the CIA.

101. For a general introduction to the methodology used for the CIA please refer to ***Chapter 5 EIA Methodology***.

102. Three main areas have been considered when undertaking the CIA by asking the following guidance questions:

- Employment – based on publicly available information, is it possible that the local labour market would be able to supply workers for projects that are occurring at the same time? Is there evidence that regional stakeholders are cooperating to increase the skills base to supply energy projects?
- Tourism and hospitality economy – are projects running across peak seasons and would the regional hotel stock have enough space for non-residential workers? Is there evidence that the development of multiple projects (particularly energy projects) would detrimentally affect the perception of visitors to the area?
- Tourism and recreation – is there publicly available information to indicate that high value tourism and recreation assets would be cumulatively obstructed or disturbed by multiple projects?

30.4.6 Transboundary Impact Assessment

103. The proposed East Anglia TWO project is required to consider the possibility of significant transboundary impacts on other European Economic Area (EEA) member states under the Espoo Convention (see ***Chapter 5 EIA Methodology***). However, the assessment is undertaken using the Rochdale Envelope approach that accepts certain details of the proposed East Anglia TWO project will not be available at early stages of development. Advice Note Twelve Transboundary Impacts and Process (The Planning Inspectorate 2018) includes Annex 1, The Planning Inspectorate's long form transboundary screening proforma. This indicates that Transboundary Screening focusses on the impact pathways relating to use of natural resources; production of waste; pollution and nuisances; risk of accidents; and use of technologies. But primarily focusses on the impact on important environmental areas.

104. Both infrastructure and labour are likely to be procured from other EEA states. Particularly with regards to elements of the offshore supply chain. Although this is known, until the procurement process is undertaken it is not possible to estimate what the specific non-UK input would be. Therefore, it is not possible to assess the characteristics outlined in Annex 1 of Advice Note 12 (The Planning Inspectorate 2018).

105. It is unlikely that employment as a result of international procurement would lead to indirect adverse socio-economic transboundary effects. Furthermore, the offshore supply chain is likely to originate in European Union (EU) countries such as Germany, the Netherlands, or Spain. As such environmental impacts as a result of manufacturing and employment are unlikely to be significant because they would be subject to relevant national regulations derived from EU Directives.

106. The onshore construction elements of the proposed East Anglia TWO project are entirely present within the UK so it is not anticipated that significant direct adverse socio-economic effects on neighbouring countries will arise.

107. Given the above, transboundary impacts are therefore not considered further within this assessment. This approach has been agreed through consultation on the method statement with the ETG membership.

30.5 Existing Environment

108. The characterisation of the existing environment is undertaken using the five Community Capital Stocks framework from the Sustainable Livelihood Approach (***Table 30.7*** of ***section 30.4.1***). The data used to characterise the Existing Environment has been sourced from the ONS using the sources listed in ***Table 30.8*** of ***section 30.4.3***, unless stated otherwise.

109. The study areas are defined in ***section 30.3.1*** for economic and tourism impacts. The following assumptions about economic and tourism effects have been made so as to determine the baseline:

- Regional study to profile the socio-economic baseline for the supply chain uses statistics at the level of:
  - NALEP; and
  - County of Suffolk.
- Local study area to profile the socio-economic baseline for residential workers and workers in the tourism industry uses statistics at the level of:
  - Districts of Suffolk Coastal and Waveney (the data for the now East Suffolk area, is still currently presented as Suffolk Coastal and Waveney); and
  - The boroughs of Ipswich and Great Yarmouth.
- Visitor study area to profile the location of visitor attractions and tourism businesses that may potentially be affected by the proposed East Anglia TWO project:
  - A boundary of 1km around the onshore development area; and
  - Potential viewpoints.

110. These translate to the framework as follows in the sections below.

Table 30.19 Study Area Considered under each Community Capital Stock

Capital Stock	Economic study area	Tourism study area
Human Capital	Regional and local	Local
Productive Capital	Regional and local	Local
Social Capital	Local	Local
Physical Capital	Visitor	Visitor
Natural Capital	Visitor	Visitor

30.5.1 Human Capital

30.5.1.1 Population

111. The population of all of the study areas (NOMIS 2019a and 2019b) has increased between 2011 and 2017, ***Table 30.20***. However, during the same period the working age population (16-64) has decreased and the number of older age (65+) people has increased. This follows a general trend in Britain of an aging population with a corresponding decrease in the proportion of working age people, ***Plate 30.4***.

112. In Suffolk, the proportion of people that are above 65 years old is higher than the national average. Economically, people above 65 contribute less because the majority are no longer in employment but as they get older they require more support from the state through pensions and health support. Younger people contribute economically because they are in employment, however the proportion of working age people in Suffolk is lower than the national average. This indicates that a project which could attract more working age people to Suffolk would potentially have a beneficial economic effect.

Table 30.20 Population Trends (NOMIS, 2019a; NOMIS 2019b)

Age range	Year	Great Yarmouth	Ipswich	Suffolk Coastal	Waveney	Suffolk	Britain
16-64	2011	60,900	89,300	75,400	69,100	459,700	40,518,400
	2017	58,000	88,300	72,700	66,300	447,400	40,368,400
	Change	-4.8%	-1.1%	-3.6%	-4%	-2.7%	-0.4%
65+	2011	23,300	23,200	33,300	31,800	167,200	11,568,100
	2017	23,700	22,400	34,800	31,300	173,200	11,686,300

Age range	Year	Great Yarmouth	Ipswich	Suffolk Coastal	Waveney	Suffolk	Britain
	Change	1.7%	-3.45%	4.5%	-1.6%	3.6%	1%
Total	2011	97,400	133,700	124,600	115,400	730,100	61,470,800
	2017	99,400	138,500	129,000	117,900	757,000	64,169,400
	Change	2%	3.6%	3.5%	2.2%	3.7%	4.4%

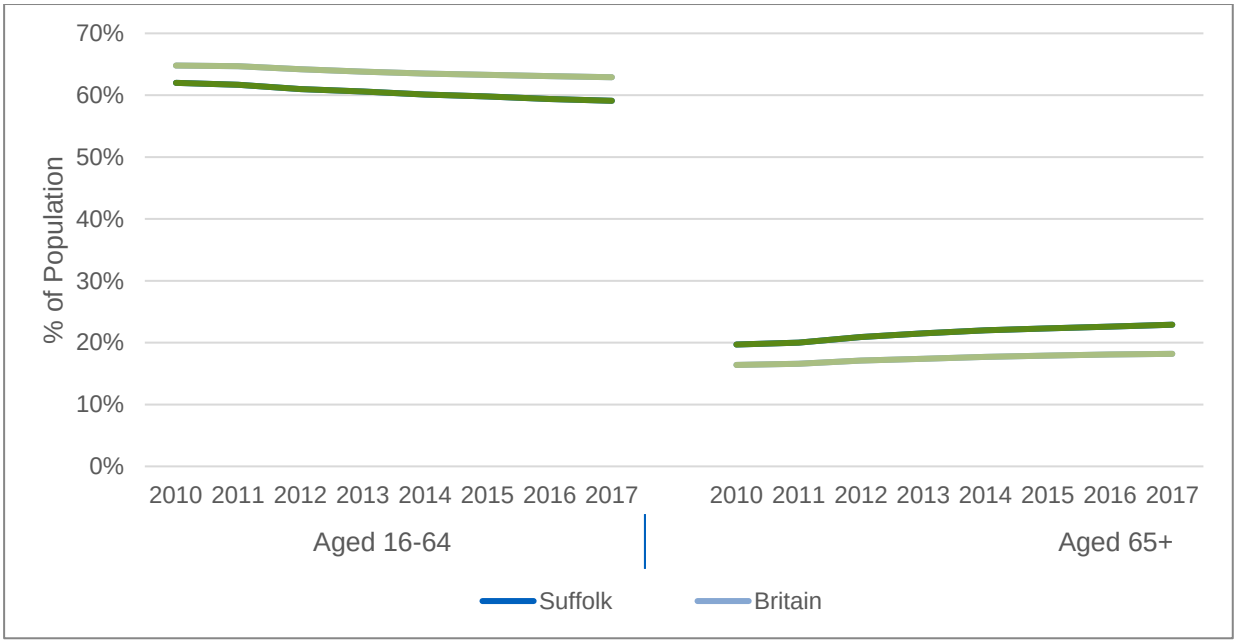

Plate 30.4 Population Trends in Suffolk and Britain

30.5.1.2 Population Projections

113. The ONS (2018) provides population projections up to 2040 based on 2016 data. This shows that the proportion of the population that is of a working age is predicted to decline, ***Plate 30.4,*** and the proportion of older age people is predicted to increase, ***Plate 30.5***. These trends within Suffolk and the local study area follow the same trend as the national trend. However, the proportion of the population that is working age is approximately 4% lower in Suffolk and the local study area than the national average. Whereas, the proportion of the population that is of an older age is approximately 5% higher than the national average.

114. ***Table 30.20*** shows that there has been a relatively high growth in the older age population in Suffolk Coastal and Waveney in comparison with other areas. In combination with the projections in ***Plate 30.5***, this suggests that there will be a higher proportion of older people in the population that is very local to the onshore development area. As older people are more likely to be retired they are more

likely to spend more time at home and would therefore be more sensitive to changes. This is discussed further in ***Chapter 27 Human Health***.

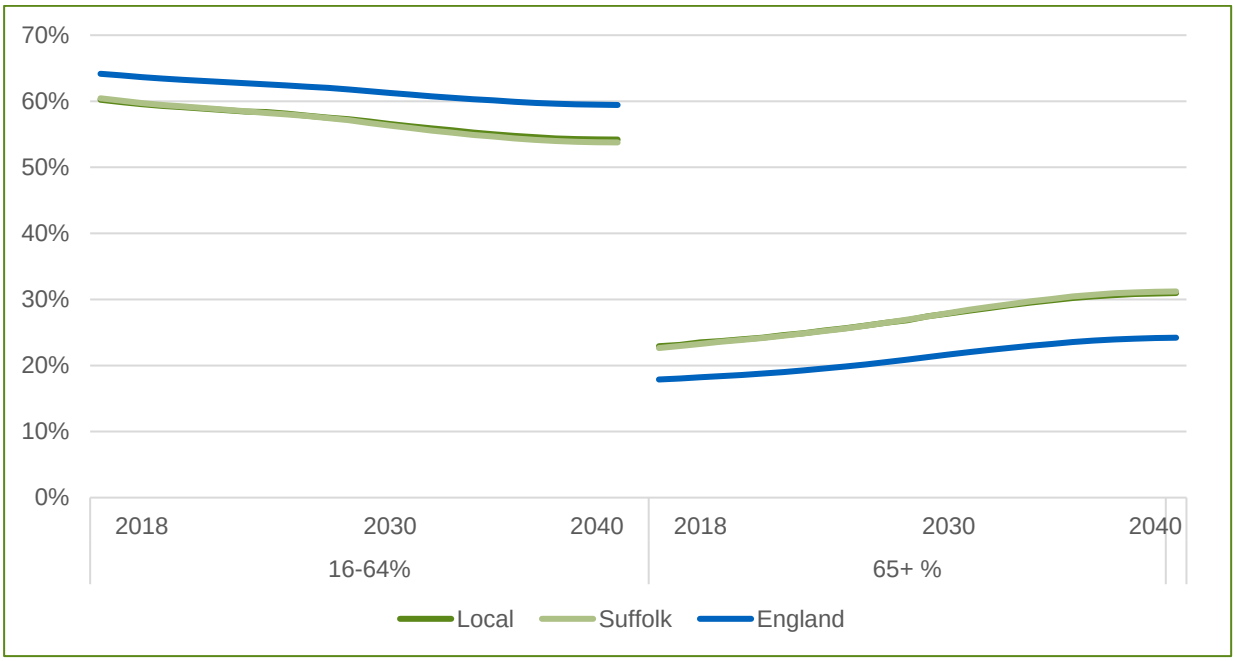

Plate 30.5 Population Projections to 2040 (ONS, 2018)

30.5.1.3 Qualifications

115. Qualification levels correlate well with income levels (NOMIS 2019a and 2019b). Across all study areas there has been an increase in all qualification levels (defined in ***Table 30.22***) between 2005 and 2018 ***Table 30.21***. Qualification levels in NALEP, Suffolk, and locally are marginally lower than the national average. Data from the Local Government Association (2019) provided by the East Suffolk Council shows the proportion of the population aged 16-64 being qualified to Level 4 or above in Suffolk has increased by 10% since 2007 from 22.6 to 32.6%. This is a higher proportion than the neighbouring counties of Norfolk (29.6%) and Essex (31.1%), but significantly lower than neighbouring Cambridgeshire (44.9%). Despite the notable 10% increase, Suffolk remains below the mean qualification level across English county authorities which averages 37.9% of 16-64 year olds achieving a minimum of Level 4 education.

116. This gap increases as the area size decreases so the local population has relatively fewer qualifications than the average across NALEP and in comparison, to the national average. The proportion of the local population with no qualifications or other qualifications (defined by NOMIS as foreign qualifications and some professional qualifications) is also marginally higher than national or regional average, ***Plate 30.6***.

117. It should be noted that smaller statistical groupings are more likely to be influenced by external factors such as geography. For example, a small group in certain areas of Cambridge may have disproportionately high levels of qualifications due to the location of universities. In the case of the skill set for the energy sector, there is a similar concentration in Lowestoft and Great Yarmouth, a legacy from the oil and gas activity in the Southern North Sea and built on with windfarm projects off the East Anglia coast. Whereas the local population may have relatively lower qualifications because its rural and agricultural or tourist employment requires fewer academic qualifications.

118. It is not possible to cross reference the qualification levels with the employment areas shown below, but this does indicate that the regional population may have the level of qualifications required to take advantage of employment opportunities in the offshore wind sector. But that there is also opportunity to improve these levels through vocational training in technical sectors that could lead to higher qualifications.

Table 30.21 Changes in Qualification Levels (NOMIS, 2019a; NOMIS, 2019b)

	NALEP %			Suffolk %			Local %			Britain %
	2005	2018	Change	2005	2018	Change	2005	2018	Change	2018
No Qualifications	14.6	6.8	-7.7	14.7	4.9	-9.8	17.0	7.9	-9.1	7.8
NVQ1	15.9	14.9	-1.0	14.7	14.2	-0.5	15.4	16.2	0.8	10.5
NVQ2	17.3	18.8	1.5	17.3	20.1	2.8	17.3	20.5	3.2	15.7
Trade Apprenticeships	6.2	3.5	-2.7	5.8	3.7	-2.1	6.6	4.1	-2.5	2.9
NVQ3	13.4	16.9	3.5	13.1	16.0	2.9	13.4	15.5	2.1	17
NVQ4+	20.7	30.4	9.7	22.3	31.7	9.4	19.0	25.7	6.7	39.3
Other Qualifications	7.0	6.8	-0.3	7.1	6.8	-0.3	7.0	7.3	0.3	6.8

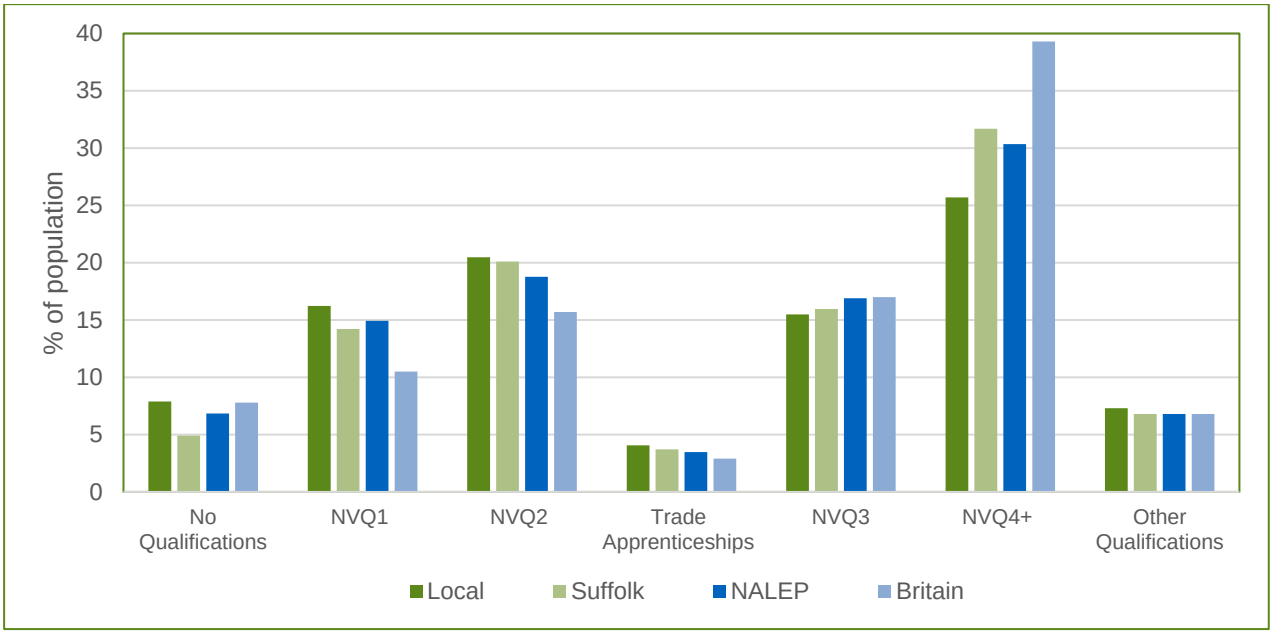

Plate 30.6 Comparison of Qualification Levels in 2018 (NOMIS, 2019a; NOMIS, 2019b)

Table 30.22 Summary of National Vocational Qualifications (NVQs) as defined by ONS

NVQ level	Equivalent Academic Level	Notes
NVQ1+	GCSE grades D-G, 3/Foundations S Grade, Scottish Access 1-2, Level 1 vocational awards	Routine tasks and basic knowledge
NVQ2+	GCSE Grades A*-C, Scottish Intermediate 2/Credit S Grade, Level 2 vocational awards	Need some prior knowledge of subject area
NVQ3+	A-Level, Scottish Higher, Level 3 vocational awards Business and Technology Education Council (BTEC) National Certificate/Diploma	Covers more complex work and supervisory skills.
NVQ4+	Licentiateship (LCGI), Higher Professional Diploma, Level 4 vocational awards, Undergraduate level	Likely to have management experience.
Other NVQ+ qualifications including NVQ level 5	Can include Graduateship (GCGI), Associateship (ACGI), equivalent to a Graduate level.	For senior managers.

30.5.1.4 Travel to Work

119. Census data from 2011 shows that the largest proportion of people travel to work by car, ***Plate 30.7***, and that on average people travel 15 to 20 miles to work, ***Plate 30.8***. Department for Transport (DfT) statistics (DfT 2016) show that the average speed on an A road in England, such as the A12, is 24-25mph during the 7am-10am peak. This suggests that the average commuter time would between 36 minutes (15 miles at 25mph) and 50 minutes (20 miles at 24mph).

120. This approximately correlates with the 60 and 45-minute travel to work radius used in ***Chapter 26 Traffic and Transport*** for residential[2] and non-residential[3] workers, respectively. It should also be considered that staff in the construction sector tend to travel longer distances on average due to the contractual nature of their employment and the need to travel to wherever the work is for short durations. So, it is reasonable to assume that construction staff would be drawn from Ipswich, Lowestoft, and Great Yarmouth because they can travel along the A12 to the project construction site. However, non-residential workers are likely to try to minimise their commute by staying as close as possible to site and therefore would benefit the hotels outlined in ***section 30.5.4*** through expenditure.

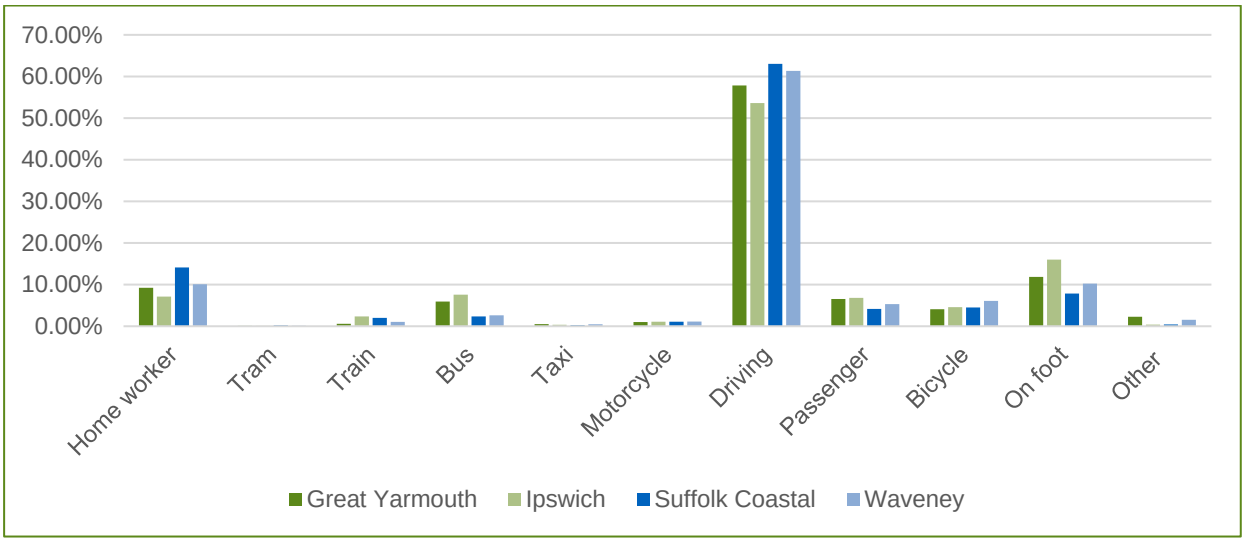

Plate 30.7 Method of Travel to Work (ONS, 2011)

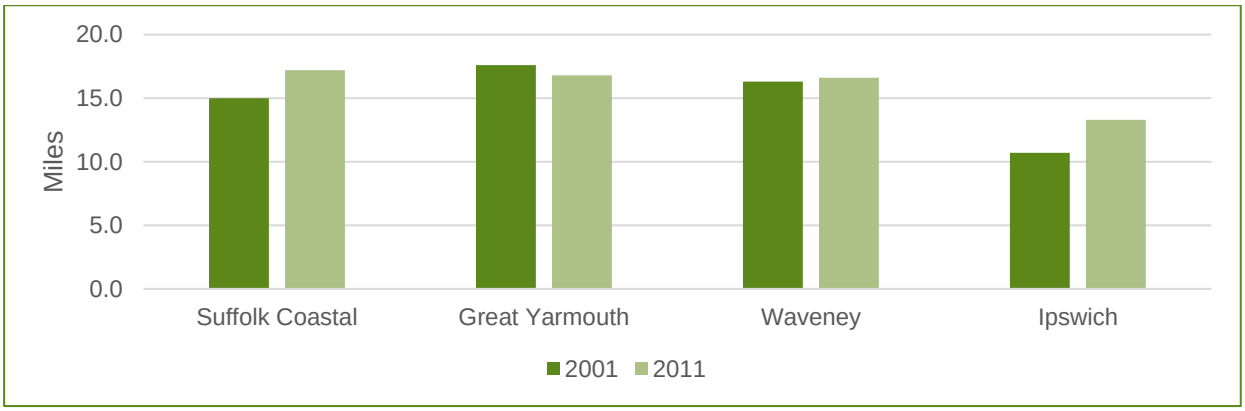

Plate 30.8 Average Distance Travelled to Work (ONS, 2011)

[2] Those that live permanently in the area
[3] Those that are visiting the area for work

30.5.2 Productive Capital

30.5.2.1 Economic Activity

121. During the 2004-2018 period, the economic activity rate of people aged 16-64 in Great Yarmouth and Waveney (NOMIS 2019a and 2019b) is lower than those in Suffolk Coastal, and in Ipswich where the rate is dropping, ***Plate 30.9***.

122. In general, the current rate in the local study area is slightly below that of Suffolk and the NALEP (***Table 30.23***). The level of economic activity in the local and regional study areas is marginally higher than the British average of 78.4% (between December 2018 - February 2019). The economic activity rate in both NALEP and Suffolk County have a relatively stable increase rate, rising 2.44% and 5.56% respectively from 2004 to 2019, ***Table 30.23***.

Table 30.23 Economic Activity (NOMIS, 2019a; NOMIS 2019b)

	Local		Suffolk		NALEP	
Year	**Residents aged 16-64**	**%**	**Residents aged 16-64**	**%**	**Residents aged 16-64**	**%**
2011	209,100	77.28	386,300	77.3	718,900	78.
2019	218,600	78.6	357,100	81.6	768,100	79.9
Change	4.54%	1.71	-7.56%	5.56	6.84%	2.44

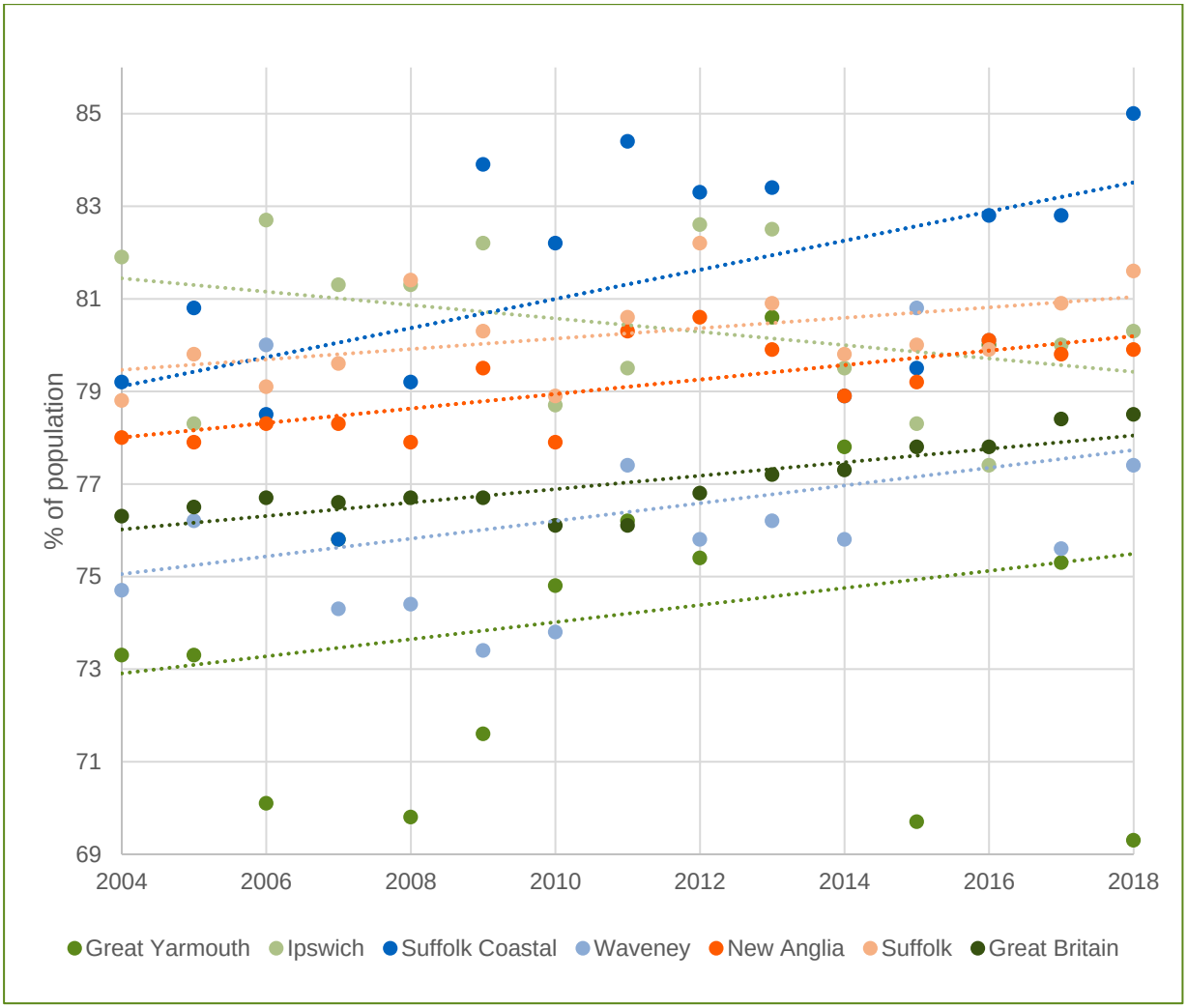

Plate 30.9 Economic Activity Trends

30.5.2.2 Economic Inactivity

123. As can be expected the economic inactivity rate (NOMIS 2019a and 2019b) mirrors the economic activity rate, ***Plate 30.10***. Economic inactivity has been dropping across the region between 2004 and 2018. As with economic activity, in Ipswich economic inactivity has been increasing. The levels of economic inactivity are generally lower in Ipswich and Suffolk Coastal than in Waveney and Great Yarmouth. Regionally, economic inactivity has reduced by approximately 2% in both Suffolk and NALEP, ***Table 30.24***.

Table 30.24 Economic Inactivity Rate

	Local		Suffolk		NALEP	
Year	**People**	**%**	**People**	**%**	**People**	**%**
2004	60,400	22.41	89,300	21.2	202,900	22
2018	59,600	21.43	80,600	18.4	193,400	20.1
Change	-1.34%	-0.98	-10.79%	-2.8	-4.91%	-1.9

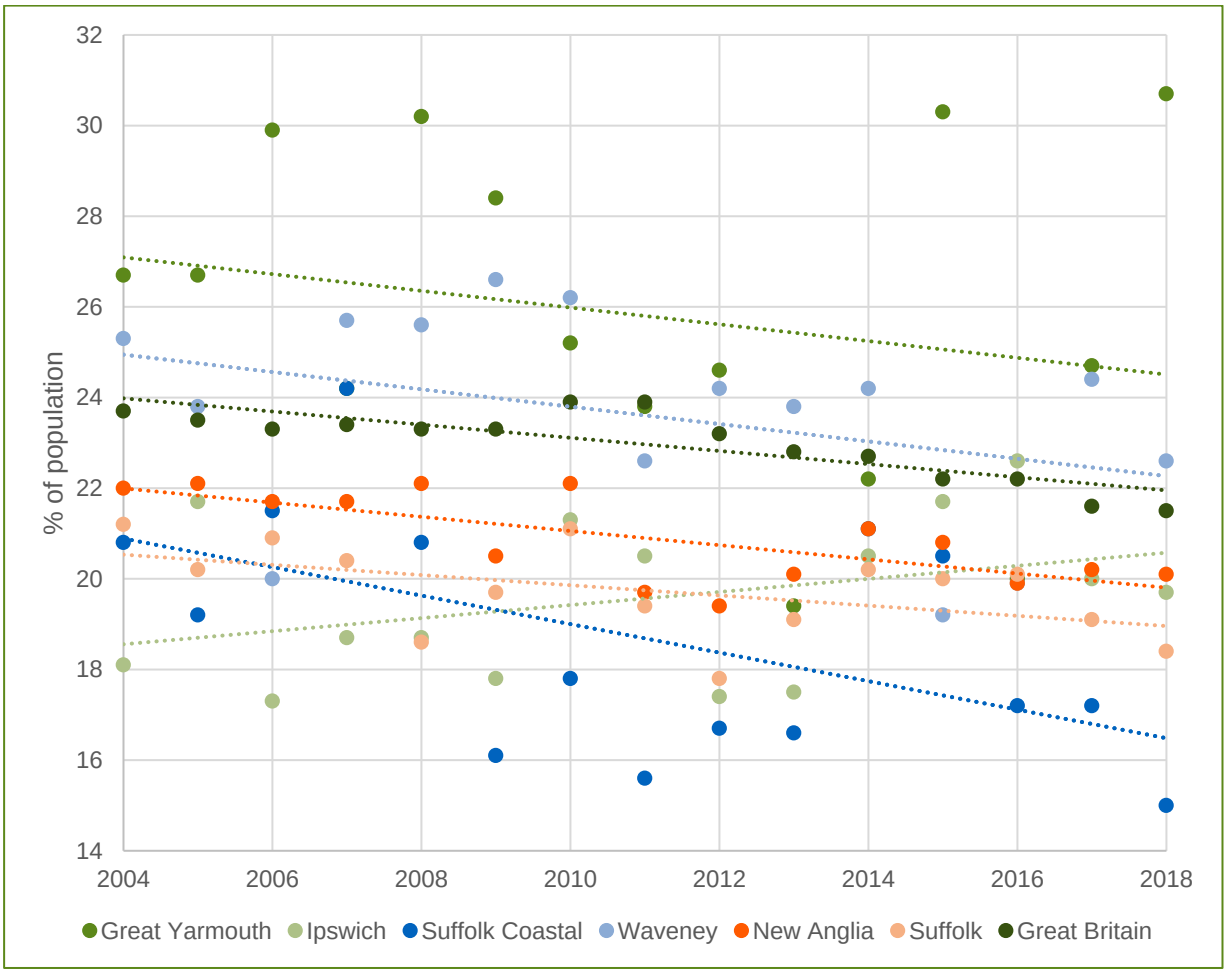

Plate 30.10 Economic Inactivity Trends

30.5.2.3 Employment Levels

124. Employment levels in Suffolk Coastal and Great Yarmouth (NOMIS 2019a) are increasing, ***Table 30.25***. In Ipswich, they are decreasing and in Waveney they are static. Employment in Great Yarmouth and Waveney is generally lower than in Ipswich and Suffolk Coastal. However, if trends continue the employment level in Great Yarmouth will be higher than in Ipswich and Waveney. But it should be noted that there are significantly more people in Ipswich than other local areas studied. In general, the employment level in Suffolk and NALEP is increasing, ***Plate 30.11***, and have increased by 1.5% from 2004 to 2018, ***Table 30.25***.

Table 30.25 Employment Levels (NOMIS, 2019a; NOMIS, 2019b)

	Local		Suffolk		NALEP	
Year	**People**	**%**	**People**	**%**	**People**	**%**
2004	201,700	74.84	369,200	75.30	694,100	75.30
2018	209,700	75.40	343,500	78.5	738,500	76.8
Change	3.97%	0.56	-7%	3.2	6.4%	1.5

30.5.2.4 Employment by Sector

125. The largest employment sectors (NOMIS 2018) regionally are Health, Retail, Manufacturing, Business administration and support services, Education and followed by Accommodation and food services, as shown in ***Plate 30.11***. Both manufacturing and construction make up approximately 16% of employment together, having declined slightly from 2004 to 2017, ***Table 30.26***.

126. Within the NALEP labour market there were 71,050 people in 2018 working in sectors relevant to either the construction or operation of the proposed East Anglia TWO project, ***Table 30.27***. The number of people in these sectors has increased since 2015. Of those working in relevant sectors the largest proportion are in *"specialised construction", "construction of buildings",* and *"engineering activities"*, ***Plate 30.12***.

127. Within the NALEP labour market the largest proportion of people are working in *"professional occupations",* then *"associated professional and technical operations",* and *"skilled trades"* (***Table 30.28***). Although it is not possible to identify the overlap between those working in technical or skilled occupations with those working in sectors relevant to the proposed East Anglia TWO project, this does suggest that the NALEP labour market has a significant number of people that could potentially benefit from the construction of an offshore windfarm through employment opportunities.

Table 30.26 Broad Regional Employment Grouping (NOMIS, 2018)

Grouping	NALEP %			Suffolk %		
	2009	**2017**	**Change**	**2009**	**2017**	**Change**
Agriculture, forestry and fishing	0.3	2.0	1.7	1.7	1.6	-0.1
Mining, quarrying and utilities	1.1	1.3	0.2	1.2	1.4	0.2
Manufacturing	10.7	9.7	-1	11.1	10.3	-0.8
Construction	5.8	5.1	-0.7	5.4	5.3	-0.1
Motor trades	1.8	2.2	0.4	1.7	2.2	0.5

Grouping	NALEP %			Suffolk %		
	2009	2017	Change	2009	2017	Change
Wholesale	3.7	3.8	0.1	3.7	3.8	0.1
Retail	11.8	10.6	-1.2	10.8	10.0	-0.8
Transport and storage (incl. postal)	5.7	4.8	-0.9	7.1	6.3	-0.8
Accommodation and food services	6.6	8.0	1.4	6.1	7.5	1.4
Information and communication	2.3	2.5	0.2	2.7	3.1	0.4
Financial and insurance	3.7	3.1	-0.6	3.0	2.5	-0.5
Property	1.6	1.3	-0.3	1.5	1.3	-0.2
Professional, scientific and technical	5.0	6.2	1.2	5.1	6.3	1.2
Business administration and support services	7.6	8.3	0.7	7.8	9.4	1.6
Public administration and defence	5.7	3.9	-1.8	5.7	4.1	-1.6
Education	8.7	8.1	-0.6	8.8	7.5	-1.3
Health	13.1	14.2	1.1	11.5	12.5	1
Arts, entertainment, recreation and other services	4.5	4.8	0.3	4.4	5.0	0.6

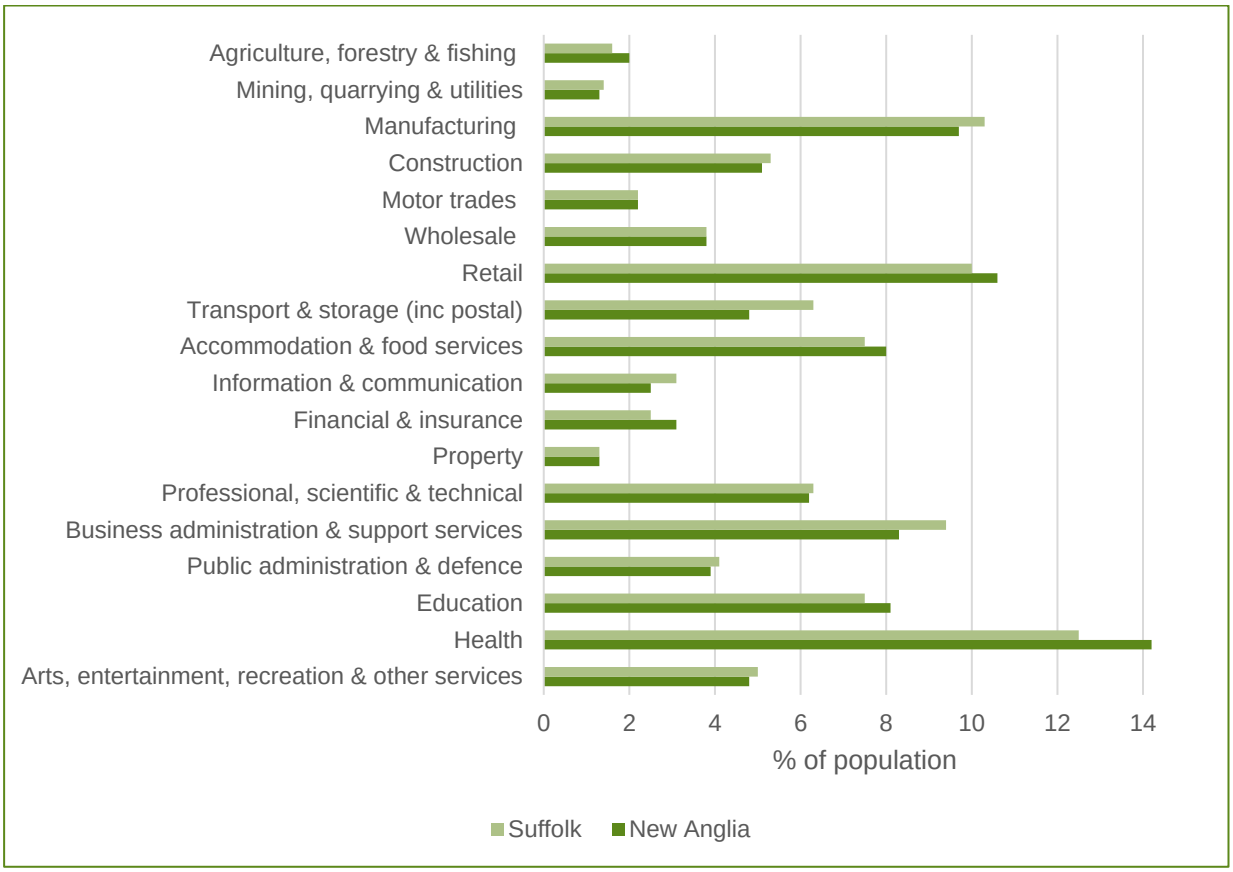

Plate 30.11 Comparison of Employment by Sector in 2017 (NOMIS, 2018)

Table 30.27 Employment in New Anglia LEP that is Relevant to the Proposed East Anglia TWO project (NOMIS, 2018)

Standard Industrial Classification (SIC) relevant to East Anglia TWO		England		New Anglia		Suffolk		Local	
		2015	2017	2015	2017	2015	2017	2015	2017
6	Extraction of crude petroleum and natural gas	4,600	3000	400	700	0	0	50	50
28	Manufacture of machinery and equipment	71,000	163,000	2,450	7,000	1,370	3,500	760	2100
30	Manufacture of other transport equipment	12,000	105,000	300	1250	250	350	265	290
33	Repair and installation of machinery and equipment	466,000	100,000	2,245	4,000	765	1,750	705	1300
35	Electricity, gas, steam and air conditioning supply	17,200	109,000	2,500	3,500	2,140	2,500	1,800	2,275
41	Construction of buildings	94,000	379,000	12,250	9,000	5,600	4,500	3,135	2,550

Standard Industrial Classification (SIC) relevant to East Anglia TWO		England		New Anglia		Suffolk		Local	
		2015	2017	2015	2017	2015	2017	2015	2017
42	Civil engineering	386,250	184,000	5,785	6,000	2,905	4,000	1,335	1,425
43	Specialised construction activities	667,000	665,000	20,345	20,000	8,590	8,000	4,565	4500
50	Water transport	19,000	11,000	425	600	350	400	355	400
71	Engineering activities; technical testing and analysis	23,000	411,000	7,000	11,000	2,850	5,000	3,125	3,750
82	Office administrative	22,000	463,000	125	8000	75	3500	40	2200
	Total	1,782,050	2,593,000	53,825	71,050	24,895	33,500	16,135	20,840

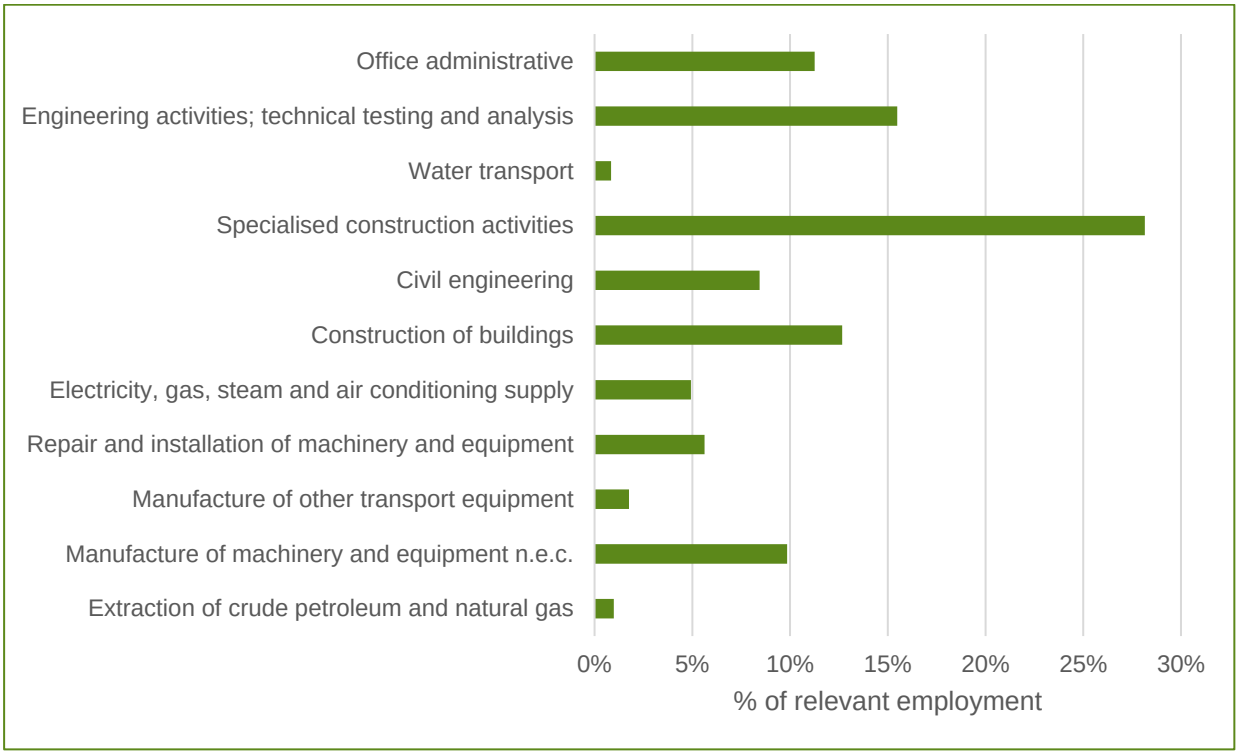

Plate 30.12 Distribution of the 71,050 people employed in NALEP in sectors relevant to the proposed East Anglia TWO project in 2017

Table 30.28 Employment by type of Occupation

	NALEP %			Suffolk %			Local %		
	2005	2018	Change	2005	2017	Change	2005	2017	Change
1: Managers, directors and senior officials	9.3	10.6	1.3	8.9	10.7	1.8	8.1%	9.5%	1.4%
2: Professional occupations	14.8	17.5	2.7	15.2	17.6	2.4	14.7%	15.2%	0.6%

	NALEP %			Suffolk %			Local %		
	2005	2018	Change	2005	2017	Change	2005	2017	Change
3: Associate prof and tech occupations	12.3	12.8	0.5	12.6	13.7	1.1	11.6%	13.1%	1.5%
4: Administrative and secretarial occupations	12.0	10.6	-1.4	12.3	11.3	-1.0	12.9%	11.1%	-1.8%
5: Skilled trades occupations	13.9	12.2	-1.7	13.1	11.5	-1.6	13.1%	12.3%	-0.8%
6: Caring, leisure and other service occupations	8.0	9.8	1.8	8.2	9.6	1.4	8.9%	12.3%	3.4%
7: Sales and customer service occupations	8.0	7.8	-0.2	8.3	7.7	-0.6	9.2%	8.2%	-0.9%
8: Process, plant and machine operatives	9.1	7.5	-1.6	9.1	6.5	-2.6	9.7%	6.2%	-3.5%
9: Elementary occupations	12.4	11.1	-1.3	12.1	11.2	-0.9	11.5%	11.9%	0.4%

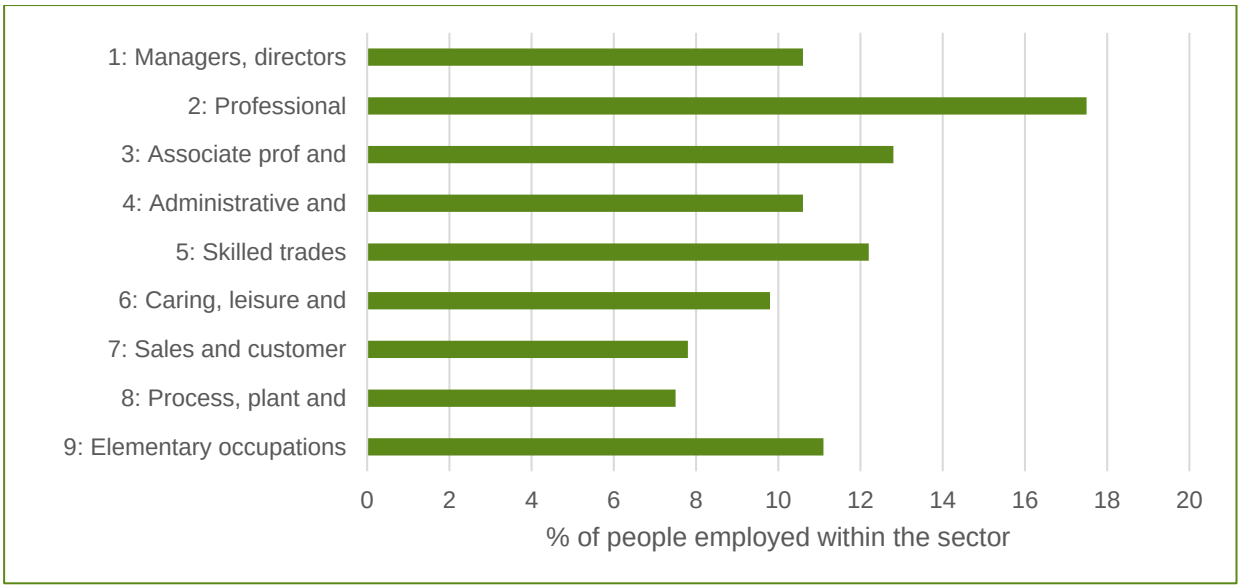

Plate 30.13 Employment by type of Occupation in NALEP in 2018

30.5.2.5 Unemployment Rates

128. The number of people claiming Jobs Seekers Allowance (JSA) in NALEP (NOMIS 2019b) in sectors that are relevant to the proposed East Anglia TWO project have dropped significantly from 2013 to 2017,as shown in ***Table 30.29***. However, as shown in ***Plate 30.14*** and ***Plate 30.15*** the number of JSA claimants has dropped faster than the number of unemployed people. A similar trend is seen in JSA claimant rates at a national level and therefore this drop may be attributed to a change in how JSA claimants are recorded or categorised rather than an actual drop in the real number. However, the decline in unemployment and JSA claimants does correlate with the decline in economic inactivity across

NALEP and may show that there is opportunity to employ appropriately skilled unemployed people.

Table 30.29 Job Seekers Allowance claimants in NALEP categorise by their usual work or the work they are seeking

		Science and Technology		Skilled				
	Year	Professionals	Associate Professionals	Metal and Electronic	Construction	Transport and Machine Drivers	Plant Related	Total
Usual	2013	232	283	655	891	1286	3999	7346
	2014	112	156	331	404	666	2379	4048
	2015	39	73	150	164	290	1124	1841
	2016	22	38	68	84	145	663	1020
	2017	10	26	33	49	78	412	608
	2018	23	78	25	36	60	61	283
Sought	2013	226	294	664	888	1333	3915	7320
	2014	106	159	334	393	696	2348	4037
	2015	42	72	155	163	303	1099	1833
	2016	23	33	77	82	154	633	1000
	2017	13	21	35	46	86	400	600
	2018	26	78	29	34	68	63	298

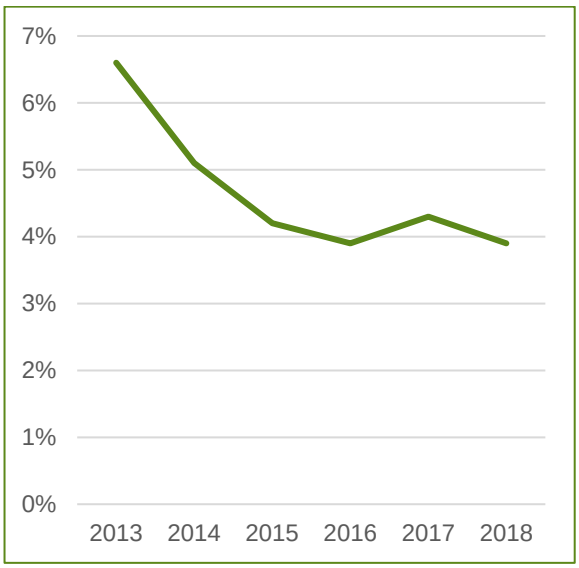

Plate 30.14 Unemployment levels in New Anglia LEP

Plate 30.15 Job Seekers Allowance levels in New Anglia LEP

30.5.2.6 Average Income

129. ***Plate 30.16*** shows that average weekly earnings for full time workers in NALEP (NOMIS 2019b) are significantly lower than in the United Kingdom as a whole, with the current average for NALEP being £621.90 and for Britain £685.30 in December 2018. Earnings at both scales have increased linearly over time at a similar rate. This indicates that there is potential to improve average wage levels.

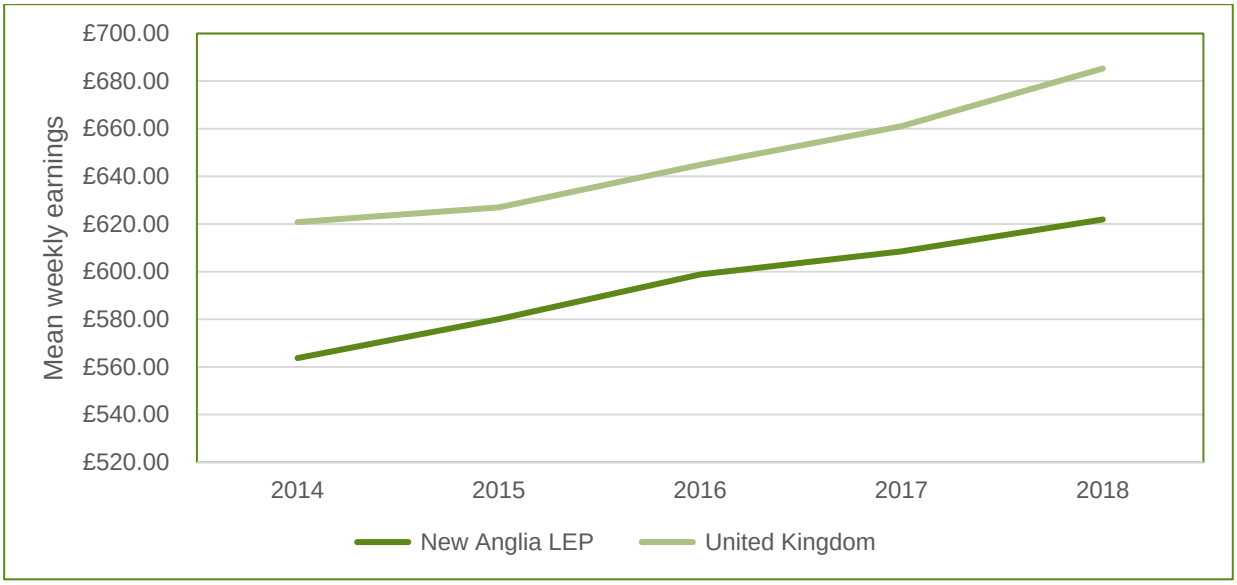

Plate 30.16 Mean Weekly Earnings for full time workers in the New Anglia LEP compared to the UK as of December 2018

30.5.2.7 Employment in Tourism and Hospitality

130. Using statistics for employment in distribution, hotels, and restaurants (NOMIS 2018) it can be seen that the sectors employment has increased across all areas by 1.7 to 1.9% between 2004 and 2017, ***Plate 30.17*** and ***Table 30.30***. Except Waveney where it has dropped by approximately 2% and Suffolk Coastal where it is generally stagnant. Across the local study area 48,200 people were employed in tourism related industries in 2017, which is 29.4% of the total tourism employment in NALEP.

Table 30.30 Employment in Tourism and Hospitality (NOMIS, 2018)

	Local		Suffolk		NALEP	
Year	People	%	People	%	People	%
2004	41,500	20.1	61,500	18.5	139,100	19.5
2018	42,000	19.1	68,800	18.8	146,900	18.8
Change	1.20%	-1.00	11.87%	0.30	5.61%	-0.70

Plate 30.17 Hospitality Employment Trends

30.5.2.8 Value and Volume of Tourism and Hospitality

131. Destination Research produced a study of the Economic Impact of Tourism to the Suffolk Coastal AONB (Destination Research 2017).

132. ***Plate 30.18*** shows that peak tourism is in the summer months, as would be expected, and that there is a dip from October to April, particularly for overnight visitors.

133. ***Table 30.31*** shows that on average an overnight visitor would spend between £57.62 and £232.71 in total per night. Whereas ***Table 30.32*** shows that visitors tend to spend slightly more if they are visiting the coast than rural or urban areas. A comparison of the total value of tourism to the number of FTE jobs in tourism (***Table 30.31***) shows a ratio of approximately 1 FTE job per £61,767 of tourism expenditure.

Table 30.31 Summary of Tourism and Hospitality Impacts for Suffolk Coast AONB (Destination Research, 2017)

Factor	2015	2017	Variation
Total number of trips (day and staying)	4,028,128	4,167,368	3.46%
Total staying trips	308,300	306,600	-0.65%
Total staying nights	1,236,000	1,267,000	31,000
Total staying spend	£66,716,000	£78,933,000	£12,217,000
Total day trips	3,719,828	3,860,768	140,940
Total day trip spend	£81,460,486	£84,496,075	£3,035,589
Total visitor spend	£150,462,315	£164,492,409	£14,030,094
Indirect / induced spend	£41,434,000	£45,576,000	£4,142,000
Indirect / induced Multiplier	0.28	0.28	0.3
Total Tourism Value	£191,896,315	£210,068,409	£18,172,094
Full time equivalent jobs	3,104	3,401	297
Ratio of Tourism Value to FTE	£61,822 per FTE	£61,767 per FTE	-0.09%
Average length stay (nights x trip)	4.01	4.13	0.12
Spend x overnight trip	£216.40	£257.45	£41.05
Spend x night	£53.93	£62.30	£8.37
Spend x day trip	£21.90	£21.89	-£0.01

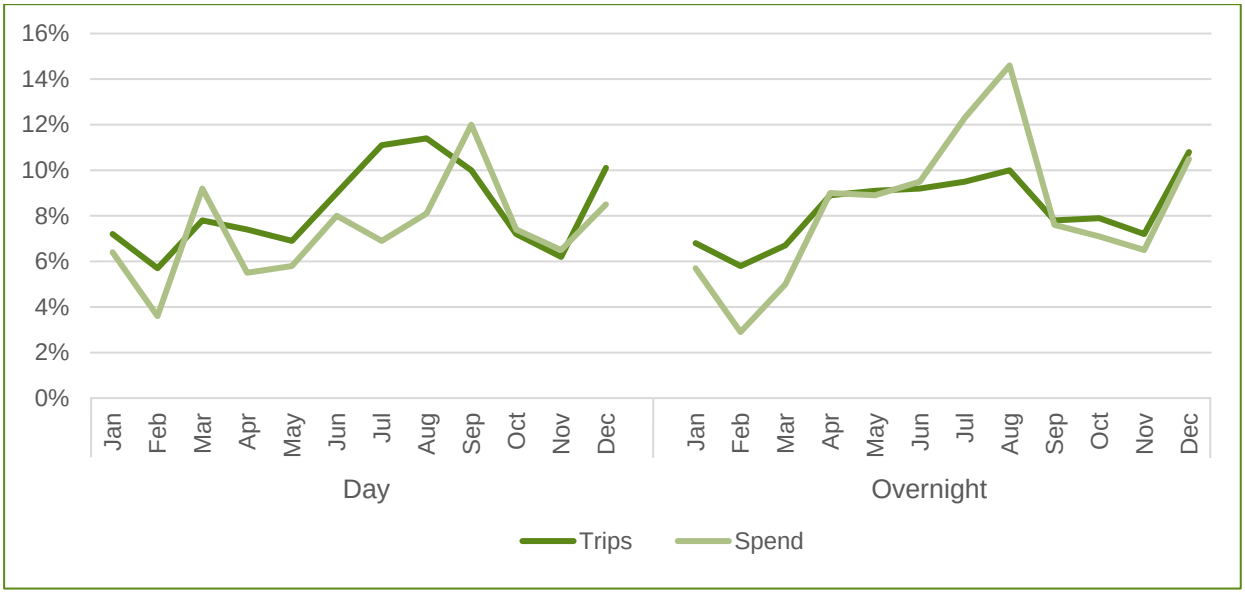

Plate 30.18 Seasonality of Tourism in Suffolk Coast AONB (Destination Research, 2017)

Table 30.32 Day Trip Expenditure in Urban, Rural, and Coastal Areas (Destination Research, 2017)

	Trips	Spend	Spend per day trip
Urban visits	327,000	£9,711,900	£29.70
Countryside visits	1,520,194	£21,404,335	£14.08
Coastal visits	2,013,574	£53,379,840	£26.51
Total 2017	3,719,828	£81,460,486	£21.90
Total 2015	3,788,126	£82,931,224	£21.89
Difference	2%	2%	

30.5.2.9 Summary of Human and Productive Capital Stocks

134. The population of NALEP, Suffolk, and local districts are aging in line with national averages but have a higher proportion of older people. Qualification levels are slightly below national averages at all levels across NALEP.

135. There are a significant number of people working in sectors that are relevant to the proposed East Anglia TWO project and at levels that are relevant, both for construction and operation. During construction, it is reasonable to assume that staff would be drawn from the labour markets around Ipswich, Lowestoft, and Great Yarmouth due to the location relative to the A12. These areas have lower levels of employment and economic activity, so would benefit more from employment opportunities. It is also reasonable to assume that a notable proportion of the wider supply chain may be drawn from the NALEP labour market but further analysis is needed to understand this probability.

136. Tourism and hospitality accounts for approximately 20% of employment at all study levels. In general employment in tourism and hospitality is growing except in Suffolk Coastal where employment levels are relatively static. Both sectors in Suffolk Coastal AONB experience peaks in the summer months and drops in the winter months. This may limit the growth in FTE jobs and therefore, there may be an opportunity to benefit local hoteliers and restaurateurs through the off-peak season. Overnight visitors tend to spend around £60 per night and day visitors tend to spend more if they are visiting the coast than if they are visiting inland areas. This indicates that the coastal tourism industry would be more sensitive to impacts as they would lose more per head if people were deterred.

30.5.3 Social Capital

137. Social capital is a particularly difficult concept to measure. The ONS produces national statistics and last published these in May 2017. ONS (2017) uses *"25 measures have been developed using a framework that covers four key aspects*

of social capital: personal relationships, social network support, civic engagement and trust and cooperative norms." (ONS 2015)

138. These statistics are not published at a smaller geographic scale than nationally, but they do provide a general insight to the social capital of the nation and can be summarised as follows:

- The most recent data show a largely positive picture of social capital in the UK over the longer-term with over half of the indicators showing improvement over a period of three years;
- Most adults in the UK have at least one close friend. However, there has been a fall in the proportion of people saying they have someone to rely on a lot in case of a serious problem;
- Over two-thirds of UK adults report stopping and talking to their neighbours; and
- More people are engaging in unpaid volunteering.

30.5.3.1 Indices of Multiple Deprivation

139. In absence of smaller scale social capital statistics, IMD (Department for Communities and Local Government (DCLG) 2015 via ONS) will be used to understand the general wellbeing at a local and regional scale (site specific deprivation levels of communities are considered in ***Chapter 27 Human Health***). IMD use 9 indicators and one general indicator (***Table 30.33***) to indicate how deprived an area is in comparison to other areas in the UK of a similar scale. IMD cannot be used to show the absolute levels of wellbeing, only the level in comparison to other areas. A low rank shows a high level of deprivation in comparison to other areas. To be ranked 1st shows that the area is the most deprived in that aspect in comparison to all other areas.

140. As each indicator has a different scoring system the rank of scoring has been used in ***Plate 30.19, Plate 30.20,*** and ***Plate 30.21***. These have been depicted as spider diagrams because it is easier to see which aspects are most or least deprived. A small circle on the spider diagram indicates comparatively high deprivation in all levels. Whereas a large circle indicates comparatively low deprivation.

141. In comparison with other LEPs in England, ***Plate 30.19*** shows that NALEP is relatively deprived in education and there are barriers to housing but average on most other aspects. That is, people find it harder to access either of these elements than in other LEPs. The NALEP area experiences relatively low crime.

142. In comparison to other counties in England, ***Plate 30.20*** shows that Suffolk has low deprivation levels in most areas except education and barriers to housing. The difference may be due to deprived areas in Norfolk, such as Great Yarmouth (***Plate 30.21***), that reduce the overall average.

143. In comparison to other districts in England, ***Plate 30.21*** shows that Suffolk Coastal has relatively low deprivation levels – i.e. it is not deprived in comparison to other districts. Whereas urban areas such as Waveney (Lowestoft), Great Yarmouth and Ipswich are relatively deprived in most areas except barriers to housing.

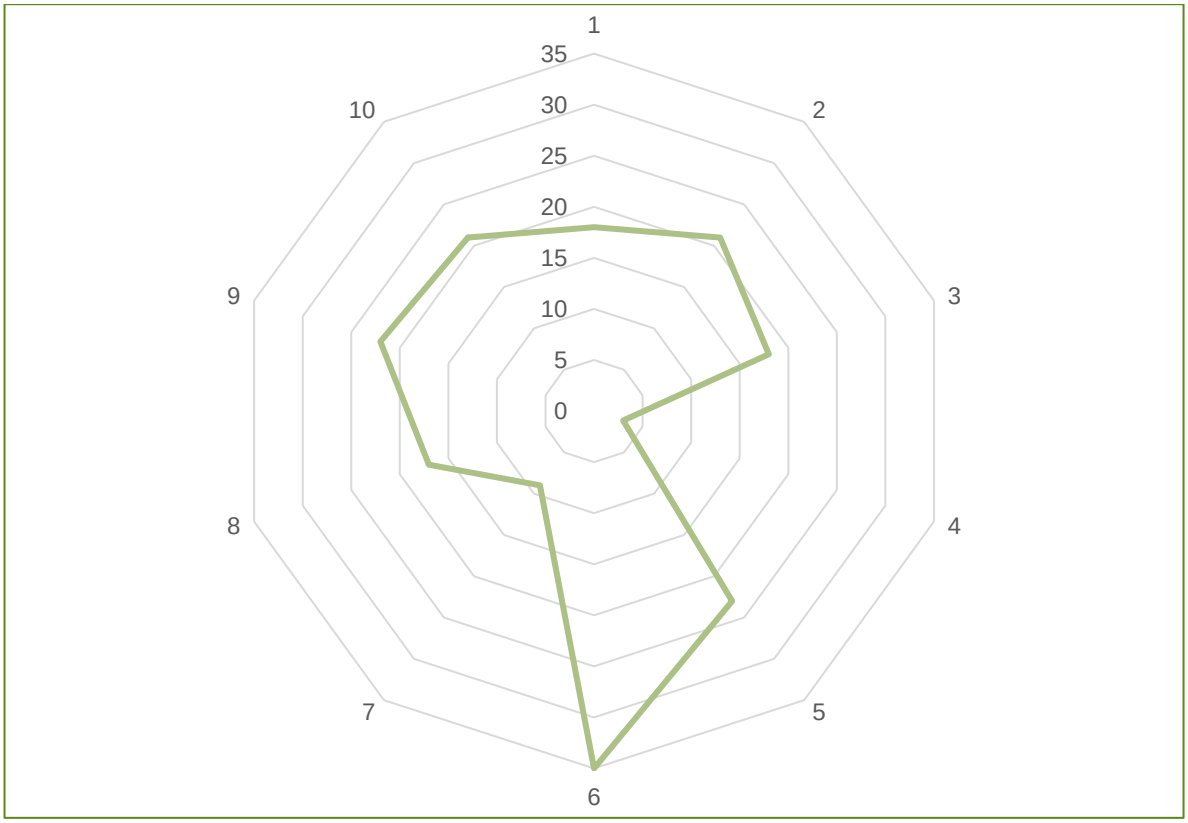

Plate 30.19 IMD for NALEP (ONS, 2017)

Plate 30.20 IMD for Suffolk (ONS, 2017)

Table 30.33 Key for Indices of Multiple Deprivation

1	**IMD**	6	**Crime**
2	**Income**	7	**Barriers to Housing and Services**
3	**Employment**	8	**Living Environment**
4	**Education**	9	**Deprivation Affecting Children**
5	**Health Deprivation**	10	**Deprivation Affecting Older People**

144. The relative deprivation levels in Great Yarmouth, Waveney, and Ipswich indicate that these areas may benefit from sustainable employment through the development of offshore wind and the creation of a market to support these. Whereas the relatively low levels of deprivation in Suffolk Coastal indicate that the population may be more resilient to change and less vulnerable to impacts.

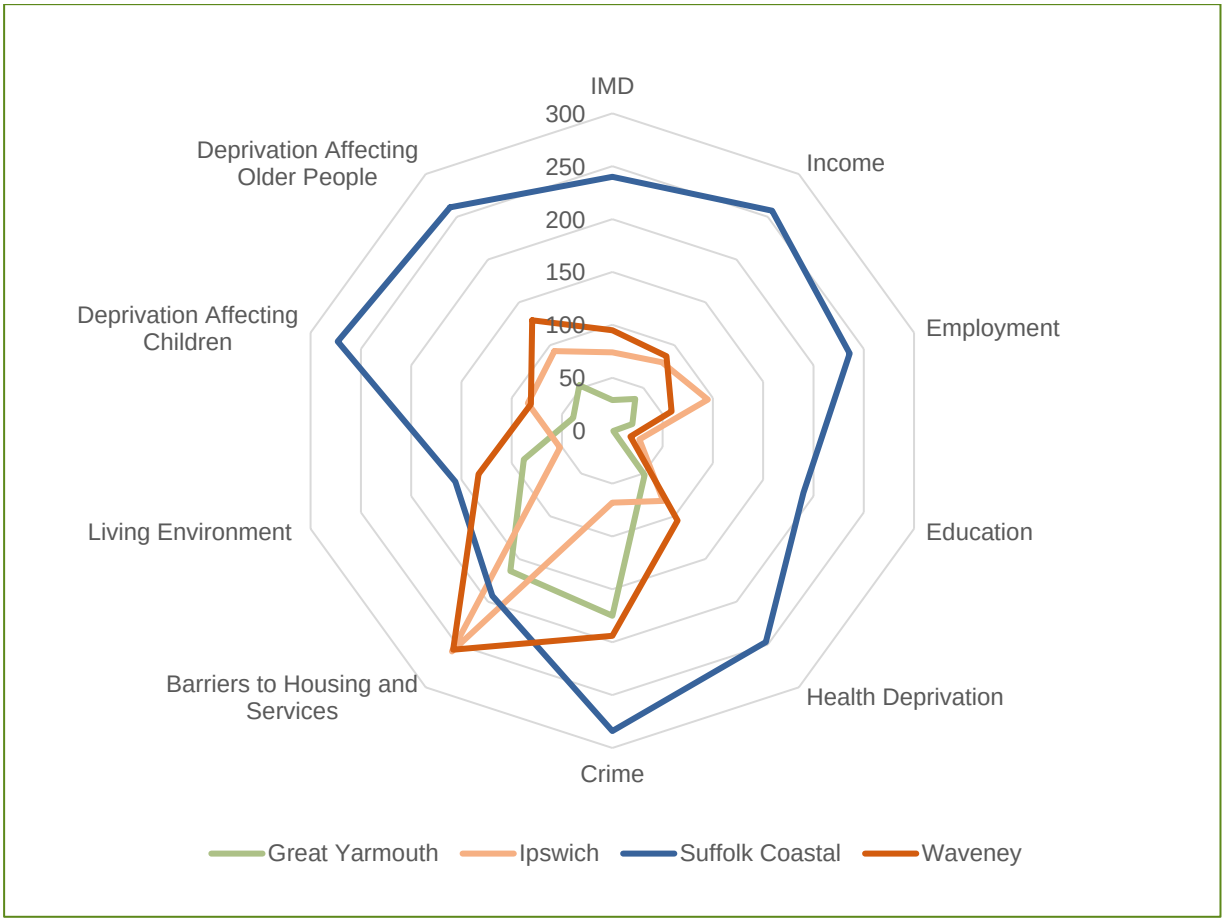

Plate 30.21 Local IMD rankings (ONS, 2017)

30.5.3.2 Wellbeing Statistics

145. The Annual Population Survey conducted by the ONS in 2015 (ONS 2015) also categorised the wellbeing of the UK and these findings have been published at a district level. These are given out of 10 and generally shows that people in the four districts have about average levels of wellbeing, ***Table 30.34***. People in Suffolk Coastal are reported to have slightly higher levels of wellbeing across three positive indicators but are also reported to be slightly more anxious than people in other districts.

Table 30.34 Wellbeing Statistics (out of 10) at a Local Level (ONS, 2015)

	Suffolk Coastal	Waveney	Great Yarmouth	Ipswich	UK average
Life Satisfaction	7.6	7.6	7.6	7.4	7.5
Worthwhile	7.9	7.8	7.8	7.7	7.8
Happiness	7.4	7.4	7.5	7.4	7.4
Anxiety	3.1	2.8	2.8	3.2	2.9

30.5.3.3 Opinions of Tourism Visitors with Regards Offshore Wind

146. Tourism stakeholders who represent tourism businesses often believe that the presence of wind turbines would deter visitors. Studies have been conducted (***Appendix 30.2***) to understand visitor opinion about wind power development. On average 75-80% of people surveyed across multiple studies expressed neutral or positive views of wind energy and stated that it would not deter them from visiting an area. Furthermore, an economic study of tourism employment in regions with established onshore wind projects shows no change in employment rates. Although the number of studies regarding the impact of coastal windfarm projects on tourism is relatively low compared to the developments impact on landscape, ecology and noise, "*the clear consensus is that there has been no measurable economic impact, either positively or negatively, of windfarms on tourism. Similarly, there is consensus among researchers of studies that have sought to predict the more specific potential economic impact of windfarms on tourism. Here again, there is no evidence to support the assertion that windfarms are likely to have a negative economic impact on tourism*" (Aitchison, 2012).

147. The National Coastal Tourism Academy (NCTA) conducted research in to why visitors choose to visit coastal areas (NCTA 2015). This showed that although the main factor was price, around half of the respondents indicated that the beach was an important factor in choosing to visit a coastal area.

148. Further data analysis has been undertaken to understand if there are consistent trends in visitor reviews where offshore windfarms are visible from the coast. The internet is the main source of information for first time visitors (NCTA, 2015) and nearly half of the respondents indicated that they used information from the internet to inform their decision. As such, a survey of Trip Advisor[4] reviews was conducted for beaches where there is currently a view of offshore wind turbines (***Table 30.35***) to supplement the other studies on the impact of windfarms (***Appendix 30.2***). Due to its large sample size, Trip Advisor provides a robust overview of perceived impacts.

149. Trip Advisor is a website where the public can leave reviews on restaurants, hotels, accommodation booking and other travel related content. This includes attractions and other assets such as day trips, museums and natural capital (e.g. beaches, geological formations and AONBs).

150. The location of offshore windfarms around England that are visible from the coast have been collated to understand the perception of visitors to this area in ***section 30.6.2.2***. The offshore windfarms shown in ***Table 30.35*** are all within 32km of the

[4] Trip Advisor users are considered representative and have been used in previous studies (e.g. Conlon and Halterbeck 2017)

coast and would therefore be comparably visible during certain conditions from coastal areas such as beach or coastal paths.

Table 30.35 Offshore Windfarms and Coastal Assets Considered

Windfarm	Coastal assets
Barrow: 7km off Walney Island coast of Cumbria. 30 wind turbines Ormonde: off Walney Island. 30 wind turbines West of Duddon Sands 30 wind turbines Walney Phase 1 and 2 102 wind turbines	South Walney Nature Reserve
	Earnse Bay
	Silecroft Beach
Burbo Bank + extension, 57 wind turbines	Ainsdale Beach
	Hilbre Island
	Wallasey Beach
	Wirral Coastal Path
	Leasowe Lighthouse
Teesside: 1.5km from NE Teesmouth, 27 wind turbines	Redcar Beach
	Seaton Carew Beach
Westermost Rough: 8km from the coast, approx. 25km north of Spurn Head, 35 wind turbines Humber Gateway: 8km off the Holderness Coast, 73 wind turbines	Withernsea Lighthouse Museum
	Spurn Point
	Hornsea Beach
Lynn and Inner Dowsing: 5km off Skegness, 54 wind turbines Lincs: 8km off Skegness, 75 wind turbines	Gibraltar Point
	Skegness Beach
	Ingoldmells Beach
	Anderby Creek
Scroby Sands: 3km NE of Great Yarmouth, 30 wind turbines	Caister-on-Sea Beach
	Hemsby Beach
	Gorleston Beach
	North Beach
	South Beach
	Central Beach
Gunfleet Sands 1 and 2: 7km off Clacton-On-Sea, 48 wind turbines	Clacton-On-Sea Beach
	Frinton-On-Sea Beach
	Jaywick Beach
	Tankerton Beach

Windfarm	Coastal assets
Kentish Flats/Kentish Flats Extension: 8.5km off Whitstable, 45 wind turbines	West Beach
	Herne Bay
	Leysdown Beach
Rampion: 13-23km off the Sussex Coast, 116 wind turbines	Brighton Beach
	Undercliff Walk
	Seaford Beach

151. Total reviews per coastal asset were searched using for example the terms "wind farm", "windfarm" and "wind turbine". The corresponding reviews were then assessed to understand if the reviewer was expressing a positive, negative, or neutral view. To do this the reviewer had to specifically refer to the windfarm in a positive or negative manner. If they remarked that it was there then they were classed as neutral. The findings of the review are shown in ***Table 30.36*** and summarised in ***Table 30.79***.

152. This search of independent reviews of coastal assets with a view of offshore windfarms shows that of 12,710 reviews (as of 28th of May 2019) only 92 reviewers mention windfarms or wind turbines (or derivatives of these terms) at all. The opinions are relatively evenly split with 26 positive, 35 negative and 31 neutral. Only 0.28% express a negative opinion of windfarms. This indicates that the majority of visitors (99.72%) to the coast of England either do not hold strong enough opinions about the location of offshore wind development to comment, do not feel negatively towards, or did not notice or see the infrastructure.

Table 30.36 Trip Advisor Reviews of Coastal Assets with a view of a Windfarm (2018)

Beach	Total reviews	Positive	Negative	Neutral	Total
South Walney Nature Reserve	65	1			1
Earnse Bay	75		2		2
Silecroft Beach	20		1		1
Ainsdale Beach	394			1	1
Hilbre Island	90			1	1
Wallasey Beach	7				0
Wirral Coastal Path	5				0
Leasowe Lighthouse	22				0
Redcar Beach	50	2	4	1	7

Beach	Total reviews	Positive	Negative	Neutral	Total
Seaton Carew Beach	312			4	4
Withernsea Lighthouse Museum	167				0
Spurn Point	193			3	3
Hornsea Beach	228				0
Gibraltar Point	637			1	1
Skegness Beach	645	3	10	4	17
Ingoldmells Beach	27				0
Anderby Creek	141				0
Caister-on-Sea Beach	247	5			5
Hemsby Beach	274				0
Gorleston-on-Sea Beach	1,853	1	1	1	3
North Beach	32	2	1		3
South Beach	0				0
Central Beach	400	3	4	1	8
Clacton-On-Sea Beach	800	3	4	2	9
Frinton-On-Sea Beach	406	1	5	2	8
Jaywick Beach	165		2		2
Tankerton Beach	170	2	1	5	8
West Beach	29			1	1
Herne Bay	204	1		1	2
Leysdown Beach	143	2			2
Brighton Beach	3,907			2	2
Undercliff Walk	686				0
Seaford Beach	316			1	1
Total	12,710	26	35	31	92

153. National Grid conducted a study in to the effect of major infrastructure projects on socio-economic factors (National Grid 2014). This concluded that although people did perceive negative impacts to the surrounding landscape, it did not change their behaviour, likelihood to visit an area, or levels of expenditure in an area.

30.5.3.4 Summary

154. Wellbeing statistics and IMD both indicate that Suffolk Coastal District has relatively high wellbeing because people are broadly more satisfied and they have fewer barriers to prosperity. Considering that the population has a higher proportion of older aged people it can be assumed that they may be more socio-economically secure, however they're also slightly more anxious (***section 30.5.3.2***).

155. IMD also show that Ipswich, Great Yarmouth, and Waveney are relatively deprived (in comparison to other English districts, see ***section 30.5.3.1***). Therefore, they would stand to benefit from long term employment. The IMD indicated that these areas are relatively deprived with regards access to education, but qualifications statistics suggest that the level of education is only marginally below national averages.

156. Studies of visitor opinions with regards offshore wind show no evidence that tourists are deterred by either the presence of wind turbines or high voltage distribution infrastructure (National Grid 2014).

30.5.4 Physical Capital

157. The physical capital assessment will focus on assets that support the tourism industry because the assessment of potential impact will compare these assets to sources of impact in supporting chapters. Baselines from the following assessments also inform the understanding of physical capital:

- ***Chapter 24 Archaeology and Cultural Heritage;***
- ***Chapter 26 Traffic and Transport;*** and
- ***Chapter 27 Human Health.***

30.5.4.1 Assets Close to the Onshore Development Area

158. As shown in ***Table 30.37*** there are 38 PRoWs that may be affected by the proposed East Anglia TWO project as they are within or adjacent to the onshore development area. Additionally, the Suffolk Coastal Path runs adjacent to the development area, however the use of Horizontal directional Drilling (HDD) at the landfall will result in it not being impacted. These are shown on ***Figure 30.1***. Current assessment shows that one PRoW is the high value nationally significant Suffolk Coastal Path (which will not be directly impacted) and two of the other 38 PRoWs identified will need to be permanently diverted at the onshore substation location.

Table 30.37 Public Rights of Way (Working Inland from Landfall across Onshore Development Area)

Asset	Within onshore development area	Relative importance/notes
Suffolk Coastal Path	**Crosses at landfall**	**Nationally significant**
E-106/031/0	Landfall	Status = 1 : footpath
E-106/033/0	Landfall	Status = 1 : footpath
E-106/020/0	Yes	Status = 4 : byway open to all traffic (BOAT)
E-106/025/0	Yes	Status = 4 : BOAT
E-363/026/0	Yes	Status = 3 : bridleway
E-363/024/0	Yes	Status = 1 : footpath
E-363/029/0	Yes	Status = 1 : footpath
E-363/023/0	Yes	Status = 1 : footpath
E-363/022/0	Yes	Status = 1 : footpath
E-363/027/0	Yes	Status = 3 : bridleway
E-363/028/0	Yes	Status = 3 : bridleway
E-363/015/0	Yes	Status = 3 : bridleway
E-106/012/0	Yes	Status = 1 : footpath
E-106/014/0	Yes	Status = 1 : footpath
E-363/014/0	Yes	Status = 1 : footpath
E-363/014/A	Yes	Status = 1 : footpath
E-106/065/0	Yes	Status = 1 : footpath
E-260/030/0	Yes	Status = 1 : footpath
E-260/007/0	Yes	Status = 1 : footpath
E-260/009/0	Yes	Status = 1 : footpath
E-260/012/A	Adjacent/along redline boundary	Status = 1 : footpath
E-260/016/0	Yes	Status = 1 : footpath
E-354/020/0	Yes	Status = 3 : bridleway
E-354/036/0	Yes	Status = 3 : bridleway
E-354/002/0	Yes	Status = 3 : bridleway
E-354/001/0	Yes	Status = 3 : bridleway

Asset	Within onshore development area	Relative importance/notes
Suffolk Coastal Path	**Crosses at landfall**	**Nationally significant**
E-354/003/0	Yes	Status = 1 : footpath
E-354/004/0	Yes	Status = 1 : footpath
E-260/023/0	Yes	Status = 1 : footpath
E-260/026/0	Yes	Status = 3 : bridleway
E-354/019/0	Yes	Status = 1 : footpath
E-354/016/0	Yes	Status = 1 : footpath
E-354/007/A	Yes	Status = 1 : footpath
E-354/006/0	Yes	Status = 1 : footpath
E-354/007/0	Yes	Status = 1 : footpath
E-260/017/0	Yes	Status = 1 : footpath
E-260/033/0	On boundary	Status = 2 : restricted byway
E-354/008/0	Yes	Status = 1 : footpath

159. There are 30 self-catering cottages, six other holiday accommodations and 10 visitor attractions located within a 1km radius of the onshore development area. All of these are considered to be low to medium value with regards to ***Table 30.10*** as none are nationally important.

160. ***Table 30.38*** shows the accommodation in the vicinity of the onshore development area. The six accommodation businesses are shown on ***Figure 30.1***.

Table 30.38 Accommodation in the Vicinity of The Onshore Development Area

Asset[5]	Distance from onshore development area (km)	Relative importance/notes
Ogilvie Lodge Apartments	0.51	5 stars by 2 Trip Advisor reviews
The Dolphin Inn	0.25	4.5 stars by 298 Trip Advisor reviews
Thorpeness Golf Club and Hotel	0.46	4 stars by 431 Trip Advisor reviews

[5] Any accommodation businesses or cottages not identified through the data sources would be considered the same low to medium value as those listed.

Asset[5]	Distance from onshore development area (km)	Relative importance/notes
Beach View Holiday Park	0.23	4.5 stars by 108 Trip Advisor reviews
Manor Farm Knodishall	0.05	5 starts by 19 Trip Advisor reviews
Tirah Guest House	0.69	5 stars by 199 Trip Advisor reviews
Holiday Cottages in Friston sourced from www.Booking.com, www.Suffolkhideaways.co.uk, www.BestofSuffolk.co.uk, www.Cottages.com and www.Sykesholidaycottages.Co.uk within 1km of onshore development area :		
1. Corner Cottage Corner House 2. Myrtle Cottage 3. St Marys Cottage 4. Woodside Cottages x 2 5. Three Steps 6. Briar cottage, 7. Little Chequers Cottage, 8. 1 Chequers Row,		9. Old School Studio 10. Millview Cottage 11. 2 Mosses Cottages 12. Camomile Cottage, 13. Alde Cottage 14. Jays Cottage 15. Oak Tree Cottage
Holiday Cottages in Thorpeness sourced from www.Booking.com, www.suffolk-secrets.co.uk, www.Cottages.com and www.BestofSuffolk.co.uk within 1km of the onshore development area :		
1. The Dormy x 2 2. Truman Lodge x 2 3. Old Homes – Pebble Cottage 4. The Haven 5. Sanctuary 6. The Whinlands x 2 7. Alexander House 8. Church House 9. Holly House 10. Micawbers 11. Rainbow Cottage 12. The Boat House 13. The Lamp House 14. Regatta 15. South Cottages 16. Number 10 17. Oglivie Hall 18. Barrie House 19. Beach Cottages x 2 20. Shellpit Cottage		21. Badminton 22. Chicoutimi 23. Valetta 24. Lowlands 25. Mellows 26. Fisherman's Loft 27. Westgate 28. Mallards 29. The Dunes x 2 30. The Bays 31. Boat Lake 32. Oglivie Apartment 33. Bay Cottage 34. South Cottages 35. The Uplands 36. The Lily Pad 37. Bell Lodge 38. Meare House 39. Pilgrims Way 40. Bell Lodge 41. Invershin

161. ***Table 30.39*** lists the visitor attractions within the vicinity of the onshore development area based on Trip Advisor.

Table 30.39 Visitor Attractions and Assets within the 1km direct impact zone of The Onshore Development Area

Asset	Distance from onshore development area (km)	Relative importance/notes
Thorpeness Meare	0.29	4.5 stars from 156 Trip Advisor reviews
Meare Shop and Tearooms	0.43	4 stars from 136 Trip Advisor reviews
Thorpeness Country Club	0.30	4.5 stars from 60 Facebook reviews
Thorpeness Golf Club	0.39	4 stars from 431 Trip Advisor reviews
Anglia Sporting	0.47	N/A
Old Chequers Pub	0.58	4.5 stars from 118 reviews
Sizewell Tea	0.40	4.5 stars from 178 reviews
Sizewell Hall	0.46	N/A
Suffolk Christian Camps	0.43	N/A
The Warden's Trust	0.33	N/A

30.5.4.2 Worker Accommodation

162. It is assumed that non-residential workers would choose to stay in accommodation that is no more than a 45-minute drive from the onshore development area. This is the same assumption that has been used in ***Chapter 26 Traffic and Transport*** to inform that assessment. A single search engine was used to assess the number of hotels in the region from online booking websites, as it is assumed that this is the most likely method that non-residential workers would use to book accommodation. As shown in ***Figure 30.2*** there are 2,107 within the vicinity of the onshore development area as shown in ***Table 30.40***.

Table 30.40 Accommodation within 45 minutes of the Onshore Development Area

Post-code	Time (min)	Apartments	B and B	Chalet	Guesthouse	Hostel	Hotel	Inn	Lodge	Motel	Total
IP1	40				4		26				30
IP11	40						157				157
IP12	26	2	38		2	8	122	4	7		183

Post-code	Time (min)	Apartments	B and B	Chalet	Guesthouse	Hostel	Hotel	Inn	Lodge	Motel	Total
IP13	30	47	24				32	14			117
IP15	12	4			7		152				163
IP16	10	1	19				47	3	1		71
IP17	12	1	31		5		46	40			123
IP18	24	1					77	5			83
IP19	24	6									6
IP20	40		6				39	5			50
IP21	40		4								4
IP3	35				6		80				86
IP4	30	3			17						20
IP5	45						23				23
IP6	35	1					144	12			157
NR32	35				52		31				83
NR33	45	10	26	1	30		594				661
NR34	40		10		5		32	22		14	83
NR35	40	2	1					4			7
Total	Average = 30	78	159	1	128	8	1602	109	8	14	2107

30.5.4.3 Offshore Windfarms in NALEP

163. There is a strong pipeline of offshore wind projects in NALEP being developed by several companies as shown in ***Table 30.41***.

Table 30.41 Pipeline of Offshore Wind Projects in NALEP (RenewableUK 2018)

Status	Project	Developer	Capacity MW
In Development	East Anglia ONE North	ScottishPower Renewables	800
	East Anglia TWO	ScottishPower Renewables	900
	Norfolk Boreas	Vattenfall	1800
	Norfolk Vanguard	Vattenfall	1800

Status	Project	Developer	Capacity MW
	Hornsea Project 3	Orsted	2400
Consented	East Anglia THREE	ScottishPower Renewables	1400
Under construction	East Anglia ONE	ScottishPower Renewables	714
Operational	Dudgeon	Equinor	402
	Galloper	Innogy Renewables UK Limited	353
	Greater Gabbard	SSE and RWE Npower Renewables	504
	Race Bank	Orsted	573
	Scroby Sands	E.ON Climate and Renewables UK Limited	60
	Sheringham Shoal	Equinor	316.8
Total	13 projects	Total generation in GW	11.82

30.5.5 Natural Capital

164. The natural capital assessment primarily focusses on areas that can be used for recreation or as visitor attractions. Baselines from the following assessments also inform the understanding of natural capital:

- ***Chapter 20 Water Resources and Flood Risk;***
- ***Chapter 21 Land Use;***
- ***Chapter 22 Onshore Ecology; and***
- ***Chapter 23 Onshore Ornithology.***
- ***Chapter 28 Seascape, Landscape and Visual Impact Assessment;*** and
- ***Chapter 29 Landscape and Visual Impact Assessment***

165. The onshore development area is within 1km of six areas of common and open land as shown in ***Table 30.42*** and ***Figure 30.3***. The onshore infrastructure would potentially interact with three coastal assets as shown in ***Table 30.43*** but the offshore wind turbines will be visible from 8 bathing water beaches along the Suffolk coast (***Figure 30.4***).

Table 30.42 Common and Open Land

Asset	Distance from Onshore Development Area (km)
Sizewell Common	HDD bore may be beneath the common
Thorpeness Common	Adjacent to the onshore development area
Aldringham Common	0.23km
The Fens	0.55km
Aldringham Green	Adjacent to the onshore development area (approximately 10m)
Knodishall Common	0.14km

Table 30.43 Natural Assets

Asset	Interaction with onshore development area / offshore infrastructure	Importance/notes
Suffolk Coast and Heaths AONB	Extends inland for around 2.5km from landfall.	High value
Thorpeness Beach	At landfall	Regionally important, medium value
Sizewell Beach	0.6km from onshore development area	Regionally important, medium value
Southwold Denes	Wind turbines may be visible	Bathing Water Beach, high value
Southwold Pier		Bathing Water Beach, high value
Lowestoft North of Pier		Bathing Water Beach, high value
Lowestoft South of Pier		Bathing Water Beach, high value
Lowestoft Gunton Denes		Bathing Water Beach, high value
Gorleston Beach		Bathing Water Beach, high value
Great Yarmouth South		Bathing Water Beach, high value
Great Yarmouth Pier		Bathing Water Beach, high value

30.5.5.1 Summary of Physical and Natural Capital

166. The physical and natural capital assessment shows that the proposed East Anglia TWO project has limited potential for effect with assets either used recreationally or by visitors. However, the offshore wind turbines will be visible from several locations under certain climatic conditions, but studies show this would not detract from the enjoyment of coastal areas (see ***section 30.5.3.3***).

30.5.6 Anticipated Trends in Baseline Condition

167. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 require assessments to consider trends within the existing environment to understand if conditions now would be the same or different to conditions when the proposed East Anglia TWO project is implemented. As such, statistics for the existing environment have been compiled by using timelines of data to visualise the trends rather than using single year statistics. It is assumed that historic trends shown in the existing environment would continue as shown under the various sections.

30.6 Potential Impacts

168. Following the methodology described in ***section 30.4.4.1***, the first step in understanding potential socio-economic, tourism, and recreation impacts is to consider the sources of impacts and if they have a plausible pathway to receptors.

Table 30.44 Plausible Socio-Economic Source-Pathway-Receptor models for the proposed East Anglia TWO project

Type	Source	Pathway	Receptor
Economy	The source of economic impacts is the opportunity to be employed as a result of the proposed East Anglia TWO project.	The pathway is through direct employment by the proposed East Anglia TWO project, indirect employment through the supply chain, and induced employment due to expenditure by people that are directly or indirectly employed.	The receptor is the local and regional labour market. Data has been compiled in ***sections 30.5.1, 30.5.2*** and ***30.5.3*** to describe this.
Tourism and Hospitality Economy	The source of economic tourism impacts is through expenditure by visitors as a result of the proposed East Anglia TWO project.	The pathway for effect is through non-residential employees spending money when staying overnight. As defined by ONS (***section 30.4.1.4.3***) a visitor is anybody travelling to a region for any purpose.	The receptor is local accommodation market and the people that it employs. Data has been compiled in ***section 30.5.4*** to describe this.
Tourism or recreation	There is the potential for tourism and recreational assets to be affected by physical disturbances (such as noise, dust emissions) and traffic delays.	The pathway is through construction activities disturbing people visiting an area or using the area recreationally. This is dependent upon the location of the asset in relation to the effect.	Receptors are visitors to tourism assets. Therefore, the value is based on the number of visitor and/or the national significance of the asset. Data has been compiled in ***section 30.5.4.2*** to describe this.
Long term tourism and	Wind turbines may be seen during periods of high visibility whilst	The offshore pathway has two components. First of all, visitors have to see the wind turbines and secondly they	The receptors are tourists visiting the area. A meta-study of visitor surveys and a study of Trip Advisor reviews of

Type	Source	Pathway	Receptor
hospitality sectors	tourists are visiting the Suffolk coast. There is potential for visitors to Friston to be deterred by the onshore substations.	have to believe that this change is bad enough not to visit the area to spend money. As above, visitors need to both see onshore infrastructure and believe this change is bad enough not to visit the area to spend money.	coastal assets with a view of offshore windfarms have been used to understand visitor opinions of offshore wind energy. See ***Appendix 30.2***.

169. Based on the source-pathway-receptor model the potential impacts in ***Table 30.45*** are both plausible and probable.

Table 30.45 Potential Impacts

No.	Title	Description	Project phase
1a	Onshore construction employment	During the construction of the onshore infrastructure the proposed East Anglia TWO project would employ people, who may be recruited locally or regionally.	Construction phase.
1b	Offshore construction employment	During construction of the offshore infrastructure the proposed East Anglia TWO project would employ people, who may be recruited regionally or nationally.	Construction phase.
2	Tourism employment	Non-residential onshore workers would spend money in the local economy which would lead to further employment in the accommodation industry.	Construction phase.
3	Tourism and recreation disturbance	Construction of the proposed East Anglia TWO project may temporarily disturb people while they enjoy recreational activities.	Construction phase.
4	Long term employment	Long-term employment opportunities sustained by the proposed East Anglia TWO project for people in the local and regional study area.	Operation phase.
5	Long term tourism	There is potential for visitors to the coast to be deterred by the presence of offshore wind turbines and potential for visitors to Friston to be deterred by the onshore substations.	Operation phase.

30.6.1 Potential Impacts during Construction

170. In this section, the potential impacts outlined in ***Table 30.45*** will be assessed following the methodology outlined in ***section 32***.

30.6.1.1 Impact 1a: Onshore Construction Employment

171. Construction of the landfall, cable route, and onshore substations is scheduled to begin in mid-2023. As described in ***Chapter 4 Site Selection and Assessment***

of Alternatives, the works are completely within the jurisdiction of East Suffolk Council. This assessment will consider the significance of impact at both local and regional levels as defined in ***section 30.5***.

30.6.1.1.1 Potential Labour Market

172. Using the information presented in ***Table 30.27*** the likely labour markets at a local and regional level are outlined in ***Table 30.46.*** This data is based on the UK Business Register and Employment Survey (NOMIS 2019) and is the most recent at time of writing. It shows that in 2017 there were 20,390 people working in relevant sectors locally and 69,750 people working in relevant sectors regionally.

Table 30.46 Local and Regional Labour Market Relevant to Construction of the proposed East Anglia TWO project (NOMIS, 2019)

Standard Industrial Classification (SIC) relevant to the proposed East Anglia TWO project		Local	Regional
28	Manufacture of machinery and equipment	2,100	7,000
30	Manufacture of other transport equipment	290	1,250
33	Repair and installation of machinery and equipment	1,300	4,000
35	Electricity, gas, steam and air conditioning supply	2,275	3,500
41	Construction of buildings	2,550	9,000
42	Civil engineering	1,425	6,000
43	Specialised construction activities	4,500	20,000
71	Engineering activities; technical testing and analysis	3,750	11,000
82	Office administrative,	2,200	8,000
Total		20,390	69,750

30.6.1.1.2 Magnitude of Employment

173. The assessment considers local employment to be that which is taken by residential workers. Therefore, the local study area for onshore construction employment will be the districts/boroughs of Suffolk Coastal, Waveney, Great Yarmouth, and Ipswich. For the purpose of the assessment, it is assumed for the traffic and transport assessment that 36% of direct employment will be locally procured. This assumption has been agreed with East Suffolk Council in collaboration with authors of ***Chapter 26 Traffic and Transport***.

174. The remaining 64% of direct employment will therefore be sourced from outside of the local region. East Anglia ONE is currently under construction by SPR and to understand the UK content of its supply chain, SPR is monitoring the origin of suppliers. This monitoring of the UK content shows the origins of goods and

services that suppliers provide. Further monitoring of employment information from suppliers shows where the labour force is based. This information shows that the majority of construction staff needed, can be procured from within the NALEP area.

175. The assessment considered NALEP to be the regional study area. For purposes of assessment, it is assumed that 48% of direct employment will be from NALEP (that is 75% of the remaining 64%).

176. That leaves 16% (100% minus 48% and 36%) of direct employment that is assumed to be procured from outside of NALEP during construction. It is not possible to determine if this would be staff from the UK or international.

177. The Applicant has provided an estimate of average staff required on site per day for the purpose of transport modelling in ***Chapter 26 Traffic and Transport***. This data has been used to estimate average daily employment per quarter to indicate the construction labour curve shown in ***Plate 30.22***. This shows that peak employment would be during the second and third quarter of 2024 (243 and 249 staff per day respectively).

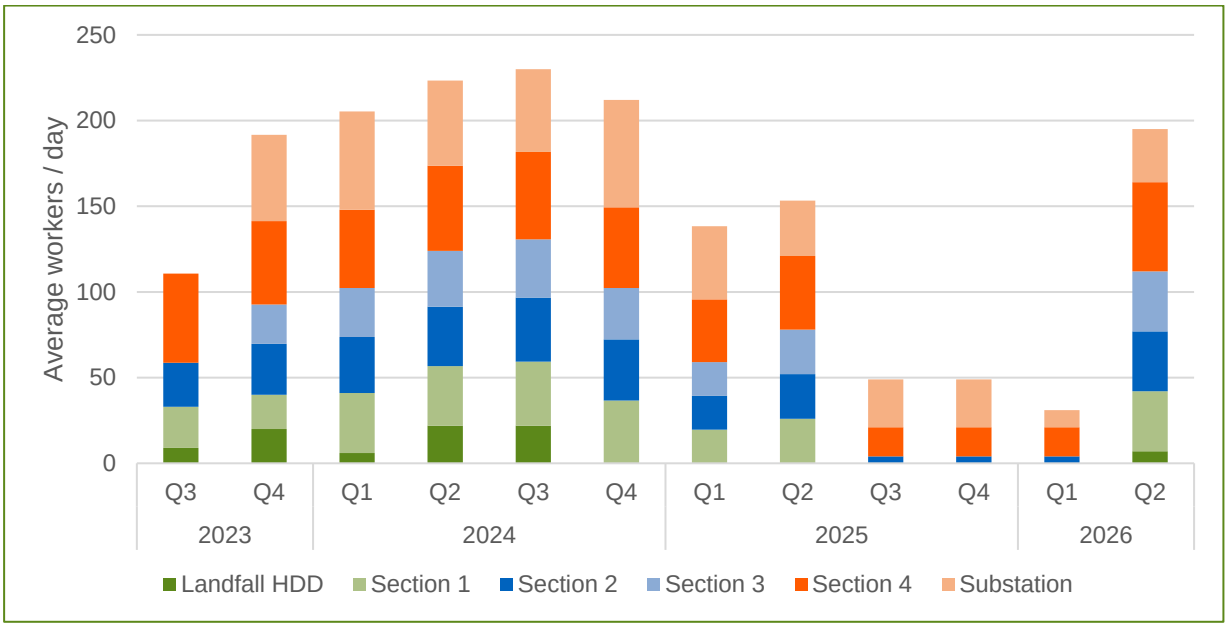

Plate 30.22 Labour Curve for Onshore Construction Assuming a start date of Q3 2023

178. Average total employees per day data has also been used to estimate the FTE employment per year, ***Table 30.47***. This uses multipliers for indirect and induced employment taken from recent supply chain studies. ***Table 30.48*** – ***Table 30.51*** show the expected employment sourced from local, regional and wider locations. This has been calculated proportionally, with the values being rounded, therefore they may not add up to match the values presented in ***Table 30.47***.

179. BVG Associates has undertaken an economic evaluation report for East Anglia ONE for SPR (BVG Associates 2018) based on actual expenditure post consent and using the local content methodology (Roberts and Westbrook 2017). The data used in this economic evaluation report is based solely on the East Anglia ONE post consent phase. Therefore, the data used to calculate the multipliers used in this assessment is representative of the study area and is the most recent data available at the time of writing this chapter.

180. This assessment showed that for every 1 FTE sustained through direct employment, 1.31 FTE are sustained in the supply chain (i.e. an indirect employment multiplier of 1.31). Similarly, the study also shows that for every FTE sustained by Direct and Indirect employment, 1.21 FTE are sustained through expenditure in the wider economy (i.e. induced employment multiplier of 1.21).

181. These multipliers were calculated based on the supply chain assessment for East Anglia ONE (***section 30.4.2.4***) and are used in preference over ONS national averages because they are derived from the most recent studies of a directly comparable offshore windfarm. They are also lower than the national averages calculated by the ONS for construction projects and therefore provide a conservative estimate that is more realistic for regional assessment.

Table 30.47 Total Employment Estimates during Onshore Construction[6]

	Direct (D)	Indirect (InD)	D + InD	Induced	Total
Year 1 FTE	199	62	261	55	316
Year 2 FTE	201	62	263	55	319
Year 3 FTE	102	32	134	28	162
FTE years over 3-year construction	502	156	658	138	796
Average FTE per year	167	52	219	46	265

Table 30.48 Local Employment (within 60min drive) at 36%[7]

	Direct (D)	Indirect (InD)	D + InD	Induced	Total
Year 1 FTE	72	19	90	11	102
Year 2 FTE	72	19	91	12	103
Year 3 FTE	37	10	46	6	52

[6] FTE Years is the sum of FTE across the whole period. To calculate FTE from FTE Year it is necessary to divide FTE Years by the duration of the project in years.

[7] Due to the reduced scale of the local labour market it is likely that some of the indirect and induced benefit would be created outside of the local area, therefore the multipliers have been reduced to 1.26 for indirect employment and 1.16 for induced employment.

	Direct (D)	Indirect (InD)	D + InD	Induced	Total
FTE years over 3-year construction	181	47	228	29	257
Average FTE per year	60	16	76	10	86

Table 30.49 Regional Employment (outside of 60 min drive) at 48%

	Direct (D)	Indirect (InD)	D + InD	Induced	Total
Year 1 FTE	96	30	125	26	151
Year 2 FTE	96	30	126	27	153
Year 3 FTE	49	15	64	14	78
FTE years over 3-year construction	241	75	316	66	382
Average FTE per year	80	25	105	22	127

Table 30.50 Total Regional Employment (i.e. 36%+48%)[8]

	Direct (D)	Indirect (InD)	D + InD	Induced	Total
Year 1 FTE	167	48	216	38	253
Year 2 FTE	169	49	218	38	256
Year 3 FTE	86	25	111	19	130
FTE years over 3-year construction	422	122	544	95	639
Average FTE per year	141	41	181	32	213

Table 30.51 Remaining Non-Regional Employment at 16%

	Direct (D)	Indirect (InD)	D + InD	Induced	Total
Year 1 FTE	32	10	42	7	48
Year 2 FTE	32	10	42	7	49
Year 3 FTE	16	5	21	3	25
FTE years over 3-year construction	80	25	105	17	122
Average FTE per year	27	8	35	6	41

182. ***Table 30.47*** to ***Table 30.51*** show that on average the proposed East Anglia TWO project would sustain 265 FTE per year, and a total of 796 FTE years overall. Of this an average of 86 FTE could be sustained locally (***Table 30.48***) and a further 127 FTE would be sustained regionally per year, (***Table 30.49***) which equates to

[8] Note that direct employment is summed and then original multipliers are used which leads to a larger total than the sum of local and regional totals.

213 FTE across NALEP (***Table 30.50***). The remaining 62 FTE would be sourced outside of NALEP (***Table 30.51***). It is assumed that these would be technical specialists and their origin would depend on their specialism, which is not possible to estimate at a pre-consent stage.

183. The magnitude of employment is shown below in ***Table 30.52*** and ***Table 30.53*** using the definitions in ***Table 30.12*** and ***Table 30.13*** respectively.

Table 30.52 Size of Change due to Construction Employment

Element	Local	Regional
Employment opportunity	86	213
Labour market	20,390	69,750
Size of change	0.83%	0.31%
Definition	Small	Small

Table 30.53 Characterisation of Magnitude

Characteristic of magnitude	Description
Size of change	Small change against baseline
Duration	Medium term over three years
Frequency	Some people may be continuously employed but it is likely that many people will be periodically employed on a contract basis
Timing	n/a
Inter-relationships	The pipeline of offshore windfarm projects in the region provides experience and existing skills base
Magnitude	Considering all aspects, this is a low magnitude of effect

30.6.1.1.3Likelihood of Effect

184. Assessment of human capital in ***section 30.5.1*** and productive capital in ***section 30.5.2*** shows that people within the local labour market generally have lower qualifications than regional and national averages. Therefore, it is likely that lower skilled workers may be procured locally whereas higher skilled (or highly specialist) workers may need to travel in to site from other areas.

185. Locally there is growth in economic activity and a corresponding decrease in economic inactivity, in all regions except Ipswich. Therefore, it is likely that employment opportunities may be particularly beneficial for people in Ipswich.

186. However, across the region there has been a decline in employment in construction, manufacturing, and transport whilst other sectors have grown. Unemployment assessment shows that JSA claimants in relevant sectors have

decreased as well. This suggests that either people are moving to other sectors or moving out of the region in search of work in construction, manufacturing, and transport.

187. The average construction worker's salary is around £38,000 per year (Indeed 2018). This equates to an average gross weekly income of £730 which is above both the average in NALEP of £578 and the UK of £662.

188. To gain this level of income requires specialist skills and qualifications which may not be as prevalent in the local and regional area as in the rest of the UK. However, based on the comparison of labour market size to FTE jobs sustained, it is likely that these could be supplied in the proportions assumed.

30.6.1.1.4 Significance

189. Based on the above assessment and the matrix in ***Table 30.15*** the significance of the onshore construction impact is considered to be **moderate beneficial** for the local and regional labour market, as summarised in ***Table 30.54***.

Table 30.54 Significance of Onshore Construction Employment

Factor	Consideration
Type of impact pathway	Impact is generated through local and regional employment.
Baseline conditions	Baseline conditions suggest that there is a significant labour market with suitable qualification levels needed for the majority of employment opportunities.
Likelihood of effect	It is likely that onshore construction can be procured from the local and regional labour market based on the experience of East Angle ONE and the size of the available labour market.
Magnitude of change	The magnitude of the change is assessed to be low
Inter-relationship	The pipeline of offshore windfarm projects in the region provides experience and existing skills base
Duration, frequency, reversibility and timing of effect	The impact is of a medium duration of periodic frequency. However, due to the significant pipeline of offshore windfarm construction in the region it is plausible that people could gain continuous employment between projects.
Policy context	Development of the offshore wind industry is in line with national, regional, and local policy.
Consultation responses	Consultation responses support the opportunity for employment locally and regionally.
Enhancement	The Applicant has partnered with SCC and other industry stakeholders to engage local suppliers and enable a local supply chain as far practicable.

30.6.1.2 Impact 1b: Offshore Construction Employment

190. At pre-consent stage, a decision has not been made on where the loadout port will be based. Therefore, this assessment will consider the significance of impact at a regional and national level.

191. In terms of the manufacture of components of the offshore infrastructure it is important to note that the UK content is due to both the location of suppliers, and their competitiveness, and the supply chain cannot be defined at this stage. To understand the regional and national content of the supply chain for the offshore construction a probabilistic assessment has been used. This uses the national impact assessment conducted by BVG Associates for East Anglia ONE (BVG Associates 2018) and the estimates provided by suppliers in the East Anglia ONE Supply Chain Plan (SPR 2014).

30.6.1.2.1 Potential Labour Market

192. UK Content assessment shows that on average the capital expenditure (capex) of an offshore wind project (during construction) constitutes 53% of the total expenditure (totex) (BVG Associates 2015). The largest proportion of capex is due to wind turbine supply (39%), balance of plant (i.e. foundations, substations, and cables) (28%), and installation and commissioning (30%). In 2015 BVG Associates estimated that 18% of totex was sourced from the UK and RenewableUK (2017) now estimates that on average 29% of totex is sourced from the UK. The largest portion of this is during installation and commissioning, then the balance of plant, and then wind turbine supply.

193. Using the information presented in ***Table 30.27*** the likely labour markets at a regional and national level are outlined in ***Table 30.55***. This data is based on the UK Business Register and Employment Survey (NOMIS 2018) and is the most recent at time of writing. It shows that in 2017 there were 71,050 people working in relevant sectors locally and 2,593,000 people working in relevant sectors nationally.

Table 30.55 Labour Market Relevant to the proposed East Anglia TWO project in NALEP and England (NOMIS, 2018)

Standard Industrial Classification (SIC) relevant to the proposed East Anglia TWO project		NALEP	England
6	Extraction of crude petroleum and natural gas	3,000	3,000
28	Manufacture of machinery and equipment n.e.c[9].	163,000	163,000
30	Manufacture of other transport equipment	105,000	105,000

[9] n.e.c 'not elsewhere classified' for definition see https://www.ons.gov.uk/economy/economicoutputandproductivity/output/bulletins/indexofproduction/2015-09-09#industry-spotlight-manufacture-of-machinery-and-equipment-not-elsewhere-classified

Standard Industrial Classification (SIC) relevant to the proposed East Anglia TWO project		NALEP	England
33	Repair and installation of machinery and equipment	100,000	100,000
35	Electricity, gas, steam and air conditioning supply	109,000	109,000
41	Construction of buildings	379,000	379,000
42	Civil engineering	184,000	184,000
43	Specialised construction activities	665,000	665,000
50	Water transport	11,000	11,000
71	Architectural and engineering activities; technical testing and analysis	411,000	411,000
82	Office administrative, office support and other business support activities	463,000	463,000
Total		71,050	2,593,000

30.6.1.2.2 Magnitude of Employment

194. A generalised estimate of the construction programme of an offshore windfarm in the UK is presented in ***Plate 30.23*** based on assessment by BVG Associates (2018). This shows that the supply chain would start to develop approximately two years prior to the installation of the offshore windfarm and that the operational phase would continue for at least 25 years (discussed further in ***section 30.6.2.1***).

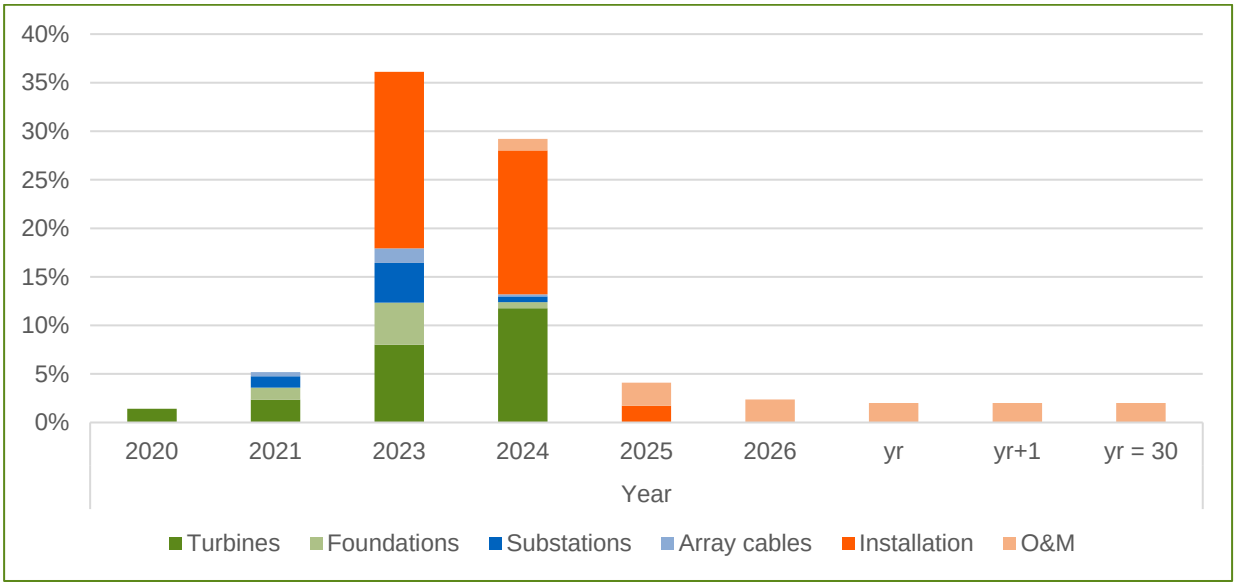

Plate 30.23 General Programme for Construction of an offshore windfarm in the UK superimposed to an assumed start date of 2023

195. BVG Associates assessment and supplier's assessment of FTE for East Anglia ONE has been used to produce a range of FTE for elements supplied from the UK***, Table 30.56***. As discussed in ***section 30.4.2.3*** it is good practice to use a range of inputs where there is uncertainty. It should be noted that these figures are estimates based on best available information at the time of writing and as such are approximations. Figures have been provided to the nearest hundred because it is not plausible for a project to estimate FTE for employment across a national supply chain more accurately at a pre-consent stage.

196. ***Table 30.56*** and ***Table 30.57*** should be read in combination with ***Plate 30.23***.This indicates that wind turbine supplies would have a four year duration, balance of plant would have a three year duration, and installation and commissioning would have a three year duration. Note that this is an indication of works in the supply chain and does not mean that works in NALEP would have these durations.

Table 30.56 National Employment Estimation of the proposed East Anglia TWO project (given to nearest 100 FTE)

Element	Employment type	FTE Years			Yr	UK FTE Range		
		Max	Mid	Min		Max	Mid	Min
Wind turbine supply	Direct	1,600	1,200	800	4	400	300	200
	Indirect	1,800	1,400	1,000		500	300	200
	Induced	700	500	400		200	100	100
	Total	4,100	3,100	2,200		1,000	800	500
Balance of plant	Direct	1,200	600	500	3	400	200	200
	Indirect	1,200	600	500		400	200	200
	Induced	500	300	200		200	100	100
	Total	2,900	1,500	1,200		1,000	500	400
Installation and commissioning	Direct	2,200	1,500	800	3	700	500	300
	Indirect	2,900	1,900	1,000		1,000	600	300
	Induced	1,200	800	400		400	300	100
	Total	6,300	4,200	2,200		2,100	1,400	700
Total		13,300	8,800	5,600		4,100	2,700	1,600

197. ***Table 30.57*** below shows that 40% of installation and commissioning work could reasonably be assumed to be contracted from the regional area based on the

current businesses and facilities in place. This was accomplished by estimating the probability that currently existing businesses in NALEP could provide a particular element of an offshore windfarm. This percentage has been calculated based on monitoring data from East Anglia ONE. The UK FTE range provided in ***Table 30.56*** has therefore been reduced to show the potential employment in NALEP per element of construction.

Table 30.57 Regional Employment Estimation of the proposed East Anglia TWO project (given to nearest 100 FTE)

Element	Description	Probability	Type	FTE Years			Yr	Regional FTE Range		
				Max	Mid	Min		Max	Mid	Min
Wind turbine supply	There is no supply of nacelle, hub, blades, or towers in NALEP.	0%	Direct	0	0	0	4	0	0	0
			Indirect	0	0	0		0	0	0
			Induced	0	0	0		0	0	0
			Total	0	0	0		0	0	0
Balance of plant	There is no supply of jackets foundations, or transmission equipment. Only a low probability of subsea cable or offshore transmission structures.	0%	Direct	0	0	0	3	0	0	0
			Indirect	0	0	0		0	0	0
			Induced	0	0	0		0	0	0
			Total	0	0	0		0	0	0
Installation and commissioning	Great Yarmouth has contractors supplying foundation and wind turbine installation services but not cable or substation installation.	40%	Direct	900	600	300	3	300	200	100
			Indirect	1100	800	400		400	300	100
			Induced	500	300	200		200	100	100
			Total	1000	700	400		300	200	100
Total				1000	700	400		300	200	100

198. ***Table 30.56*** shows that nationally the proposed East Anglia TWO project may generate 1,600 to 4,100 FTE during the construction period. The midpoint of 2,700 will be used for assessment. It should be noted that not all of these people would travel to NALEP because they may be involved in offsite manufacturing and other supporting functions.

199. ***Table 30.57*** shows that within NALEP the proposed East Anglia TWO project may generate 100 to 300 FTE during construction of offshore infrastructure. The midpoint of 200 FTE will be used for assessment. It should be noted that if there is a commitment to a load out port in NALEP, it is possible that more of the economic benefit from offshore construction staff could be retained in the region. However, where staff will be based and which port vessels use would be based on multiple factors outside the control of the proposed East Anglia TWO project.

200. The magnitude of employment is shown below in ***Table 30.58*** and ***Table 30.59*** using the definitions in ***Table 30.12*** and ***Table 30.13*** respectively.

Table 30.58 Size of Change Due to Construction Employment

Element	Regional	National
Employment opportunity	200 FTE	2,700 FTE
Labour market	71,050	2,593,000
Size of change	0.28%	0.11%
Definition	Small	Small

Table 30.59 Characterisation of Magnitude

Characteristic of magnitude	Description
Size of change	Small change against baseline
Duration	Medium term over 3 or 4 years
Frequency	Due to the specialist nature of offshore construction and the significant pipeline of offshore wind projects in NALEP and the UK, it is likely that people would be continuously employed.
Inter-relationships	The pipeline of offshore windfarm projects in the region provides experience and existing skills base
Magnitude	Considering all aspects, this is a low magnitude effect both regionally and nationally.

30.6.1.2.3Likelihood of Effect

201. Nationally it is very likely that the conservative estimate of 2,700 FTE can be supplied by the national labour market. Offshore wind is a growing sector with significant overlap to the oil and gas sector as well as other engineering sectors.

202. Assessment of human capital in ***section 30.5.1*** and productive capital in ***section 30.5.2*** shows that regional qualification levels are slightly below national averages but qualification levels in Suffolk are higher than NALEP averages. If a port in NALEP were to be used for load out, the most likely location is Great Yarmouth or Lowestoft. Qualification levels in these areas are lower than average and both are relatively deprived when compared to national IMD statistics. Therefore, either would benefit from investment that could lead to longer term employment (as discussed in ***section 30.6.2.1***).

203. BVG Associates undertook an assessment of Job Roles in Offshore Wind for Green Port Hull in 2017 (Green Port Hull 2017). This indicates that the average salary for people involved in various aspects of offshore wind development is above £30,000 gross per annum and that specialist offshore workers or technical management can earn up to £60,000 gross per annum. This equates to an average of £576 up to £1,153 per week. This compares favourably with both regional and national averages of £578 and £662 respectively.

204. To gain employment in the offshore wind sector or supporting sectors requires specialist skills and higher qualifications.

30.6.1.2.4Significance

205. Based on the above assessment and the matrix in ***Table 30.15*** the significance of the onshore construction impact is considered to be **moderate beneficial** for the regional and national labour market, as summarised in ***Table 30.60***.

Table 30.60 Significance of Offshore Construction Employment

Factor	Consideration
Type of impact pathway	Impact is generated through regional and national employment.
Baseline conditions	Baseline conditions suggest that there is a significant labour market with pipeline of offshore windfarm projects in the region providing experience and skills
Likelihood of effect	It is likely that offshore construction can be procured from the regional and national labour market based on the experience of East Angle ONE and the size of the available labour market. Furthermore, the continuity provided by the Skills Strategy developed during East Anglia ONE and MoU agreed with Suffolk County Council during East Anglia THREE shows that significant investment is being made to enable to a local and regional supply chain.
Magnitude of change	The magnitude of the change is assessed to be low

Factor	Consideration
Inter-relationship	The pipeline of offshore windfarm projects in the region provides experience and existing skills base
Duration, frequency, reversibility and timing of effect	The impact is of a medium duration of continuous frequency. Due to the significant pipeline of offshore windfarm construction in the region it is plausible that people could gain continuous employment between projects.
Policy context	Development of the offshore wind industry is in line with national, regional, and local policy.
Consultation responses	Consultation responses support the opportunity for employment regionally.
Enhancement	Employment opportunities are further enhanced by continuity between projects being developed by SPR and support by Skills Strategy that includes an MoU with Suffolk County Council to engage local supply chains to enable local procurement as far as practicable.

30.6.1.3 Impact 2: Tourism and Hospitality Sector Employment

206. As discussed in ***section 30.6.1.1***, the proposed East Anglia TWO project has the potential to sustain employment for an average of 167 FTE per year during onshore construction (***Table 30.47***) some of which will travel to the area and stay in local accommodation. As shown in ***Plate 30.22*** the average number of people required on site per day varies throughout the proposed East Anglia TWO project and peaks at 249 staff in the third quarter of 2024 (assuming a start date mid 2023). This section will determine how this demand for accommodation would translate to employment opportunities for local residents.

30.6.1.3.1 Receptor

207. ***Table 30.30*** of ***section 30.5.2.7*** shows that there are currently 42,000 people working within tourism and hospitality in the districts of Suffolk Coastal, Waveney (including Lowestoft), Ipswich, and Great Yarmouth. This can be broken down as shown in ***Table 30.61***.

Table 30.61 Employment in Hotel, Restaurants, and Distribution In 2018

District	Employment in 2018
Suffolk Coastal	8,500
Waveney (including Lowestoft)	10,200
Ipswich	13,600
Great Yarmouth	9,700
Total	42,000

208. The Suffolk Coastal AONB Value and Volume study (Destination Research 2017, ***Table 30.31*** of ***section 30.5.2.8***) shows that 3,401 people are employed in relation to visitors to the AONB. NOMIS (2018) data shows that the majority of people working in hospitality are employed in the urban areas of Ipswich and Great Yarmouth. ***Figure 30.2*** shows that the majority of accommodation likely to be used by onshore workers is within Suffolk Coastal district but outside of the AONB. Therefore, the FTE sustained by the proposed East Anglia TWO project will be compared to the 8,500 people employed in the sector in the Suffolk Coastal District in 2017. The AONB is shown on ***Figure 30.3***.

209. As shown in ***Table 30.40*** of ***section 30.5.4.2*** there are 126 businesses within a 45-minute drive that provide 2,107 rooms. Assuming a labour market of 8,500 people and dividing by 2,107, this suggests that income from each room would lead to employment for approximately four people within that labour market based on the hospitality and tourism sector spend to employment ratio provided by Destination Research (2017) in ***section 30.6.1.3.3***.

30.6.1.3.2Pathway

210. As discussed in ***section 30.6.1.1*** it is assumed that on average 36% of workers would be residential and the remaining 64% would be non-residential[10].

211. However, it is not possible to determine exactly how many of these non-residential workers would require accommodation at a given time. As discussed in ***section 30.4.2.3*** it is good practice to use a range of inputs where there is uncertainty. Therefore, a range from 40% (low scenario) to 80% (high scenario) of site workers are assumed to be staying in accommodation.

212. The working week is expected to run from Monday to mid-day Saturday (1pm, excluding bank holidays). Based on a minimum 5-day working week (worst case scenario), there are 21.7 days worked in a month on average. If a person were working away from home they would only stay over for about 80% of that time which equates to 17.3 nights on average per month. This is because if they were working Monday to Friday they probably would not stay on Friday night. By multiplying the workforce figures (***Plate 30.23***) by 17.3, the number of nights stayed per quarter can be calculated (***Plate 30.24***).

213. In creating this expenditure, it is also important to understand if non-residential workers would displace visitors that would ordinarily stay in local accommodation. This is important to understand because if non-residential workers are taking

[10] It should be noted that the accommodation due to offshore construction has not been included in this calculation because it is not known where the vessels would depart from, how long they would be at sea and if offshore workers would stay overnight in the port town or immediately travel to their usual place of residence.

rooms that would ordinarily be used by tourists the risk that tourists would not return increases.

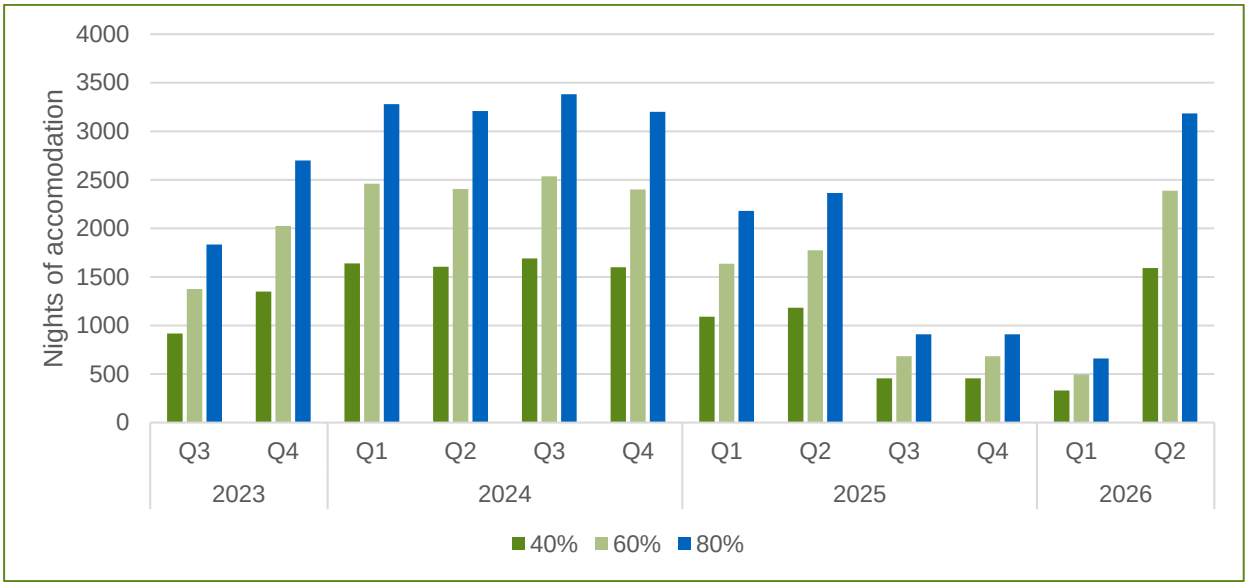

Plate 30.24 Nights Stayed per Quarter Assuming 80% to 40% of Workers are Non-residential

30.6.1.3.3Magnitude

214. The Suffolk Coastal AONB Value and Volume study (Destination Research 2017) (***Table 30.31*** of ***section 30.5.2.8***) shows that people spend around £62 per night in the local economy when they stay in Suffolk Coastal District excluding accommodation . It also indicates that for approximately every £60,000 spent in the area one FTE job is created. By multiplying the figures shown in ***Plate 30.24*** by £62, summing the quarters to make a year, and then dividing by £60,000 the number of FTE created per year in the tourism and hospitality economy can be calculated. As shown in ***Table 30.62***, expenditure by non-residential workers could lead to 5 to 10 FTE on average during the construction period. To be conservative but not pessimistic the mean of 7 FTE will be considered for assessment.

Table 30.62 FTE Potentially Sustained Due to Expenditure by Non-Residential Workers

Non-residential staff	2023	2024	2025	2026	Total FTE	Average FTE (over three years)
40%	2	7	3	2	14	5
60%	4	10	5	3	22	7
80%	5	14	7	4	29	10

215. At peak employment 249 workers (***section 30.6.1.1.2***) will be required on site. There are 2,107 rooms available within a 45-minute drive. If it is assumed that these businesses would operate at between 80% to 40% of capacity and that peak workers could be from 40% to 80% non-residential then the number of

rooms used by the proposed East Anglia TWO project can be estimated. As shown in ***Table 30.63*** the worst case impact of displacing room availability for tourists would be if 80% of peak employment were non-residential at a time that businesses only have 20% availability. In this case 47% of the remaining available rooms would be used by project workers. When employment coincides with the off-season when more rooms are available 16% of the remaining rooms would be used by non-residential workers (***Table 30.63***). Both of these factors indicate that the proposed East Anglia TWO project would have a positive impact for local accommodation businesses.

Table 30.63 Proportion of Available Rooms Used by Non-Residential Workers

Proportion non-residential staff	Peak staff	Proportion available	20%	40%	60%
		No. of rooms	421	843	1,264
80%	199	47%		24%	16%
60%	149	35%		18%	12%
40%	100	24%		12%	8%

216. The magnitude of the two elements are shown in ***Table 30.64*** and characterised in ***Table 30.65*** using the definitions in ***Table 30.12*** and ***Table 30.13*** respectively. Although the change in employment is small the increased demand for accommodation during the off-peak season could have a large benefit for local businesses. However, a realistic worst case would be that peak construction coincides with peak tourism season where it is assumed 20% of bed spaces are available. Under this scenario, 47% of the available bed space would be used by non-residential workers. This would not displace tourism visitors and would provide additional income for hoteliers which would be a similarly large benefit.

Table 30.64 Size of Change due to Construction Employment

Element	Employment	Room displacement
Magnitude	7 FTE	199 peak staff
Receptor	8,500 employed in Suffolk Coastal	421 rooms available
Size of change	0.08%	47% of the available bed spaces will be used when the peak construction period coincides with peak tourism season in Q2 and Q3 2024.
Definition	Small	Large benefit for local accommodation businesses

Table 30.65 Characterisation of Magnitude

Characteristic of magnitude	Description
Size of change	Small change in employment levels but potentially large benefit to local accommodation businesses.
Duration	Medium term over three years
Frequency	There is expected to be a reasonably constant demand for accommodation in the first two years of the construction phase that would reduce in the third year due to the reduced demand for staff on site.
Timing	Onshore construction is predicted to start in mid 2023. Under this construction programme peak tourist and peak employment periods are expected to coincide in 202, however it is believed that there would be enough available accommodation to facilitate both tourism visits and non-residential staff.
Magnitude	High

30.6.1.3.4Significance

217. Based on the above assessment and the matrix in ***Table 30.15*** the construction impact is assessed as having **major beneficial** significance for local businesses and people working for them as summarised in ***Table 30.66***.

Table 30.66 Significance of Tourism Employment Impacts

Factor	Consideration
Type of impact pathway	Non-residential workers would stay overnight in local accommodation. Their expenditure may lead to increased demand for staff in the tourism sector but could also reduce availability of rooms for tourists visiting the area.
Baseline conditions	Baseline conditions show that there is a significant and growing tourism sector locally with a significant number of rooms available within a 45-minute drive of the onshore development area.
Likelihood of effect	It is highly likely that non-residential workers would stay overnight and local tourism studies show a clear link between expenditure and employment. Peak demand during the low or high season would not displace tourists and provide additional income to local businesses
Size of change	There is expected to be a small increase in employment to facilitate the increased demand for accommodation and a significant take up of available accommodation.
Inter-relationship	This is not reliant upon any other factors.
Duration, frequency, reversibility and timing of effect	The demand would be constant throughout the construction phase, highest in the first two years and reduce in the last year. However, it would also stop at the end of the construction phase.
Policy context	National and regional policy require projects to consider their impact on tourism.

Factor	Consideration
Consultation responses	Impacts to tourism are a particular concern of Suffolk Coastal District Council
Enhancements	No enhancement measures are required

30.6.1.4 Impact 3: Tourism and Recreation Disturbance

218. During construction, there is the potential for works to disturb tourists as they spend their time in the East Suffolk district, including the AONB. To understand this impact requires an understanding of both the location of assets that people would use recreationally and the factors that determine the scale of the disturbance.

219. As discussed in ***section 30.4.2.2*** the tourism and hospitality economy consists of visitors that create a demand for goods and services supplied by tourism and hospitality businesses. Potential disturbances to both sides of the economic equation are considered.

30.6.1.4.1 Receptors

220. The Physical and Natural Capital review (***section 30.5.4***) shows that there are the following assets within the vicinity of the onshore development area.

221. The following recreational assets were noted within the vicinity of the proposed development area:

- 38 PRoW either within the onshore development area or intersected by it;
- Six areas of common or open land; and
- Two beaches within 0.6km of landfall.

222. Recreational assets are moderately important for local users but individually they are not nationally significant enough to draw tourism visitors. Footpaths, common land and beaches are resilient to change if managed appropriately. Therefore, using the matrix in ***Table 30.9*** the sensitivity of recreational assets is low.

223. The following tourism assets were noted within the vicinity of the onshore development area:

- Six accommodation businesses within a 1km radius of the onshore development area;
- 30 self-catering cottages within 1km of the onshore development area; and
- 10 visitor attractions.

224. Trip Advisor shows that the number of reviews for top rated tourist assets and attractions in Suffolk range from several hundred to over a thousand. Only Thorpeness Golf Course and the Dolphin Inn receive several hundred reviews. This suggests that these assets have a regional importance so may be resilient to a small change in visitor numbers. Using ***Table 30.9*** the sensitivity of these assets assessed as medium.

225. All other accommodation, assets and visitor attractions receive from 100 to 200 reviews. This suggests that they are smaller businesses with fewer customers and would therefore be more vulnerable to a change in visitor numbers. However, due to their smaller size they provide less interconnection with other tourism businesses. Using ***Table 30.9*** the sensitivity of these assets is also assessed as medium.

226. In summary, recreational asset sensitivity is regarded as low and tourism asset sensitivity is regarded as medium for the purposes of assessment.

227. In addition to these defined receptors, there is also the potential to affect the perception of the area. Consultation responses show that stakeholders are concerned that the development would have a detrimental effect on the image of Suffolk as a tourist destination.

30.6.1.4.2Disturbance Pathways

228. ***Table 30.67*** indicates the determinants of physical disturbance. Consultation indicates that the visual effect of the onshore infrastructure is of particular concern to local stakeholders. Due to this ***Table 30.68*** includes the summary of landscape and visual effects from ***Chapter 29 Landscape and Visual Impact***.

Table 30.67 Determinants of Physical Disturbance

Determinants	Chapter	Residual Impact
Reduced water quality	**8** and **20**	Assessment shows that there would be a low magnitude effect on the Hundred River that could be mitigated through appropriate construction practice resulting in a minor adverse impact significance.
Reduced air quality	**19**	Residual impact significance is expected to be negligible.
Increased noise	**25**	Residual impact significance is expected to be negligible.
Traffic delays	**26**	Residual impact significance is assessed as follows: • Severance due to traffic flow is expected to result in negligible to minor adverse impacts; • Pedestrian amenity effects due to traffic flow is expected to result in minor adverse impacts. Effects are related to roads that are likely to have few pedestrians such as:

Determinants	Chapter	Residual Impact
		○ B1069 from the junction of the A1094 to the south of Knodishall. This link is assessed as low value sensitivity noting there is minimal frontage development, and no footways along the road, suggesting limited pedestrian demand; and ○ Lover's Lane / Sizewell Gap. This link is assessed as having low value sensitivity noting there is minimal frontage development and pedestrians and cyclists are segregated from traffic with a dedicated shared use pedestrian footway / cycleway. • Road safety impacts are expected to be minor adverse and effects are related to: ○ A12 junctions with B1119 and A1904; and ○ Along B1121 and A1094; • Driver delay is expected to be minor adverse due to slow moving vehicles and temporary road works. Effects are centred mainly around landfall due to the reduced width of roads in the vicinity. These impacts are not universal across the entire road network and only apply to certain areas.

Table 30.68 Determinants of Onshore Landscape and Visual Effects (summary, *see Chapter 29 Landscape and Visual Impact Assessment* for full details)

Area	Landscape effects	Visual effects
Landfall	Not significant in general short-term significant effect in the very localised landscape within and immediately around the landfall location.	Significant localised and temporary effects on the views experienced by local residents, some motorists and some walkers on short sections of the Suffolk Coastal Path and Sandlings Walk where the route of these paths crosses the landfall location The reinstatement of the land and landscape elements at the end of the construction period would make the effects temporary.
Onshore cable route	Significant, localised and temporary effects on the character of the AONB within a localised area between Thorpeness, Sizewell and Leiston. Not significant effects elsewhere	Significant localised and temporary effects on the views experienced by local residents (i.e. Aldringham, Coldfair Green and Friston) adjacent to the works, Some motorists may also experience significant, short-term and temporary visual effects The visual effects are also assessed as being significant on views experienced by walkers over short sections of the Suffolk Coastal Path, the Sandlings Walk and the Suffolk Coastal Cycle Route where these recreational routes cross the onshore cable route.
Onshore Substation and National	Significant effects on the character of the landscape are assessed as occurring within a	The construction of the onshore substation and National Grid substation are still assessed as having significant visual effects on a limited

Area	Landscape effects	Visual effects
Grid Infrastructure	localised area of approximately 1km around the onshore substation and National Grid substation. Construction will have no significant effects on the character or special qualities of the AONB.	number of residents (Friston), walkers (e.g. users of PRoW network between Friston and Fristonmoor) and motorists. To mitigate these effects, substantial screening will be provided in the local landscape. These are detailed within the OLEMS submitted with this DCO application. As such, significant visual effects would be localised, and they will also occur temporarily over the short-term, during the construction period.

229. ***Table 30.69*** indicates the determinants of physical disturbance. Consultation indicated that the visual effect of the offshore infrastructure was also a concern to local stakeholders. This has led to further refinement to the East Anglia TWO windfarm site boundary, undertaken in May 2019 following consultation responses on the PEIR. Responses particularly focussed on the spread of wind turbines on the horizon as seen from the coast and the potential for cumulative impact with other projects. The Applicant therefore undertook engineering studies to determine if it was possible to reduce the area of the East Anglia TWO windfarm site whilst maintaining the generation capacity. The key aim of this was to reduce the lateral spread of the wind turbine array. The north-south extent of the East Anglia TWO windfarm site has therefore been reduced (see ***Chapter 4 Site Selection and assessment of Alternatives***, ***section 4.6*** and ***Figure 4.3***) in order to mitigate potential seascape impacts, without a reduction in wind turbine numbers or generation capacity.

Table 30.69 Determinants of Seascape, Landscape and Visual Effects (summary, *see Chapter 28 Seascape, Landscape and Visual Impact Assessment* for full details)

Area	Seascape and Landscape effects	Visual effects
Nearshore and Coastal Waters	Some significant visual impacts will result on those receptors where changes are perceived.	The character of this nearshore waters seascape is susceptible to changes occurring from the construction and operation of the offshore infrastructure in its backdrop.
Offshore Waters	Some significant visual impacts on the offshore seascape will occur during construction and operation of the East Anglia TWO Project.	The construction and operation of the offshore infrastructure will not redefine the character of the however, it will result in changes to the seascape character perceived from land.

230. Pathways to impact upon perception would be derived from the determinants listed in ***Table 30.67***, ***Table 30.68*** and ***Table 30.69***. National Grid conducted a

study in to the effect of major infrastructure projects on socio-economic factors (National Grid 2014). This showed that the key concern for visitors to an area when asked about potential infrastructure development was the long term landscape impact (this is covered under operational impacts, see ***section 30.6.2.2***). The study did note that other concerns, albeit mentioned much less frequently, were construction disruption and traffic and transport impacts. These are discussed below.

30.6.1.4.2.1 Potential Effect on PRoWs and areas of Common Land

231. The onshore development area includes 38 PRoWs plus the Suffolk Coastal path. An OPRoWS (document reference 8.4) has been submitted with the DCO application, with the final PROWS secured under the requirements of the draft DCO. As detailed within the OPRoWS 29 of these PRoWs have management measures or temporary alternative routeing (27 require temporary diversion, two require permanent management). However, this is a common occurrence during the construction of linear infrastructure (such as cable routes) and can be mitigated through appropriate signage and safety measures that will be agreed with Suffolk County Council prior to construction through the development of the final PRoWS. Experience from the East Anglia ONE project shows that residual impact following mitigation is negligible.

232. There are two PRoW in the location of the onshore substation and National Grid infrastructure that will require permanent diversion (ID number: E-354/006/0 and E-387/009/0). This could result in a significant impact but will be mitigated through proper consultation on a permanent diversion and landscaping to develop an attractive footpath that walkers can enjoy. Therefore, the residual impact is negligible long term and minor adverse before the landscape features mature.

233. The commitment to using HDD as detailed in ***Chapter 6 Project Description*** would remove impacts to the coastal path and beach at Thorpeness. Impacts to Thorpeness and Sizewell beach would therefore be limited to indirect impacts during drilling.

234. The onshore development area is within 1km of six areas of common and open land. None of these areas of common land fall within the onshore development area.

30.6.1.4.2.2 Tourist Perception Effects

235. The National Grid (2014) study is instructive in looking at behaviour patterns of visitors in relation to existing and proposed electrical infrastructure. The study looked at the effects of existing, proposed and hypothetical (control) National Grid projects and the attitudes of both residents and visitors to them. The main concern for both residents and visitors was the long term visual impact (see

section 30.6.2.2). Construction phase traffic and transport issues were also raised as a potential short term issue by a small number of respondents. These effects do not translate into an actual behavioural change (as also evidenced by the studies reviewed in ***Appendix 30.2***), National Grid (2014) concludes that they do not lead to a change in the decision to visit an area or affect the type and frequency of activity undertaken. Overwhelmingly, respondents to the survey stated that they would not stop visiting an area or change their behaviour. In general, visitors tended to anticipate slightly more positive and slightly fewer negative effects from projects than residents; be it on the area as a place to visit, live or do business.

236. Whether there is a perception of development by visitors or potential visitors (and therefore an actual pathway for impact) will depend on two things. Firstly, a development would need to be in the public eye and known to potential visitors. Although the proposed East Anglia TWO project is an NSIP it is not an iconic project (e.g. Crossrail, Sizewell C New Nuclear Power Station, Heathrow Airport), and unlikely to be widely known or understood as a distinct project. Secondly visitors already in the area would need come into contact with construction activity or traffic effects and link that to development.

30.6.1.4.3Magnitude

237. Impacts due to noise, dust, emissions or water pollutions determinants will be negligible ***Table 30.67*** and would therefore have no effect on tourism visitors and recreational users within the study area. Therefore, only magnitude relating to traffic, visual and landscape effects are considered in ***Table 30.70***.

238. The magnitude due to traffic density changes would be low.

Table 30.70 Magnitude of Tourism and Recreation Impact

Factors	Consideration
Size of change	The size of change due to increased traffic density is low across all aspects that are assessed and following appropriate mitigation. The size of change to landscape character and views is generally low because the construction will be sheltered by natural aspects like woodland and topography. However, there may be significant effect from some locations.
Duration	Duration and frequency are variable and unknown at present. However, all disturbances (except the visual impact of the onshore project substation) will be reversible as they would end when construction ends.
Frequency	Duration will vary depending upon which area of the onshore project is being considered.
Timing	It is not possible to determine the exact timing of construction, however construction is predicted to begin in mid 2023 with peak construction and tourism coinciding. The realistic worst case assumes that peak construction and peak tourism season overlap.

Factors	Consideration
Inter-relationship	This impact assessment is reliant upon the determinants listed in ***Table 30.67*** and ***Table 30.68***.

30.6.1.4.4 Significance

239. Based on the above assessment and the matrix in ***Table 30.15*** the onshore construction impact is assessed as having **negligible significance** for local businesses and people working for them as summarised in ***Table 30.71***.

Table 30.71 Significance of Tourism and Recreation Impact upon Identified Assets

Factor	Consideration
Type of impact pathway	Physical disturbance due to construction works
Baseline conditions	Baseline shows a limited number of tourism and recreational assets in the vicinity of the onshore development area.
Sensitivity of receptor	Recreational assets such as PRoWs, beaches and common land have a low sensitivity to change because this can be managed through appropriate construction management. Tourism assets are considered to have medium sensitivity to change. Either because they are small businesses that are vulnerable to change or because they are medium size businesses that are more resilient but have greater interconnection with other regional tourism businesses.
Size of change	The size of change is considered to be low due to the localised nature of traffic, landscape and visual effects. Change due to noise, dust, emission and water pollution is assessed as negligible and will therefore have no effect on tourism visitors or recreational users of the area.
Inter-relationship	This impact assessment is reliant upon the determinants listed in ***Table 30.67*** *and* ***Table 30.68.***
Duration, frequency, reversibility and timing of effect	Medium term of up to three to four years. However, all disturbances (except the visual impact of the onshore project substation which is assessed separately in ***section 30.6.2.2***) will be reversible as they would end when construction ends.
Policy context	National and regional policy require an assessment of impacts on the tourism industry,
Consultation responses	Impacts to tourism are of particular concern to Suffolk Coastal Council and local tourism stakeholders such as Suffolk Coast Destination Management Organisation (DMO) and Suffolk Coast AONB.
Mitigation	Mitigation of determinants would be as described in the chapters of the relevant determinants.

240. Based on the above assessment the impact of onshore construction on visitor perception is assessed as having **negligible significance** as summarised in ***Table 30.72***.

Table 30.72 Significance of Tourism and Recreation Impact upon Visitor Perception

Factor	Consideration
Type of impact pathway	Visitor perception of development or interaction with construction works (including traffic)
Baseline conditions	Baseline shows that tourism is a key part of the local economy.
Sensitivity of receptor	Visitors are considered to have medium sensitivity to change given that their presence is temporary and effects upon them will be limited by definition.
Size of change	The size of change for direct visitor interaction is considered to be low due to the localised nature of traffic, construction (i.e. air and noise), landscape and visual effects. Impacts upon traffic (including driver delay which will be important to visitors) will not be significant, agreed mitigation will be in place as agreed with the LPA and secured through requirements of the draft DCO. The size of the change for knowledge of the proposed East Anglia TWO project is considered to be low given that although this is an NSIP it is not an iconic project.
Inter-relationship	This impact assessment is reliant upon the determinants listed in ***Table 30.67*** *and* ***Table 30.68.***
Duration, frequency, reversibility and timing of effect	Medium term of up to three to four years. However, all disturbances (except the visual impact of the onshore project substation which is assessed separately in ***section 30.6.2.2***) will be reversible as they would end when construction ends.
Policy context	National and regional policy require an assessment of impacts on the tourism industry,
Consultation responses	Impacts to tourism are of particular concern to Suffolk County Council, East Suffolk Council and local tourism stakeholders such as Suffolk Coast DMO and Suffolk Coast AONB.
Mitigation	Mitigation of determinants would be as described in the chapters of the relevant determinants.

30.6.2 Potential Impacts during Operation

30.6.2.1 Impact 1: Long Term Employment

241. RenewableUK (2017) estimates that on average 75% of the operational expenditure of an offshore windfarm is procured in the UK. BVG Associates (2015) estimates that on average 45.5% of the total expenditure of an offshore windfarm is spent during the operational phase.

242. The reason for both of these significant proportions of expenditure is that offshore windfarms have at least a 25 to 30-year operational duration. This allows operation and maintenance (O&M) facilities to be developed in coastal regions of the UK which leads to a continuous demand for goods and services. This has the potential to bring significant benefit to an area over several decades.

243. At the pre-consent stage, the Applicant has not made a commitment to the location of the O&M facility for the proposed East Anglia TWO project.

30.6.2.1.1 Potential Labour Market

244. Based on the development of an offshore wind market in NALEP and the high probability of UK content in this stage, it can be assumed that the labour market would be regionally and nationally based. Due to the O&M tasks being similar to the offshore construction tasks it can be assumed that the regional and national labour market would be as shown in ***Table 30.55***, as follows:

- Regional: 71,050 people; and
- National: 2,593,000 people.

30.6.2.1.2 Magnitude of Employment

245. BVG Associates' (2018) assessment and supplier's assessment of FTE for East Anglia ONE have been used to produce a range of FTE for elements supplied from the UK, ***Table 30.73*** and ***Table 30.74***. It should be noted that these figures are estimates based on best available information and as such are approximations. Figures have been provided to the nearest hundred because it is not possible for a project to estimate FTE for employment across a national supply chain more accurately at a pre-consent stage.

246. As discussed in ***section 30.4.2.3*** it is good practice to use a range of inputs where there is uncertainty. Therefore, estimates have been provided as Maximum, Midrange, and Minimum estimates. As discussed in ***section 30.6.1.2***, BVG Associates' study of supply chain impacts for East Anglia ONE indicates that there is an 80% chance that elements of the operation and maintenance phase would be procured from NALEP.

Table 30.73 Estimated National FTE range of East Anglia TWO (to nearest 100) based on assessment of East Anglia ONE

Element	Employment type	FTE Years			Yr	UK FTE Range		
		Max	Mid	Min		Max	Mid	Min
Operation and maintenance	Direct	7,800	5,600	3,400	25	300	200	100
	Indirect	10,300	7,400	4,500		400	300	200
	Induced	3,100	2,200	1,300		100	100	100
	Total	21,300	15,300	9,300		900	600	400

Table 30.74 Estimated Regional FTE range based on assessment of East Anglia ONE (assuming 80% likelihood of regional procurement)

Element	Employment type	FTE Years			Yr	NALEP FTE Range		
		Max	Mid	Min		Max	Mid	Min
Operation and maintenance	Direct	6,300	4,500	2,700	25	300	200	100
	Indirect	8,300	5,900	3,600		300	200	100
	Induced	2,500	1,800	1,100		100	100	0
	Total	17,000	12,200	7,400		700	500	300

247. ***Table 30.73*** shows that nationally the proposed East Anglia TWO project may generate 400 to 900 FTE for at least 25 years. The midpoint of 600 will be used for the assessment. ***Table 30.74*** shows that within NALEP the proposed East Anglia TWO project may generate 300 to 700 FTE for at least 25 years. To be conservative but not pessimistic the midpoint of 500 FTE will be used for assessment.

248. It should be noted that this represents continuous employment over several decades with wages above the national average. This type of employment opportunity is sufficient to drive other effects. People would move to an area where well paid, long-term employment is available. Similarly, young people may aspire to work in this sector which provides well paid, secure employment. These effects would lead to further effects such as investing in housing, higher local expenditure, growing families, and supporting communities.

249. The magnitude of employment is shown below in ***Table 30.58*** and ***Table 30.59*** using the definitions in ***Table 30.12*** and ***Table 30.13*** respectively.

Table 30.75 Size of Change due to Construction Employment

Element	Regional	National
Employment opportunity	500 FTE	600 FTE
Labour market	71,050	2,593,000
Size of change	0.7%	0.02%
Definition	Medium	Small

Table 30.76 Characterisation of Magnitude

Characteristic of magnitude	Description
Size of change	Medium change against baseline
Duration	Long term (at least 25 years)

Characteristic of magnitude	Description
Frequency	Continuous employment
Inter-relationships	Continuous employment leads to further economic opportunities that support communities and regional growth
Magnitude	Considering all aspects, this is a medium magnitude effect regionally and low magnitude effect nationally.

30.6.2.1.3Likelihood of Effect

250. Data from RenewableUK's Project Intelligence Hub (2018) shows that there are 68 offshore wind projects either in development, construction, or operation across the UK with a total planned generating capacity of 35GW. Twelve of these are located in the NALEP (***Table 30.41***) with a planned generating capacity of 9.4GW. This represents 18% of the offshore windfarm projects in the UK and 27% of the offshore wind energy generation capacity – approximately a fifth and a quarter of the UK's offshore wind industry respectively.

251. This shows that a significant proportion of the UK's offshore wind generation will be located off the east coast that falls within NALEP's geography. Four of the twelve projects are being developed by SPR which would represent 38% of the region's generating capacity. This makes SPR a significant stakeholder in the regional market. As such SPR began taking steps to develop a regional supply chain as part of East Anglia ONE (SPR 2014). This was further developed for East Anglia THREE and an MoU signed with Suffolk County Council to enable a partnership to develop both parties approach to STEM and skills training in response to the development of the sector.

252. RenewableUK's assessment shows that UK content of the offshore wind market increased by 5% from 2015 to 2017 and now stands at 48% overall (RenewableUK 2017). This analysis shows that the weighted average for UK content in the operational phase is 75% and this increased by 2% from 2015. Therefore, it can be seen that the supply from the UK is increasing with the demand created by the current 68 projects.

253. There is evidence that there is significant growth in offshore wind nationally and regionally, that UK supply to meet this demand is growing, and SPR is working with regional stakeholders to facilitate regional growth. Therefore, it can be concluded highly likely that long term employment opportunities would be created in the NALEP region.

30.6.2.1.4 Significance

254. Based on the above assessment and the matrix in ***Table 30.15*** the onshore construction impact is assessed as having **major beneficial** significance regionally and **moderate beneficial** nationally, as summarised in ***Table 30.77.***

Table 30.77 Significance of Offshore O&M Employment

Factor	Consideration
Type of impact pathway	Impact is generated through regional and national employment.
Baseline conditions	Baseline conditions suggest that there is a significant demand for employment created a pipeline of offshore wind projects, a fifth of which are based in the NALEP area. The labour market is also of sufficient size to supply people to fill the employment opportunities.
Likelihood of effect	A growing proportion of the offshore wind industry's supply chain is being procured from the UK and there is significant evidence that SPR is enabling this growth at a regional scale.
Magnitude of change	The magnitude of the change is moderate regionally and low nationally.
Inter-relationship	The pipeline of offshore windfarm projects in the region provides experience and existing skills base
Duration, frequency, reversibility and timing of effect	The impact is of long term continuous duration. The effect would create a permanent demand for employment in the region that would lead to relocation, training, and development opportunities. Higher wages in the offshore wind industry would lead to increased expenditure, facilitate long term personal planning, and would support regional growth.
Policy context	Development of the offshore wind industry is in line with national, regional, and local policy.
Consultation responses	Consultation responses support the opportunity for employment regionally.
Enhancement	Employment opportunities will be matched by the continued development of the Skills Strategy that was started as part of East Anglia ONE and in partnership with Suffolk County Council and regional stakeholders.

30.6.2.2 Impact 2: Long Term Tourism

255. Consultation responses show that stakeholders are concerned that the development of offshore wind would have a detrimental effect on the image of Suffolk as a tourist destination.

256. When considering onshore impact pathways for tourism, the main concern represented through consultation is related to the long-term presence of the onshore substations near Grove Wood, Friston.

257. To understand this the assessment of visual impact from ***Chapter 29 Landscape and Visual Impact*** has been used to understand the change in landscape.

258. When considering offshore impact pathways for tourism, the main concern represented through consultation is related to the visual change due to the offshore wind turbines.

259. To understand this the assessment of visual impact from ***Chapter 28 Seascape, Landscape and Visual Amenity*** has been used to understand the change in landscape.

260. Both of these have been compared to research on visitor's opinions about offshore wind based on the following evidence:

- A literature review of visitor studies to identify trends in the perception of tourists to onshore windfarm development and in actual changes in tourist visits to areas that have experienced windfarm development, as there are no studies available on perception of onshore substations. This is included in ***Appendix 30.2*** and is summarised below
- A review of Trip Advisor reviews of tourist attractions where an offshore windfarm is in operation within 32km[11] of the coast.

261. There was also concern raised at the ETG about an overall impression of industrialisation that would detract from the image of the Suffolk Coast and Heaths AONB. Stakeholders are concerned that this would lead to a reduction in the number of tourists.

262. The Trip Advisor reviews and literature review above give an overall understanding of visitor's impression of renewable energy. The National Grid (2014) study showed that, although, people did perceive negative impacts to landscape from the development of National Grid infrastructure, it did not change their behaviour, likelihood to visit an area, or levels of expenditure in an area.

263. A further visitor survey has been conducted by Suffolk Coast DMO in partnership with the National Coastal Tourism Academy. Communication with the Suffolk Coast DMO and the National Coastal Tourism Academy in July 2019 confirmed that whilst the survey has been completed, the data requires processing and as such cannot be included at the time of writing this chapter.

30.6.2.2.1Receptors

264. With regards to onshore infrastructure, ***Figure 30.1*** shows that in the vicinity of the onshore substations there is a very low density of businesses that would be classified as a tourist asset of medium sensitivity. ***Table 30.68*** shows that only

[11] The wind turbines for the proposed East Anglia TWO project would be 32km from the coast at their closest point

households on the boundaries of surrounding settlements would experience a significant change to landscape views and that this could be mitigated by screening through tree planting.

265. There are also five PRoWs in the vicinity of the onshore substations which are classified as low sensitivity with regards the definitions in ***Table 30.10***. Two of these PRoWs would need to be permanently diverted around the onshore substations, but the route would continue to be open and landscaping is being developed to increase the amenity value of the route. This will be agreed with the LPA post-consent and detailed in the final PRoWS, secured under the requirements of the draft DCO. Proposed management measures are outlined in the OPRoWS (document reference 8.4), submitted with this DCO application, which the final PRoWS will be based upon. Furthermore, the Outline Landscape and Ecological Management Scheme (OLEMS) (document reference 8.7) submitted with this DCO application, provides detail of the PRoW diversion through the onshore substation and National Grid infrastructure location.

266. With regards to offshore infrastructure, ***Figure 30.4*** shows that there are eight bathing water beaches along the Suffolk coast within theoretical visual range of the wind turbines. Visualisations have been developed (***Figure 28.2***) and ***Chapter 28 Seascape and Landscape Visual Impact Assessment*** shows that the following viewpoints may have a significant effect during high visibility periods between 15% and 33% of the year, depending on the closeness of the viewpoint:

- Walkers on Suffolk Coastal Path;
- Residents of Kessingland seafront;
- Beach users at Covehithe;
- Beach users, seafront residents and walkers at Southwolds and Gunhill;
- Beach users, seafront residents and walkers at Walberswick;
- Beach users and walkers at Dunwich and Dunwich Heath;
- Visitors to the visitor centre at Minsmere Nature Reserve;
- Beach users, seafront residents and walkers at Thorpeness;
- Beach users, seafront residents and walkers at Aldeburgh; and
- Visitors to Orford Ness Lighthouse.

30.6.2.2.2 Disturbance Pathways

267. For the presence of the onshore substations to affect the tourism industry there would need to be a significant number of tourism assets within visual range of the substation. The residual visual change would need to be significant. This would

need to be combined with significant evidence to show that visitors hold strong enough views that they would stop visiting these tourism businesses.

268. For the presence of the wind turbines to affect the tourism industry visitors must be able to see the wind turbines from the Suffolk coast and for this to elicit strong enough negative feelings that they would not revisit the area. Similarly, potential visitors would have to have strong enough opposition to offshore renewable energy that they would choose not to visit an area. If this were to occur, then the visitor expenditure would decrease because the visitor numbers would decrease.

30.6.2.2.3Magnitude

30.6.2.2.3.1 Onshore

269. The construction of onshore substations would have a residual effect on the landscape near Friston. However, the density of tourism receptors with viewpoints of the substations is very low. Furthermore, evidence shows that the presence of electrical infrastructure does not change recreational users' behaviour.

270. In 2014 National Grid commissioned a Business and Recreational User Survey (National Grid 2014) to understand the effect of National Grid major infrastructure projects on socio-economic factors. This included surveys in relation to five projects that are in operation, to projects in development, and two control locations where projects neither existed or were planned. Both businesses and recreational users (including local residents and visitors/tourists) were surveyed.

271. The majority of businesses surveyed stated "*that they anticipated no impact to their business operations following the commencement of a National Grid Project*" (National Grid 2014).

272. The majority of recreational users surveyed stated that "*a National Grid project would not affect their behaviour or spend in an area.*" (National Grid 2014). Both survey groups indicated that they felt the main impact was to the area itself due to landscape and visual impacts. However, neither group indicated that this impact would affect their behaviour or the expected performance of their business.

273. Therefore, the pathway of effect onshore is likely only under circumstances where tourism and recreational visitors have strong enough opinions about electrical infrastructure to change their behaviour. Evidence shows that there is a low likelihood of this occurring (see examples in ***Appendix 30.2***).

274. As summarised in ***Table 30.78*** this would equate to a negligible impact magnitude on the tourism industry in Suffolk Coastal District and Suffolk County.

Table 30.78 Characterisation of Long Term Onshore Tourism Impact Magnitude

Characteristic of magnitude	Description
Size of change	There will be a change to the landscape but there are very few tourism receptors to experience this change. The onshore substation cannot be seen from viewpoints in Suffolk Coast AONB.
Duration	Long term (at least 25 years)
Frequency	Continuous
Inter-relationships	It is assumed that visitors would have negative opinion of the residual impact noted in ***Chapter 29 Landscape and Visual Impact***. Survey results indicate that even if negative perceptions are experienced this would not affect recreational user's behaviour.
Magnitude	There is a low density of low to medium tourism and recreation receptors. Significant landscape and visual impacts may be experience from a low number of viewpoints. Recreational users and tourism visitors are unlikely to change their behaviour due to this change. Therefore, there is likely to be a negligible impact magnitude on the tourism industry in Suffolk Coastal District and Suffolk County.

30.6.2.2.3.2 Offshore

275. The construction of wind turbines would have a residual effect on the seascape of the Suffolk coast. However, the change in seascape would be limited to days of very good visibility. For this change to the seascape to have an effect on the tourism industry tourists would need to hold a strong enough opinion of offshore wind turbines that they either do not visit an area or do not return.

276. Although the proposed East Anglia TWO project would have an effect on the seascape of the Suffolk coast studies show that visitors to an area do not hold negative views of this type of development and would not be put off re-visiting an area. Studies show that potential visitors use the internet for their main source of information. Surveys of Trip Advisor reviews show that potential visitors would have a 99% chance of finding reviews that do not mention windfarms even when one is visible and a 99% of finding reviews that either do not mention windfarms or have a positive to neutral review of their presence. These studies are detailed in ***section 30.5.3.3*** and summarised in ***Table 30.79***.

Table 30.79 Reviewer's Views of Offshore Wind

Factor	Value
Total comments	12,278
Average comments per beach	409
Mention Windfarms or Wind Turbines	81 (0.66%)
Positive	21 (0.17%)

Factor	Value
Negative	30 (0.24%)
Neutral	30 (0.24%)

277. During Phases 2, 3, 3.5 and 4 of consultation (***section 30.2***), all concerns regarding the visual impact on the seascape caused by the wind turbines were recorded. Of these there were a total of 65 concerns regarding the visual impacts effect on the AONB and 9 cumulative visual impact concerns. One positive response regarding the look of offshore wind developments was also received.

278. The concerns regarding the visual impact of East Anglia TWO on the seascape have been considered. This has led to further refinement to the East Anglia TWO windfarm site boundary. The north-south extent of the East Anglia TWO windfarm site has therefore been reduced in order to mitigate potential seascape impacts, without a reduction in wind turbine numbers or generation capacity.

279. Based on this the impact is assessed to have a negligible magnitude, as shown in ***Table 30.80***.

Table 30.80 Characterisation of Long Term Offshore Tourism Impact Magnitude

Characteristic of magnitude	Description
Size of change	There will be a change to the seascape
Duration	Long term (at least 25 years)
Frequency	Continuous
Inter-relationships	Visitors would have to have a negative opinion of the residual impact noted in ***Chapter 28 Seascape, Landscape and Visual Amenity***.
Magnitude	Visitor surveys show that this is highly unlikely to lead to a change in visitor numbers. Therefore, the magnitude of the change is negligible.

30.6.2.2.4 Significance

280. Based on the above assessment and the matrix in ***Table 30.15*** the impact is assessed as having **negligible** significance for the tourism industry in Suffolk Coast AONB, Suffolk Coastal District and Suffolk County as shown in ***Table 30.81***.

Table 30.81 Significance of Long Term Tourism Impacts

Factor	Consideration
Type of impact pathway	Potential for visual, landscape and seascape change leading to a negative opinion of an area culminating in reduced visitor numbers.
Baseline conditions	Baseline shows low density of tourism and recreation assets in the vicinity of the onshore substation. Baseline shows 8 bathing water beaches along the Suffolk coast and 10 viewpoints where the offshore wind turbines may be visible for 15% to 33% of the year during periods of very high visibility. Baseline conditions also show that the majority of visitors do not hold a negative opinion of wind turbines and their presence does not change their behaviour.
Sensitivity of receptors	Recreational assets in the vicinity of onshore substation are considered to have low sensitivity and tourism businesses are considered to be have medium sensitivity to change. Assets along the Suffolk coast are highly interconnected with other tourism businesses but well established within the Suffolk Coast AONB and would therefore have medium sensitivity to change.
Size of change	Onshore there is expected to be significant change to the landscape but that these views would be limited to the outskirts of surrounding communities. Offshore there is also expected to be significant change to the seascape that would only be viewed from 10 locations along the shore and could only be viewed during high visibility 15% to 33% of the year. Surveys show that visitors would not change their behaviour due to these changes in landscape and therefore the change in visitor numbers is expected to be negligible.
Inter-relationship	The impact is reliant upon onshore and coastal visitors having a strong aversion to the presence of the onshore substations and wind turbines respectively. Surveys show that this is not likely for both groups.
Duration, frequency, reversibility and timing of effect	The effect would be continuous for at least several decades.
Policy context	National and regional policy require an assessment of impacts on the tourism industry.
Consultation responses	Impacts to tourism are of particular concern to Suffolk Coastal Council.
Mitigation	Mitigation of seascape and landscape effects are discussed in ***Chapter 28 Seascape, Landscape and Visual Amenity*** and ***Chapter 29 Landscape and Visual Impact***. As visitor numbers are not expected to change, no further mitigation is required.

30.6.3 Potential Impacts during Decommissioning

281. No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the recruitments of the draft DCO. The onshore

substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. 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. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase.

30.7 Cumulative Impacts

30.7.1 Cumulative Impact with proposed East Anglia ONE North Project

282. The East Anglia ONE North offshore windfarm project (the proposed East Anglia ONE North project) is also in the application phase. The proposed East Anglia ONE North project has a separate DCO application which has been submitted at the same time as the proposed East Anglia TWO project. The two projects share the same landfall location and onshore cable corridor and the two onshore substations are co-located, and connect into the same National Grid substation.

283. The proposed East Anglia TWO project CIA will therefore initially consider the cumulative impact with only the East Anglia ONE North project.

284. The CIA considers the proposed East Anglia TWO project and the proposed East Anglia ONE North project under two construction scenarios:

- Scenario 1 - the proposed East Anglia TWO project and proposed East Anglia ONE North project are built simultaneously; and
- Scenario 2 - the proposed East Anglia TWO project and the proposed East Anglia ONE North project are constructed sequentially.

285. Depending on the impact, scenario 1 or scenario 2 will be considered the realistic worst case scenario and applied in the CIA and will be stated as such.

286. The assessment in ***section 30.6*** shows that the impacts considered are generally characterised as follows:

- Employment is characterised by the volume of employment, whether it is continuous or sporadic, the wage level, and the overall duration; and
- Tourism impacts are characterised by the residual significance of determinants (such as noise, vibration, dust, or visual impacts), the location of tourism assets, and the opinion of visitors.

30.7.1.1 Scenario 1

287. ***Table 30.82*** presents the realistic worst case parameters of both projects constructed simultaneously.

Table 30.82 Scenario 1 Realistic Worst Case

Impact	Parameter	Notes
Cumulative Construction Impacts with the proposed East Anglia ONE North project		
Onshore	Size of employment opportunity. Residual magnitude of determinants. Duration of construction phase.	Onshore construction for both projects would occur concurrently. Assuming the duration remains the same the number of employees would increase from 167 to an average of 197 FTE per year but the construction period would remain at three years, with two years intensive construction and one year commissioning. Peak employment would be at the same point but would increase to 307 staff. It is assumed that the residual magnitude of determinants would be the same as a single project.
Offshore	Size of employment opportunity. Duration of construction phase.	If all offshore infrastructure was installed during one construction phase the number of employees would double. If built in sequence the duration of employment and determinants would double.
Cumulative Operation Impacts with the proposed East Anglia ONE North project		
Onshore	Size of employment opportunity. Duration of operation phase	The number of staff needed to maintain a windfarm is a function of the number of wind turbines. Therefore, twice as many wind turbines would sustain more employment. It is assumed this would double but efficiencies of scale may reduce this. The duration would remain at a worst case of at least 25 years. Two onshore substations would be constructed and would have a significant impact on landscape character. However, this could only be viewed from a finite number of locations and there is a low density of tourism and recreation assets within these locations.
Offshore	Location of offshore windfarm.	Both windfarms visible from shore and both onshore substations visible from land. However, both windfarms would only be visible during days that have very good visibility and it is expected that this would only be 15% to 33% of the year from certain seafront and coastal locations. Furthermore, evidence shows that tourism visitors do not have strong opinions about the presence of offshore windfarms.
Cumulative Decommissioning Impacts with the proposed East Anglia ONE North project		
No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, secured under the recruitments of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the		

Impact	Parameter	Notes
Local Planning Authority. 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. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase.		

30.7.1.2 Scenario 2

288. Scenario 2, and ***Table 30.83***, represents the realistic worst case scenario in the eventuality that the proposed East Anglia TWO project and proposed East Anglia ONE North project are constructed sequentially.

Table 30.83 Scenario 2 Realistic Worst Case

Impact	Parameter	Notes
Cumulative Construction Impacts with the proposed East Anglia ONE North project		
Onshore	Size of employment opportunity. Residual magnitude of determinants. Duration of construction phase.	Onshore construction would occur sequentially. The employment for each project would be the same as for the proposed East Anglia ONE TWO project alone but the duration would double. It is assumed that the residual magnitude of determinants would be the same as a single project.
Offshore	Size of employment opportunity. Duration of construction phase.	Wind turbines would be built in sequence so the duration of employment and determinants would double but there would be a gap between the proposed East Anglia TWO and proposed East Anglia ONE North projects as they are constructed sequentially.
Cumulative Operation Impacts with the proposed East Anglia ONE North project		
As per scenario 1		
Cumulative Decommissioning Impacts with the proposed East Anglia ONE North project		
As per scenario 1		

30.7.1.3 Summary

289. ***Table 30.84*** provides a summary of which of the two scenarios detailed above will be the realistic worst case in terms of impacts to socio-economics, tourism and recreation.

Table 30.84 Cumulative impacts for East Anglia TWO and ONE North

Impact No.	Title	Notes	Scenario used
Cumulative Construction Impacts with the proposed East Anglia ONE North project			
1a	Onshore construction employment	Building both projects concurrently would sustain a larger demand for labour that would put a larger demand on the local and regional labour market.	1
1b	Offshore construction employment	Assuming that offshore construction would be undertaken concurrently, a larger demand for labour would put a larger demand on the local and regional labour market.	1
2	Tourism employment	A larger demand for labour would increase the number of non-residential workers and increase the demand for accommodation.	1
3	Tourism and recreation disturbance	A longer duration of construction would be more of a disturbance to visitors than a short duration and have a greater chance to interact with more projects, assuming similar levels of residual impacts of determinants.	2
Cumulative Operation Impacts with the proposed East Anglia ONE North project			
1	Long term employment	It is assumed that the two projects would be operated independently because it is plausible that they would be operated by different companies. Therefore, the employment opportunity would double under bother scenarios.	n/a
2	Long term tourism	Same under both scenarios.	n/a

290. ***Table 30.85*** provides a summary of how these changes would affect the potential impacts assessed in ***section 30.6***. With regards the definitions set out in ***section 30.4.4*** impacts relating to employment 1a, 1b to 2 would have the same cumulative impacts as assessed in ***section 30.6***.

Table 30.85 Summary of Changes for Potential Cumulative Impacts

Impact No.	Impact	Size of change	Receptor size	Cumulative magnitude of effect	Cumulative impact significance
Cumulative Construction Impacts with the proposed East Anglia ONE North project					
1a	Onshore construction employment	Total annual regional employment: Direct + Indirect + Induced = 251 FTE average per year	71,050 regionally	Low - 0.35% compared to regional labour market	Moderate beneficial
1b	Offshore construction employment	Approximately double single project = 400 FTE	71,050 regionally	Low – 0.73% compared to	Moderate beneficial

Impact No.	Impact	Size of change	Receptor size	Cumulative magnitude of effect	Cumulative impact significance
				regional labour market	
2	Tourism employment	Peak employment is 307 people. Assume 60% non-residential.	2,107 beds	Realistic worst case scenario is 70% of available rooms taken by workers.	Major beneficial
3	Tourism and recreation disturbance	Noise, emissions, dust and water/groundwater pollution would all have negligible impact. Landscape and visual impact would be unchanged from that assessed in ***section 30.6.*** Residual impacts resulting in the increased Traffic and Transport demands of Scenario 1 would remain negligible to minor adverse as discussed under ***section 30.6.*** Visitor perception impacts would remain negligible (given the footprint is unchanged and there is no greater likelihood of general knowledge of the projects)	Low density tourism and recreational assets in vicinity of onshore development area of low to medium sensitivity.	Low to negligible	Negligible
Cumulative Operation Impacts with the proposed East Anglia ONE North project					
1	Long term employment	Approximately double single project = 1000 FTE	71,050 regionally	Large - 1.83% compared to regional labour market	Major beneficial
2	Long Term Tourism	Impacts would remain the same as those for the proposed East Anglia TWO project alone.			

30.7.2 Cumulative Impact Assessment with Other Developments

291. The assessment of cumulative impacts has been undertaken here as a two-stage process. Firstly, all impacts considered in ***section 30.6*** have been assessed for the potential for temporal and spatial overlap with other projects. Potential cumulative impacts are set out in ***Table 30.86***.

Table 30.86 Potential Cumulative Impacts

Impact	Potential for Cumulative Impact	Rationale
Construction		
Impact 1a: Onshore Construction Employment	Yes	Onshore construction employment can have a cumulative impact with other developments that require similar skills in a similar period. Generally, this impact would be positive as employment and expenditure benefits people. However, if there is likely to be a significant increase in employment non-residential workers will be required that may lead to further impacts.
Impact 1b: Offshore Construction Employment	Yes	There are several offshore windfarms either in development or under construction off the coast of Suffolk and Norfolk. It is unlikely that all of these would be constructed in the same period and more likely that they would be constructed sequentially. This would lead to a continuous employment pipeline for offshore construction staff and long-term job security which would be a major benefit to the region.
Impact 2: Hospitality Employment	Yes	If several projects increase demand for non-residential workers these people will require accommodation. This may have a beneficial impact of increasing demand in the local accommodation market. How this increase in demand is managed by projects will determine if this would reduce availability for tourists.
Impact 3: Tourism and Recreation Disturbance	Yes	If projects are construction has a temporal overlap it is possible that multiple determinants will affect tourism visitors and recreational users of the local area.
Operation		
Impact 1: Long Term Employment	Yes	Some types of infrastructure require operational staff. The construction of multiple projects could lead to significant cumulative benefit by increasing demand for long term employment.
Impact 2: Long Term Tourism	No	Evidence shows that the development of renewable energy infrastructure does not have a detrimental impact on the tourism industry. Therefore, it is not considered to have a cumulative long-term effect on tourism.
Decommissioning		
No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the recruitments of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. 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.		

Impact	Potential for Cumulative Impact	Rationale
As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase.		

292. The second stage of the CIA is an assessment of whether there is spatial overlap between the extent of potential effects of the onshore infrastructure and the potential effects of other projects scoped into the CIA upon the same receptors. To identify whether this may occur, the potential nature and extent of effects arising from all projects scoped into the CIA have been identified and any overlaps between these and the effects identified in ***section 30.6***. Where there is an overlap, an assessment of the cumulative magnitude of effect is provided.

293. Following a review of projects for which construction has the potential to overlap temporally or spatially with the proposed East Anglia TWO project (and the proposed East Anglia ONE North project), two developments have been scoped into the CIA for all impacts and three offshore wind developments have been scoped in for employment impacts only.

294. ***Table 30.87*** provides detail regarding those projects for construction. For operational impacts (long term employment) several of the in-development projects in the region would contribute, as discussed below.

295. The full list of projects for consideration has been developed in consultation with the Local Planning Authority. The remainder of the section details the nature of the cumulative impacts against all those receptors scoped in for cumulative assessment.

Table 30.87 Summary of Projects Considered for Tourism, Recreation and Socio-Economics

Project Name	Status	Development Period	[12]Distance from East Anglia TWO Onshore Development Area	Project Definition	Level of Information Available	Included in CIA	Rationale
Sizewell C New Nuclear Power Station	PEIR formally submitted 04.01.19.	Application expected in 2020. Construction expected to commence in 2021.	1.4km	A new nuclear power station at Sizewell in Suffolk. Located to the north of the existing Sizewell B Power Station Complex, Sizewell C New Nuclear Power Station would have an expected electrical capacity of approximately 3,260 megawatts (MW). Full PEIR available: https://www.edfenergy.com/download-centre?keys=&tid=1380&year%5Bvalue%5D%5Byear%5D=	Tier 5[13]	Yes	Only potential for cumulative effects on onshore employment, the hospitality sector through accommodation use is included. Limited data available for tourism disturbances, therfore not included.
Sizewell B Power Station Complex	Planning application formally submitted 18.04.19. Awaiting Decision.	Construction expected to commence in 2022. Expected construction timetable of 53	1.4km	The demolition and relocation of facilities at the Sizewell B Power Station Complex. In outline, demolition of various existing buildings (including the outage store, laydown area, operations training centre and technical training facility), and erection of new buildings, including a visitor centre, and the construction of new access road,	Tier 4[14]	No	Limited employment information has been provided, but the current estimated peak

[12] Shortest distance between the considered project and East Anglia TWO– unless specified otherwise
[13] Based on criteria set out in ***section 5.7.2*** of ***Chapter 5 EIA Methodology***
[14] Based on the definition of Tier 4 outlined in ***section 5.7.2*** of ***Chapter 5 EIA Methodology***

Project Name	Status	Development Period	[12]Distance from East Anglia TWO Onshore Development Area	Project Definition	Level of Information Available	Included in CIA	Rationale
		months. Peak construction is expected in 2022, completion of construction expected in 2027.		footpath and amended junction at Sizewell Gap; and associated landscaping and earthworks/recontouring. Full planning application available: https://publicaccess.eastsuffolk.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PQ5NVGQXJJ100			demolition and construction periods for Sizewell B will not overlap with the peak construction for East Anglia TWO. Amenity and recreation impacts have been assessed by Sizewell B as not significant. The 500m buffer zone of both East Anglia TWO and the Sizewell B development overlap slightly, potentially increasing the risk of short term temporary

Project Name	Status	Development Period	[12]Distance from East Anglia TWO Onshore Development Area	Project Definition	Level of Information Available	Included in CIA	Rationale
							impacts to Sizewell common, one bridleway and two footpaths. No impacts are predicted to be worse than currently assessed.
Projects considered for Cumulative Offshore Construction Employment Only							
Norfolk Vanguard	In determination	2022 onwards for offshore construction	Potential to be served from Great Yarmouth	Full Environmental Statement Available: https://infrastructure.planninginspectorate.gov.uk/projects/eastern/norfolk-vanguard/	Tier 4[15]	No	Offshore construction unlikely to overlap.
Norfolk Boreas	In examination	2025 for offshore construction		Full Environmental Statement Available: https://infrastructure.planninginspectorate.gov.uk/projects/eastern/norfolk-boreas/	Tier 4[16]	Yes	Potential for offshore construction to overlap and potential for similar location

[15] Based on criteria outlined in ***section 5.7.2*** of ***Chapter 5 EIA Methodology***
[16] Based on criteria outlined in ***section 5.7.2*** of ***Chapter 5 EIA Methodology***

Project Name	Status	Development Period	[12]Distance from East Anglia TWO Onshore Development Area	Project Definition	Level of Information Available	Included in CIA	Rationale
							of marshalling port location.
Hornsea Project 3	In determination	Unknown but potentially 2022 onwards	Unlikely to be served from Great Yarmouth due to more northerly location	Full Environmental Statement Available: https://infrastructure.planninginspectorate.gov.uk/projects/eastern/hornsea-project-three-offshore-wind-farm/	Tier 3[17]	No	Offshore construction unlikely to overlap and unlikely to be supply from similar marshalling port location.

[17] Based on criteria outlined in ***section 5.7.2*** of ***Chapter 5 EIA Methodology***

30.7.2.1 Cumulative Impacts during Construction

296. Cumulative impacts with Sizewell C New Nuclear Power Station have been assessed using publicly available information.

- Sizewell C New Nuclear Power Station Scoping Report (EDF Energy 2014)
- Sizewell C New Nuclear Power Station Stage 2 Pre-Application Consultation (EDF Energy 2016). Section 5 focusses on Socio-Economic effects; and
- Sizewell C Proposed Nuclear Development Stage 3 Pre-Application Consultation available from the EDF Energy website (EDF Energy, 2019).

30.7.2.1.1 Impact 1a: Onshore Construction Employment

30.7.2.1.1.1 Potential Labour Market

297. The labour market would be as described in ***section 30.6.1.1.1.*** It is assumed that there would be 20,390 skilled personnel available locally and 71,050 skilled personnel available regionally. Construction work is by its nature temporary, with workers moving to new projects as they complete the previous one. As such currently employed personnel may become available to work on the proposed East Anglia TWO project throughout the duration of the construction period.

298. Paragraph 5.4.18 of Section 5 of the Stage 2 Consultation document (EDF Energy 2016) states that EDF Energy assume their residential workforce would be prepared to commute for 90 minutes. This provides a residential catchment that covers the main urban areas of both Norfolk and Suffolk. Therefore, employment demand will be compared to the regional labour market in NALEP area.

299. An Economic Impact Assessment was prepared for the local councils for EDF Energy (Hardisty Jones Associates 2018a). Appendix 5 of the Economic Impact Assessment report (Hardisty Jones Associates, 2018b) stated that the main sources of home-based workers are expected to be the unemployed, those who are displaced from existing businesses, new entrants to the labour market, and in-migrants to the local area.

30.7.2.1.1.2 Magnitude

300. Estimates of the FTE employment generated by Sizewell C New Nuclear Power Station during construction have been provided in their Stage 3 consultation material. Paragraph 4.2.3 (Page 47) of that document states that there would be around 5,600 construction workers anticipated at peak, of which approximately 2,000 would be home based (EDF Energy 2019).

301. Figure 4.2 (Page 48) of that document provides a labour curve but without durations. Table 4.1 (page 48) of that document shows that during peak

employment there is a demand for 760 civil construction staff. Whereas, at this point employment is dominated by approximately 3,100 mechanical and electrical staff.

302. The peak in civil construction staff is early in the construction process. At this point total employment is 4,425. The demand for civil construction staff is 2,890 but the demand for mechanical and electrical staff is 400.

303. ***Plate 30.22*** shows that peak employment for the proposed East Anglia TWO and ONE North projects would be during the second and third quarters of 2024 assuming a mid 2023 start date. Peak employment would be 307 staff. Of these 246 are estimated to work in civil construction installing various sections of the cable route, whereas 61 are estimated to be mechanical and electrical installing electrical infrastructure. As the majority of the proposed project's peak employment is in civil construction, this will be compared with the peak in civil construction for Sizewell C New Nuclear Power Station.

304. Using Figure 5.1 of Appendix 5 of Sizewell C's economic impact assessment (Hardisty Jones Associates, 2018b), ***Table 30.88*** shows employment demand during peak construction. This shows local civil construction demand is expected to peak at 1,330 staff and local employment demand is expected to peak at 1,860 staff.

Table 30.88 High Level Estimate of Sizewell C Workforce During Peak Civil Construction (Hardisty Jones Associates, 2018b)

Skills breakdown for Sizewell C	High level skills breakdown during peak construction		Estimated employment demand during peak civil construction	
	Residential	Non-Residential	Residential	Non-Residential
Civil	380 (50%)	380 (50%)	1,330 (46%)	1565 (54%)
M&E	990 (30%)	70%	140 (34%)	220 (66%)
Operational	250 (100%)	0 (0%)	45 (100%)	0 (0%)
Project management	160 (15%)	895 (85%)	130 (15%)	720 (85%)
Support services, security and clerical	250 (90%)	30 (10%)	220 (90%)	20 (10%)
Total	2,020 (36%)	3,610 (64%)	1,860 (42%)	2,570 (48%)

305. If the peak civil construction period for the proposed East Anglia TWO, East Anglia ONE North, and Sizewell C New Nuclear Power Station all coincided then the peak demand for staff would be 2,167 staff. This purposefully assumes that

all of the employment for the proposed East Anglia TWO and ONE North projects would be sourced regionally to make an absolute realistic worst case scenario.

306. ***Table 30.89*** indicates that this would have a high magnitude impact on the regional labour market due to an increase in demand of 4.32% of the labour that is regionally available.

307. However, it should be noted that this is not an assessment of continuous employment during this period because that information is not publicly available for Sizewell C New Nuclear Power Station. Furthermore, the duration of the peak employment period is not known but overall employment is assumed to be measured in decades. Similarly, no attempt has been made to calculate the indirect or induced employment. However, this would be similarly high.

Table 30.89 Magnitude of Peak Construction Employment

Element	Peak regional direct employment
Employment at peak of civil construction period for Sizewell C	1860
Peak employment of Proposed East Anglia projects	307
Peak combined employment	2,167
Labour market	71,050
Size of change	3.05%
Definition	High

30.7.2.1.1.3 Likelihood of Effect

308. For this peak effect to occur then both the proposed East Anglia TWO and ONE North projects peak employment and Sizewell C New Nuclear Power Station peak construction would need to occur concurrently. At time of writing, it is not known if this would interact exactly, but it is likely that if all projects were consented then Sizewell C New Nuclear Power Station would significantly increase local demand during the same period that the proposed East Anglia TWO and ONE North projects would be constructed.

309. Of the increase in direct employment, the proposed East Anglia TWO and ONE North projects contribute 14.2%. If the proposed projects were not to be developed, then Sizewell C would still increase direct employment by 2.62% which is still a high magnitude. Therefore, meeting demand and ensuring regional people benefit would be reliant upon working with industry and training organisations.

310. As described in ***section 30.3.3.1***, SPR developed a skills strategy as part of the East Anglia ONE project. This has subsequently been maintained as part of the

East Anglia THREE project and will be continued as part of the proposed East Anglia TWO and ONE North projects. This includes a gap analysis and stakeholder engagement to take account of the increased regional demand.

30.7.2.1.1.4 Significance

311. Based on the above assessment and the matrix in ***Table 30.15*** the onshore construction impact is assessed as having **major beneficial** significance for the local and regional labour market, as summarised in ***Table 30.90***.

Table 30.90 Significance of Cumulative Onshore Employment

Factor	Consideration
Type of impact pathway	Impact is generated through local and regional employment.
Baseline conditions	Baseline conditions suggest that there is a significant labour market but perhaps the qualification levels need to be supported to gain maximum benefit from this opportunity.
Likelihood of effect	It is plausible that onshore construction of the proposed East Anglia TWO and ONE North projects and Sizewell C would be undertaken concurrently but it is not known if the peak employment period for both projects would occur at the same time.
Magnitude of change	The magnitude of the change is assessed to be high. This is based on a comparison of peak employment as an indicator of the ratio of full time employment between the projects.
Inter-relationship	The impact would be broadly positive as induced expenditure would be significant but there is also the possibility of market distortion due to the increased demand for staff. How this is managed would be reliant on the management practices of the Sizewell C project as that generates approx. 85% of the increased peak demand.
Duration, frequency, reversibility and timing of effect	The duration of the construction of Sizewell C is not known but it is expected to be in order of decades. This would be a long-term effect that would significantly reduce during operation and the demand for construction staff would virtually stop after the main construction period.
Policy context	Development of a diverse energy mix is a key strategy of the UK Government.
Consultation responses	Consultation responses support the opportunity for employment, but concern is shown about how the cumulative impacts with Sizewell C will be managed.
Enhancement	Employment opportunities will be matched by a Skills Strategy that builds on the experience of East Anglia ONE and East Anglia Three projects and includes consultation with the Sizewell C project.

30.7.2.1.2 Impact 1b: Offshore Construction Employment

312. Sizewell C New Nuclear Power Station does not include offshore construction, therefore, there will be no cumulative effect.

313. ***Table 30.87*** shows that only Norfolk Boreas is considered with regards potential for cumulative employment impact. The socioeconomic assessment for Norfolk

Boreas estimates that there will be employment opportunity for between 425 and 481 FTE jobs. In combination with the 200 FTE jobs estimated in ***section 30.6.1.1.2*** this would lead to 625 to 681 FTE employment opportunities cumulatively.

314. Assuming the same regional labour market size of 71,050 people this would lead to a demand of 0.96%. Using the definitions in ***Table 30.12*** this would be a low magnitude impact individually.

315. However, it should be noted that these are not the only two offshore wind projects being constructed in Suffolk and Norfolk. East Anglia ONE, East Anglia THREE and Norfolk Vanguard would all precede these projects. Therefore, it is likely that the supply chain would have developed by the point of construction with a labour market that could supply appropriately skilled people. Although various Hornsea zone projects are likely to be constructed in a similar period it is plausible that these would be served from ports further to the north.

316. Thus, the pipeline of employment would be long term leading to secondary economic benefits including investor confidence, incentives to permanently locate, regional expenditure (including investments such as house purchases) and clustering of supply chain businesses. These aspects would increase impact magnitude to high, using the factors in ***Table 30.13***.

317. Considering the work that both SPR (***section 30.3.3***) and Vattenfall Wind Power Limited (Norfolk Vanguard (2018) and Norfolk Boreas (2019) DCO applications) are undertaking to develop a regional supply chain and promote careers, it is highly likely that the potential would be realised and this would be a positive impact. A high magnitude of effect, of high likelihood would provide a **major beneficial** impact significance for the economy for the NALEP area.

30.7.2.1.3Impact 2: Hospitality Employment

318. The scale of the Sizewell C New Nuclear Power Station construction indicates that it is likely that a significant proportion of staff would be non-residential and require accommodation. EDF Energy estimate that 3,610 of the 5,630 (***Table 30.88***) workers during peak construction would require accommodation of some description.

319. This could lead to beneficial impacts due to increased expenditure locally but could also displace bed spaces for tourism visitors. EDF Energy have committed to build an accommodation campus will be which will house 2400 of the non-residential workers leaving 1,210 workers who will require accommodation, and only 170 of which would require accommodation during peak civil construction (***Table 30.88***). Further strategies to mitigate negative effects and maximise

benefits will be consulted on throughout the planning process (EDF Energy 2016).

30.7.2.1.3.1 Receptor

320. Figure 1 (Page ii) in the Sizewell C Economic Impact Assessment report (Hardisty Jones Associates, 2018a) considers the following four receptors for workers at Sizewell C. Figure 5.8 (Page 60, EDF Energy 2016) indicates the spread of staff per accommodation type:

- Accommodation campus – 2,400 staff;
- Private rented sector – 360 staff;
- Wider housing market – 460 staff; and
- Tourism accommodation sector – 360 staff.

321. ***Section 30.6.1.3*** indicates that it is expected that the non-residential workers of the proposed East Anglia TWO and ONE North projects would predominantly use tourism accommodation. Therefore, only this sector will be considered for cumulative assessment.

322. ***Table 30.40*** shows that there are 126 businesses within a 45-minute drive of the proposed projects that provide 2,107 rooms.

323. Table 5.11 (Page 65, EDF Energy 2016) shows that EDF Energy expect workers to use tourist accommodation in Aldeburgh, Saxmundham, Yoxford, Leiston, Walberswick and Wenhaston, and Snape. In this area, EDF Energy estimate that there are 2,201 beds available. This broadly correlates with the distribution of workers assessed for the proposed East Anglia TWO and East Anglia ONE North projects.

324. It is not known if peak construction would coincide with peak tourism season therefore the range of rooms available shown in ***Table 30.63*** will be used for assessment.

30.7.2.1.3.2 Magnitude

325. If the peak employment for the proposed East Anglia TWO and ONE North projects coincides with the peak employment for Sizewell C New Nuclear Power Station then the following demand would be created in the tourism accommodation sector locally:

- 360 staff from Sizewell C New Nuclear Power Station; and
- 196 staff from East Anglia ONE North and TWO (i.e. 64% of peak direct employment (307 staff));

- This gives a combined demand for 556 bed spaces at peak construction.

326. ***Table 30.91*** shows the effect of the increased demand on the local tourism accommodation availability. This assumes that at peak tourist season 80% of rooms will be taken and 20% will be available. Whereas in the low season it is assumed that 40% of rooms are taken and 60% are available.

Table 30.91 Proportion of Rooms Potentially used if Peak Construction Coincides

	Proportion available	20%	40%	60%
Peak staff	**No. rooms**	**421**	**843**	**1,264**
556		132%	66%	44%

327. The magnitude of change is shown in ***Table 30.92*** and characterised in ***Table 30.93*** using the definitions in ***Table 30.12*** and ***Table 30.13*** respectively.

Table 30.92 Size of Change in Accommodation Availability

Element	Room displacement
Magnitude	556 peak staff
Receptor	421 to 1,264 rooms available
Size of change	If peak construction is in the low season then 44% of available accommodation would be used. If peak construction is in high then demand would exceed available bed spaces by 32%.
Definition	High

328. While the size of change shows that a cumulative effect of peak construction overlapping with the peak tourist season will exceed the available bed spaces, EDF Energy (2019) stated in section 4.2.34 of the Sizewell C PEIR that they have changed their assumptions on the extent to which workers will choose rented accommodation instead of tourist accommodation.

329. Due to the length of the Sizewell C construction period, EDF Energy now assume from experience with Hinkley Point that workers will choose to stay within the rental market. The proposed East Anglia TWO project construction worker accommodation however, remains under the assumption that workers will stay in tourist accommodation due to the short construction period.

330. The worst case scenario remains the same, assuming that both Sizewell C, East Anglia TWO and East Anglia ONE North workers will need tourist accommodation.

Table 30.93 Characterisation of Magnitude

Characteristic of magnitude	Description
Size of change	The cumulative demand for accommodation would create a large change in demand compared to the rooms available. If it occurs in high season the demand will exceed the supply by 32%. But a more realistic scenario is that it would occur when 40% of beds are available leading to demand for 66% of available beds.
Duration	Peak construction for the proposed projects is not expected to last for longer than 2 to 3 months but the duration of peak construction at Sizewell C is not known. It is expected to be significantly longer.
Frequency	Peak construction is only expected to occur once but in general there will be a constant demand for accommodation.
Timing	Timing is not known at present. An absolute worst case scenario would assume that peak construction and peak tourist season would interact, but a more realistic worst case scenario would assume that the peak construction periods would fall somewhere between low and peak season.
Magnitude	This would be a high magnitude impact on the local accommodation sector. It is plausible that in a realistic worst case the increased demand compared to a static supply would lead to an increase in accommodation costs. Although this would be beneficial for local businesses it may displace tourism visitors that may have a longer-term effect on the tourist economy.

30.7.2.1.3.3 Significance

331. Based on the above assessment and the matrix in ***Table 30.15*** the onshore construction impact is assessed as having **major beneficial significance** for the local tourism accommodation market, as summarised in ***Table 30.95***.

Table 30.94 Significance of Cumulative Onshore Employment

Factor	Consideration
Type of impact pathway	Non-residential workers requiring accommodation and reducing availability for tourism visitors.
Baseline conditions	Baseline conditions show that there is a significant and growing tourism sector locally with a significant number of rooms available within a 45-minute drive of the onshore development area.
Likelihood of effect	It is unknown if the effect would occur during peak of off peak season or whether the two peak construction periods would coincide. Therefore, the absolute worst case is possible but implausible.
Magnitude of change	If a midseason scenario is assumed, then a high magnitude impact would occur.
Inter-relationship	This is not reliant upon any other factors.

Factor	Consideration
Duration, frequency, reversibility and timing of effect	Although only cumulative peak demand has been assessed here the actual demand for accommodation would be constant throughout the construction phase.
Policy context	National and regional policy require projects to consider their impact on tourism.
Consultation responses	Impacts to tourism are a particular concern of Suffolk Coastal District Council
Mitigation	Sizewell C has proposed the development of a worker campus to relieve pressure on local accommodation and this has led to a small proportion of their peak construction staff requiring accommodation in the tourism sector. SPR and EDF Energy are in communication to understand each other's programme and plan accordingly.

30.7.2.1.4 Impact 3: Tourism and Recreation Disturbance

332. Cumulative tourism and recreation disturbance impacts will come from two pathways; firstly from direct impacts upon tourism and recreation assets from construction (i.e. the determinants of physical disturbance – air quality, noise etc as described for the proposed East Anglia TWO project alone in ***Table 30.67***) and secondly from the perception of multiple large scale developments as being an adverse impact on the area as a tourist destination.

333. With regard to the direct impacts, all projects will need to mitigate their impacts to acceptable levels or provide similar mitigations for assets such as PRoWs. It is therefore assumed that, with the exception of traffic impacts, these direct impacts would not be significant cumulatively as each project would mitigate their own impacts and unless projects had overlapping footprints there would be limited potential for cumulative impacts upon the same receptor. Given mitigation commitments it is considered that these impacts would be of **negligible** significance (see ***Table 30.71*** and ***Table 30.84)***.

334. With regard to traffic impacts, there is potential for residual adverse impact cumulatively with Sizewell C New Nuclear Power Station. It was agreed with highways stakeholders that the traffic-related impact of each Sizewell C scenario would be considered within the proposed East Anglia TWO project cumulative assessment.

335. However, subsequent to the agreement of this approach, EDF Energy has submitted a Stage 4 consultation document prior to the submission of an ES in early 2020. EDF Energy have embarked upon a Stage 4 consultation exercise scheduled to run from 18 July to 27 September 2019. This Stage 4 consultation document does not contain sufficient information in terms of a freight

management strategy to facilitate a quantitative assessment, therefore it is unable to be incorporated into the proposed East Anglia TWO project CIA.

336. Recognising that Stage 3 information released by EDF Energy is out of date, a detailed quantitative CIA cannot be provided at this stage because a detailed CIA alone would potentially be based upon out of date and incorrect information. Therefore, the assessment presented in ***Chapter 26 Traffic and Transport*** is qualitative.

337. Hardisty Jones Associates (2018b) suggest that there could be potential impacts upon tourism and recreation from Sizewell C New Nuclear Power Station and in particular note the potential to impact upon the RSPB Minsmere Reserve during construction. It is not considered that there is potential for cumulative impact upon the RSPB Minsmere Reserve from the proposed East Anglia TWO project or East Anglia ONE North project, except as part of wider traffic impacts, covered above.

338. With regard to the potential for a deterrence effect from the perception of multiple developments in construction simultaneously, it is difficult to determine whether this potential effect would be expressed. Hardisty Jones Associates (2018b) note potential impacts to image and branding of the area, concerns which have been raised to the Applicant by stakeholders in relation to the proposed East Anglia TWO project. The National Grid (2014) study is instructive in looking at behaviour patterns of visitors in relation to existing and proposed infrastructure. This study looked at the effects of existing, proposed and hypothetical (control) National Grid projects and the attitudes of both residents and visitors to them. The main concern for both residents and visitors was the long term visual impact (see ***section 30.6.2.2***).

339. Construction phase traffic and transport issues were also raised as a potential short term issue by a small number of respondents. These effects do not translate into an actual behavioural change (as also evidenced by the studies reviewed in ***Appendix 30.2***), National Grid (2014) concludes that they do not lead to a change in the decision to visit an area or affect the type and frequency of activity undertaken. Overwhelmingly, respondents to the survey stated that they would not stop visiting an area or change their behaviour. In general, visitors tended to anticipate slightly more positive and slightly fewer negative effects than residents; be it on the area as a place to visit, live or do business.

340. It is not considered that the proposed East Anglia TWO project or East Anglia ONE North project will have significant impacts upon visitor perception during construction as they are not iconic projects likely to be in the public mind and direct impacts which could affect visitors already present in the area will be mitigated to not significant levels (see ***section 30.6.1.4*** and ***section 30.7.1***). It is

accepted that Sizewell C New Nuclear Power Station does have a high public profile and indeed is linked by name with the area. The Applicant notes that Hardisty Jones Associates (2018b) provides some scenarios for potential cumulative impacts upon tourism, but not an assessment.

341. As per the cumulative traffic and transport assessment, given the importance of Sizewell C New Nuclear Power Station to the visitor perception impact and the fact that without that project it is considered that cumulative impact would not be significant, the Applicant has conducted a qualitative assessment based on the information available at the current time, in addition to exercising professional judgement, as a detailed CIA alone would potentially be based upon out of date and incorrect information.

30.7.2.2 Cumulative Impacts during Operation

30.7.2.2.1 Impact 1: Long Term Employment

342. As discussed under ***section 30.7.2.1.2*** the proposed East Anglia TWO and ONE North projects are part of a pipeline of four offshore wind projects being constructed SPR, two offshore wind projects being constructed by Vattenfall Wind Power Limited, one offshore wind project by Ørsted and a new nuclear facility by EDF Energy within the NALEP region.

343. All stakeholders demonstrate clear evidence of working with local training institutions, county councils and the LEP. Individually these projects represent employment impacts of major beneficial significance due to the long duration of employment opportunity and clustering of projects around the Suffolk and Norfolk coastline. This leads to employment opportunities in technology sectors that typically represent salary levels above the national average. The likelihood of effect is considered to be high and magnitude of effect is high. Cumulative long-term employment in the Suffolk and Norfolk energy sector therefore represents a **major beneficial** impact significance for people in the region.

30.7.2.3 Cumulative Impacts during Decommissioning

344. No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the recruitments of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. 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. As such, cumulative impacts during the decommission stage are assumes to be no worse than those identified during the construction stage.

30.8 Inter-relationships

345. Inter-relationships address situations where a number of parameters, or 'sources', interact to affect a single receptor. Those sources that are considered to interact with receptors identified in this chapter are listed in ***Table 30.95***.

Table 30.95 Chapter topic inter-relationships

Inter-relationship all Phases and Linked Chapter	Section where Addressed	Rationale
Chapter 8 Water and Sediment Quality	***Table 30.67*** ***Section 30.6.1.4.2***	Potential for reduced water quality
Chapter 19 Air Quality	***Table 30.67*** ***Section 30.6.1.4.2***	Potential for reduced air quality
Chapter 20 Water Resources and Flood Risk	***Table 30.67*** ***Section 30.6.1.4.2***	Potential for reduced water quality
Chapter 25 Noise and Vibration	***Table 30.67*** ***Section 30.6.1.4.2***	Potential for increased noise
Chapter 26 Traffic and Transport	***Section 30.3.3*** ***Section 30.5.1.4*** ***Table 30.67*** ***Section 30.6.1.4.2***	Potential for traffic delays
Chapter 28 Seascape, Landscape and Visual Impact Assessment	***Table 30.69*** ***Section 30.6.1.4.2***	Potential for visual impacts
Chapter 29 Landscape and Visual Impact	***Table 30.68*** ***Section 30.6.1.4.2***	Potential for visual impact

30.9 Interactions

346. The impacts identified and assessed in this chapter have the potential to interact with each other, which could give rise to synergistic impacts as a result of that interaction. The areas of interaction between impacts are presented in ***Table 30.96*** along with an indication as to whether the interaction may give rise to synergistic impacts. This provides a screening tool for which impacts have the potential to interact. ***Table 30-97*** then provides an assessment for each receptor (or receptor group) related to these impacts in two ways. Firstly, the impacts are considered within a development phase (i.e. construction, operation or decommissioning) to see if, for example, multiple construction impacts could combine. Secondly, a lifetime assessment is undertaken which considers the

potential for impacts to affect receptors across development phases. The significance of each individual impact is determined by the sensitivity of the receptor and the magnitude of effect; the sensitivity is constant whereas the magnitude may differ. Therefore, when considering the potential for impacts to be additive it is the magnitude of effect which is important – the magnitudes of the different effects are combined upon the same sensitivity receptor. If minor impact and minor impact were added this would effectively double count the sensitivity.

347. The receptors considered in the tourism, recreation and socio-economics assessment are:

- Labour market / economy; and
- Visitors or recreational users.

348. There is a strong potential for the development of the proposed East Anglia TWO project cumulatively with the wider development of the offshore wind sector in the NALEP area to lead to a gradual increase in population and in the socio-economic status of people due to (among other aspects) increased employment.

Table 30.96 Interactions Between Impacts

Potential interaction between impacts				
Construction	**1a Onshore construction employment**	**1b Offshore construction employment**	**2 Tourism employment**	**3 Tourism and recreation disturbance**
1a Onshore construction employment	-	No	Yes	Yes
1b Offshore construction employment	No	-	No	Yes
2 Tourism employment	Yes	No	-	Yes
3 Tourism and recreation disturbance	Yes	Yes	Yes	-
Potential interaction between impacts				
Operation	**4 Long term employment**		**5 Long term tourism**	
1 Long term employment	-		No	
2 Long term tourism	No		-	
Decommissioning				
No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the recruitments of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. 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. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase**.**				

Table 30-97 Potential Interactions Between Impacts on Tourism, Recreation and Socio-Economics

Receptor	Construction	Operational	Decommissioning	Phase Assessment	Lifetime Assessment
Labour market / economy	Moderate beneficial	Major beneficial	Moderate beneficial	**No greater than individually assessed impact** Employment opportunities will impact at all levels: national, regional and local.	**No greater than individually assessed impact** Although there will be beneficial impacts during all stages of the project lifetime, different groups will be employed in the different stages. The bulk of employment (direct or indirect in for example the hospitality sector) will be during construction (offshore and onshore). There will be limited overlap with skills required for ongoing maintenance throughout the project lifetime and much fewer staff required for operation than construction.
Visitors or recreational users	Negligible	Negligible	Negligible	n/a There is only a single impact (*Impact 3 tourism and recreation disturbance*) for the receptor, therefore no potential interactions Any impacts would be localised to the onshore development area and transport routes	**No greater than individually assessed impact** Most of the disturbance to visitors or recreational users would occur during the construction phase. Lifetime effects at the onshore substation and National Grid infrastructure are unlikely to result in a change in visitor numbers or quality of experience

30.10 Summary

349. Potential impacts for the proposed East Anglia TWO project are summarised in ***Table 30.98*** as an individual project and cumulatively with the proposed East Anglia ONE North project and other projects identified during the CIA screening process. This shows that local and regional populations have the potential to benefit through increased employment opportunities. Benefits are assessed for people working directly in the labour market that would supply the project, in associated sectors, and in the accommodation sector.

350. These benefits need to be weighed against any potential adverse impacts that the proposed East Anglia TWO project may cause. Assessment shows that implementing best available techniques (e.g. for noise and vibration or air quality impacts) would mitigate the determinants of impacts for recreational visitors within the vicinity of the onshore development area.

351. Although there is potential for change to the seascape due to the construction and operation of wind turbines, studies suggest that their presence do not deter tourism visitors as they are shown to not have strong negative opinions about them. With regard to onshore, there is little evidence to suggest deterrence of visitors due to the presence of electrical infrastructure.

352. Therefore, it can be concluded that the local and regional population stand to economically benefit from the development of the proposed East Anglia TWO project.

Table 30.98 Summary of Potential Impact to Tourism, Recreation and Socio-Economics

Potential Impact	Receptor	Sensitivity/ Likelihood	Magnitude	Significance	Likely Examples of Mitigation Measures	Residual Impact
Construction						
Impact 1a: Onshore Construction Employment	Local and regional labour market	Likely	Low	Moderate	n/a	**Moderate Beneficial**
Impact 1b: Offshore Construction Employment	National and regional labour market	Likely	Low	Moderate	n/a	**Moderate Beneficial**
Impact 2: Tourism Enhancement	Local accommodation businesses and their employees	Highly likely	Low	Moderate	n/a	**Major Beneficial**
Impact 3: Tourism and recreation Disturbance	Visitors to the area surrounding the project	Low	Low	Negligible	As described in assessment of determinants	**Negligible significance**
Operation						
Impact 1: Long term employment	National and regional labour market	Highly likely	Moderate regionally	Major	n/a	**Major Beneficial**
Impact 2: Long term Tourism	Local and regional tourism industry	Low to medium sensitivity	Low change in visitor numbers or quality of experience	Negligible	n/a	**Negligible**
Decommissioning						
No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the recruitments of the draft DCO. The onshore						

Potential Impact	Receptor	Sensitivity/ Likelihood	Magnitude	Significance	Likely Examples of Mitigation Measures	Residual Impact
substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. 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. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase.						
Cumulative Construction Impacts with the proposed East Anglia ONE North project						
Impact 1a: Onshore Construction Employment	Local and regional labour market	Likely	Low	Moderate	n/a	**Moderate Beneficial**
Impact 1b: Offshore Construction Employment	National and regional labour market	Likely	Low	Moderate	n/a	**Moderate Beneficial**
Impact 2: Tourism Employment	Local accommodation businesses and their employees	Highly likely	Low	Moderate	n/a	**Major Beneficial**
Impact 3: Tourism and recreation Disturbance	Visitors to the area surrounding the project	Low	Low	Negligible significance	As described in assessment of determinants	**Negligible significance**
Cumulative Operation Impacts with the proposed East Anglia ONE North project						
Impact 1: Long term employment	National and regional labour market	Highly likely	Major regionally	Major	n/a	**Major Beneficial**

Potential Impact	Receptor	Sensitivity/ Likelihood	Magnitude	Significance	Likely Examples of Mitigation Measures	Residual Impact
Impact 2: Long term Tourism	Local and regional tourism industry	Low to medium sensitivity	Low change in visitor numbers or quality of experience	Minor	n/a	**Negligible**
Cumulative Construction Impacts with Other Developments						
Impact 1a: Onshore Construction Employment	Local and regional labour market	Possible	High	Major	n/a	**Major Beneficial**
Impact 1b: Offshore Construction Employment	National and regional labour market	Likely	High	Major	n/a	**Moderate Beneficial**
Impact 2: Tourism Employment	Local accommodation businesses and their employees	Possible	High	Major	Cooperation with Sizewell C and consideration of accommodation strategy if necessary	**Major Beneficial**
Impact 3: Tourism and recreation Disturbance	Visitors to the area surrounding the project	Low		Requires Sizewell C New Nuclear Station information	As described in assessment of determinants	**Requires Sizewell C New Nuclear Station information**
Cumulative Operation Impacts with Other Developments						
Impact 1: Long term employment	National and regional labour market	Highly likely	Major regionally	Major	n/a	**Major Beneficial**
Cumulative Decommissioning Impacts with Other Developments						
No decision has been made regarding the final decommissioning policy for the onshore infrastructure as it is recognised that industry best practice, rules and legislation change over time. An Onshore Decommissioning Plan will be provided, as secured under the recruitments of the draft DCO. The onshore substation will likely be removed and be reused or recycled. It is anticipated that the onshore cable would be decommissioned (de-energised) and either the cables and						

Potential Impact	Receptor	Sensitivity/ Likelihood	Magnitude	Significance	Likely Examples of Mitigation Measures	Residual Impact
jointing bays left *in situ* or removed depending on the requirements of the Onshore Decommissioning Plan approved by the Local Planning Authority. 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. As such, for the purposes of a worst-case scenario, impacts no greater than those identified for the construction phase are expected for the decommissioning phase.						

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